

Mental wellbeing at work

Evidence review D: Universal individual-level approaches

NICE guideline NG212

Evidence reviews underpinning recommendations 1.1.1, 1.2.1, 1.2.3, 1.2.4, 1.4.6, 1.6.1 to 1.6.4, 1.8.3, 1.9.1 and research recommendations in the NICE guideline

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*These evidence reviews were developed
by Public Health Internal Guideline
development team*

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Universal individual-level interventions

1.1 Review questions

4.1 What universal, individual-level interventions, programmes, policies or strategies are effective and cost effective at:

- promoting positive mental wellbeing?
- improving mental wellbeing?
- preventing poor mental wellbeing?

4.2 For the following groups in relation to universal individual-level interventions, what are their views and experiences of what and why certain approaches may or may not work, and how it could be improved:

- those receiving them
- employers
- those delivering them?

1.1.1 Introduction

Since NICE guideline PH22 Mental wellbeing at work was published in 2009, the nature of the workforce has changed in the UK. Increasing amounts of employees are on part-time, temporary or zero-hours contracts. The variations between workplaces and differences in the nature of employment are important to consider when looking at approaches to improve and protect employee mental wellbeing.

Since 2009 there has been increasing recognition of mental wellbeing and how it is associated with the workplace and work outcomes. Experiences in the workplace can affect mental wellbeing positively and negatively. Good employee mental wellbeing is positive for employees and their employers. For example, better mental wellbeing and job satisfaction are associated with increased workplace performance and productivity. Poorer mental wellbeing however is associated with increased absenteeism and presenteeism and lost output costs the economy upwards of £74 billion annually. It is therefore important to implement interventions in the workplace to promote and improve mental wellbeing, and to prevent poor mental wellbeing amongst the workforce.

Organisational-level approaches are important for preventing poor mental wellbeing, as well as promoting and improving mental wellbeing in the workplace. In addition, access to universal interventions at an individual level may be appropriate to help employees manage stress, prevent burnout, and build resilience, by providing skills to manage emotions, providing skills to manage situations, and through physical approaches.

1.1.2 Summary of the protocol

Table 1: PICO for universal individual-level approaches

Population	<p>Quantitative and Qualitative</p> <p>Everyone aged 16 years or older in full or part time employment, including:</p> <ul style="list-style-type: none"> • those on permanent, training, temporary or zero hours contracts • those who are self-employed • those who are volunteers <p>Qualitative only</p> <ul style="list-style-type: none"> • employers

	<ul style="list-style-type: none"> • those delivering the interventions <p>Quantitative and Qualitative - Exclusion</p> <ul style="list-style-type: none"> • People who are not in any full or part time employment (as defined above) • Prisoners who engage in work activities • Inpatients in mental health institutions who engage in work activities • Military personnel
Intervention	<p>Quantitative and Qualitative</p> <p>Individual-level health promotion and risk reduction programmes made available to an unselected population in addition to usual practice that aim to (one or more of):</p> <ul style="list-style-type: none"> • prevent poor mental wellbeing • promote positive mental wellbeing • improve mental wellbeing <p>Interventions may include approaches such as:</p> <ul style="list-style-type: none"> • mindfulness training • physical activity interventions with mental wellbeing as a primary outcome • positive psychology sessions • stress management • burnout prevention • training in resilience, self-help interventions, coping skills and mental health literacy • meditation and yoga • creative arts therapies. • improve mental wellbeing
Comparator	<p>Quantitative</p> <p>Usual practice (this may be called a control group or waiting list control group or other terms in the individual studies)</p> <p>Qualitative</p> <p>Not applicable</p>
Outcomes	<p>Quantitative</p> <p>Employee outcomes</p> <ul style="list-style-type: none"> • Any measure of mental wellbeing (using objective measures and/ or validated self-report measures) • Job stress, burnout or fatigue (using objective measures and/ or validated self-report measures) • Symptoms of mental health conditions such as depression, anxiety, insomnia (using validated self-report measures) • Absenteeism • Presenteeism • Productivity • Job satisfaction, engagement or motivation • Uptake of support services • Quality of life <p>Employer outcomes</p> <ul style="list-style-type: none"> • Productivity • Absenteeism • Presenteeism

	<p>Qualitative</p> <p>Eligible studies will include as outcomes the views and experiences with the interventions of:</p> <ul style="list-style-type: none"> • employees receiving the interventions • employers • Those delivering the interventions

1.1.3 Methods and process

This evidence review was developed using the methods and process described in [Developing NICE guidelines: the manual](#). Methods specific to this review question are described in the review protocol in [Appendix A](#). An example of the search strategy is provided in [Appendix B](#).

Timepoints

We considered outcomes at any follow up. Priority was given to the longest follow up time for an outcome. Other timepoints, including baseline data, were reported in the evidence table for information only.

Outcomes

Where data were reported on the same outcome construct (as defined in the protocol), for example, job stress, burnout or fatigue, these were all pooled into a single outcome for the analyses.

Declarations of interest were recorded according to [NICE's conflicts of interest policy](#).

1.1.4 Evidence identification

1.1.4.1 Included studies

In total 72,259 references were identified through systematic guideline-wide searches. Of these, 20,186 were screened at title and abstract using priority screening, and 1,416 were included for the whole guideline. Of these, 664 references were considered relevant for RQ4 based on title and abstract screening and were ordered. After the full text screening of these references, 169 papers were eligible for inclusion in the systematic review, of which 19 were secondary publications.

A total of 142 randomised trials, were included in effectiveness component of this review and 8 qualitative studies were included in the views and experiences component. The characteristics of the effectiveness studies and a brief summary of the interventions presented are presented in Table 2 and Table 3 [and a summary of the qualitative studies is presented in table 4](#). See [Appendix C](#) for PRISMA diagram and [Appendix D](#) for full evidence tables.

1.1.4.2 Excluded studies

495 articles did not meet inclusion criteria and were excluded from the review. Excluded studies are reported in [Appendix J](#).

1.1.5 Summary of the studies included in the effectiveness evidence

Table 2: Summary of study characteristics

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Abbott 2009 [Australia]	RCT	Workplace (largely home-based): <ul style="list-style-type: none"> • Sector: private • Industry: not reported • Organisation size: not reported • Contract type: not reported • Seniority: managers • Income: mixed (varying educational levels) 	Online resilience programme [Resilience]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms • Quality of life • Productivity
Ahola 2012 [Finland]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private and public • Industry: mixed (five were governmental organisations [two city departments, a research institute, an employment office and an insurance office], three were private enterprises [a banking company, a multiservice company and an occupational health service organisation]) • Organisation size: medium and large • Contract type: not reported • Seniority: mixed supervisors and employees • Income: mixed (blue collar and white collar) 	Resource enhancing intervention [Resilience]	Literature package on career management and health-related information	<ul style="list-style-type: none"> • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Aikens 2014 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisational size: large • Contract type: salaried employees • Seniority: not reported • Income: not reported 	Modified mindfulness-based stress reduction (mMBSR) programme [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress • Job satisfaction
Alexander 2015 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: mixed (full-time, part-time and pro re nata) • Seniority: not reported • Income: mixed (mixed education level) 	Yoga	Usual practice	<ul style="list-style-type: none"> • Job stress
Alexopoulos 2014 [Greece]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: not reported • Organisation size: small to medium • Contract type: not reported • Seniority: not reported • Income: office workers 	Relaxation techniques [Relaxation]	Wait list	<ul style="list-style-type: none"> • Job stress
Allexandre 2016 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services (corporate call centre) • Organisation size: large 	<p>Web-based mindfulness stress management (WSM)</p> <p>Web-based mindfulness stress management + group support (WSMg1)</p>	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Productivity

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Contract type: mixed (full time and part time) Seniority: general workforce (not management or supervisors) Income: not reported 	Web-based mindfulness stress management + group and expert support (WSMg2) [Mindfulness]		
Ameli 2020 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: healthcare Organisation size: large Contract type: full time Seniority: not reported Income: not reported 	Mindfulness-based self care [Mindfulness]	Control	<ul style="list-style-type: none"> Mental wellbeing Job stress Mental health symptoms
Amutio 2015 [Spain]	RCT	Workplace: <ul style="list-style-type: none"> Sector Mixed (public and private) Industry: Healthcare Size of organisation: not reported Contract type: not reported Seniority: not reported Income: professional (physicians) 	Mindfulness-based stress reduction [Mindfulness]	Wait list	<ul style="list-style-type: none"> Mental wellbeing
Ancona 2014 [US]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Organisation size: not reported Contract type: not reported Seniority: not reported Income: professional (teachers) 	Yoga and mindfulness [Yoga]	Usual practice	<ul style="list-style-type: none"> Job stress
Ansley 2021 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public 	Online stress intervention [Stress management]	Control	<ul style="list-style-type: none"> Mental wellbeing Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 			
Arnetz 2009 [Sweden]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: police service • Organisation size: large • Contract type: not reported • Seniority: police officers with 1 year of experience • Income: not reported 	Imagery and skills training [Imagery, simulation and skills training]	Usual practice	<ul style="list-style-type: none"> • Metal wellbeing • Job stress • Productivity
Arnetz 2013 [Sweden]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: police service • Organisation size: large • Seniority: entry level (police cadets) • Income: not reported 	Situational skills training [Imagery, simulation and skills training]	Usual practice	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life
Asuero 2014 [Spain]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: Not reported • Income: professional (nurses, social workers, physicians, clinical psychologists) 	Modified mindfulness-based stress reduction [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Ayers 2007 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: transport • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported 	Problem solving training [Problem solving]	Usual practice	<ul style="list-style-type: none"> • Mental wellbeing • Job satisfaction
Barattucci 2019 [Italy]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: Public • Industry: Healthcare • Size: Large • Contract type: Mixed (permanent and temporary) • Seniority: Mixed (doctors, nurses, healthcare assistants) • Income: Mixed (junior high school degree, high school degree and university degree) 	Mindfulness-based IARA training [Mindfulness]	Usual practice	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Barbosa 2015 [Portugal]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: aged residential care • Organisation size: small/medium • Contract type: permanent • Seniority: not reported • Income: mostly primary to highschool educated 	Psychoeducation	Education only	<ul style="list-style-type: none"> • Job stress • Job satisfaction
Barr 2015 [US]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: mostly public (92% public, 8% private) 	Professional development	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 			
Benn 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 	Mindfulness training {Mindfulness}	Wait list	<ul style="list-style-type: none"> • Mental wellbeing
Bethay 2013 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: residential facility for individuals with intellectual disability • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed education level 	Acceptance and commitment therapy + applied behavioural analysis [Acceptance and commitment therapy]	Applied behavioural analysis	<ul style="list-style-type: none"> • Job stress • Quality of life
Bond 2000 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: media • Organisation size: large • Contract type: not reported • Seniority: mixed (jobs included managerial jobs) • Income: participants were primarily university graduates 	Acceptance and Commitment therapy Problem focused training [Problem solving]	Wait list	<ul style="list-style-type: none"> • Mental Health symptoms • Job satisfaction • Quality of life

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Bostock 2019 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: pharmaceutical and technology industries • Organisation size: large • Contract type: mostly full-time • Seniority: not reported • Income: not reported 	Mindfulness app [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms • Work climate
Bragard [2010] Belgium	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: medical residents • Income: professionals 	Stress management	Wait list	<ul style="list-style-type: none"> • Job stress
Brinkmann 2020 [Germany]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: entertainment • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed education level 	Heart rate variability-biofeedback [stress management] Mindfulness-based intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Calder Calisi 2017 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported 	Relaxation response [Relaxation]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Carissoli 2015 [Italy]	RCT	<ul style="list-style-type: none"> • Seniority: not reported • Income: professional (nurses) Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: mixed • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed 	Meditation	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Cascales-Perez 2020 [Spain]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed 	Mindfulness-based programme [Mindfulness]	Control	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life
Castillo Gualda 2017 [Spain]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: small • Contract type: not reported • Seniority: mixed (included teachers and managers) • Income: professional 	Emotional skills training	Usual practice	<ul style="list-style-type: none"> • Job stress • Job satisfaction
Cheema 2013 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: education 	Yoga	Usual practice	<ul style="list-style-type: none"> • Mental health symptoms • Job satisfaction • Quality of life

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Size of organisation: large • Contract type: full time • Seniority: mixed Income: mixed			
Chen 2009 [Israel]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: not reported • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported 	Resource workshop [Resilience]	Usual practice	<ul style="list-style-type: none"> • Job stress • Job satisfaction
Chirico 2019 [Italy]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: medium • Contract type: not reported • Seniority: not reported • Income: professionals 	Prayer	Usual practice	<ul style="list-style-type: none"> • Job stress • Job satisfaction • Quality of life
Christakis 2012 [Greece]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: trainees • Income: professional 	Diaphragmatic breathing and progressive muscular relaxation [Relaxation]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress
Clarke-walper 2020	RCT	Workplace:	PTSD clinicians exchange [Stress management]	Control	<ul style="list-style-type: none"> • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
[US]		<ul style="list-style-type: none"> • Sector: public • Industry: military healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional 			
Coffeng 2014 [The Netherlands]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: not reported • Seniority: mixed (team leaders and employees) • Income: mixed (mixed education levels) 	Motivational interviewing	No intervention	<ul style="list-style-type: none"> • Job stress • Job satisfaction • Productivity • Absenteeism • Presenteeism
Copeland 2021 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type not reported • Seniority: mixed • Income: professional 	Meditation Outdoor breaks Gratitude [Positive psychology] Journaling	Usual care	<ul style="list-style-type: none"> • Job stress
Crain 2017 [US and Canada]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported 	Workplace mindfulness training [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Mental health symptoms • Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: professional 			
Daigle 2018 [Canada]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: healthcare Organisation size: not reported Contract type: mixed (full time and part time) Seniority: registered nurses and licensed practical nurses Income: not reported 	Mindfulness-based stress management [Mindfulness]	Wait list	<ul style="list-style-type: none"> Mental health symptoms
Das 2019 [US]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: not reported Organisation size: large Contract type: not reported Seniority: not reported Income: mixed 	Energy management training course [Multi-component intervention]	Wait list	<ul style="list-style-type: none"> Job stress Mental health symptoms Quality of life
Day 2009 [Canada]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: government office Organisation size: large Contract type: not reported Seniority: not reported Income: all but two participants had completed some form of post-secondary education 	Massage therapy	Usual practice	<ul style="list-style-type: none"> Mental wellbeing
De Bloom 2017 [Finland]	RCT	Workplace: <ul style="list-style-type: none"> 	Park walking [Physical activity]	Control	<ul style="list-style-type: none"> Job stress Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Sector: public and private sector • Industry: occupational health services • Organisation size: not reported • Contract type: mostly permanent contract (92% permanent in spring cohort and 88% permanent in fall cohort) • Seniority: mostly non-managerial (10% supervisory role in spring cohort and 15% supervisory in fall cohort) • Income: mixed (manual/blue collar workers, lower-level white-collar workers, upper-level white-collar workers, top management) 	Relaxation exercises [Relaxation]		
Dincer 2020 [Turkey]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional 	Emotional freedom techniques	No treatment	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Dyrbye 2016 [US]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: Not reported 	Online wellbeing intervention [Wellbeing promotion]	Brief weekly email survey	<ul style="list-style-type: none"> • Job stress • Mental; health symptoms • Job satisfaction • Quality of life

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: professional (physicians) 			
El Khamali 2018 [France]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: healthcare Organisation size: large Contract type: full time Seniority: not reported Income: professional (nurses) 	Nursing theory and Simulation training [Imagery, simulation and skills training]	Waitlist	<ul style="list-style-type: none"> Mental wellbeing Absenteeism Employee retention
Elder 2014 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: education Organisation size: medium Contract type: not reported Seniority: not reported Income: mixed (teachers and support staff)	Transcendental meditation [Meditation]	Wait list	<ul style="list-style-type: none"> Job stress Mental health symptoms
Eriksen 2002 [Norway]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: postal service Organisation size: large Contract type: mostly full time Seniority: not reported Income: not reported 	Stress management training [Stress management] Physical exercise [Physical activity] Integrated health programme [Multicomponent intervention]	Control	<ul style="list-style-type: none"> Job stress Mental health symptoms Absenteeism
Fang 2015 [China]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: healthcare Organisation size: large 	Yoga	Usual practice	<ul style="list-style-type: none"> Job stress Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Contract type: mixed (shift work and non-shift work) Seniority: mixed (manager and non-manager) Income: mixed (education level: college or higher and technical secondary school) 			
Feicht 2013 [Germany]	RCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: services/insurance Size of organisation: large Contract type: not reported Seniority: not reported Income: not reported 	Web-based happiness training [Positive psychology]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress
Flook 2013 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Organisation size: not reported Contract type: not reported Seniority: not reported Income: not reported 	Modified mindfulness-based stress reduction [Mindfulness]	Wait list	<ul style="list-style-type: none"> Job stress Mental health symptoms
Garbarino 2020 [Italy]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: police service Organisation size: large Contract type: not reported Seniority: not reported Income: not reported 	Sleep health promotion [Sleep therapy]	Control	<ul style="list-style-type: none"> Mental health symptoms
Grabbe 2020	RCT	Workplace:	Community resiliency model	Control	<ul style="list-style-type: none"> Mental wellbeing

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
[US]		<ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional 	[Resilience]		<ul style="list-style-type: none"> • Job stress
Grant 2010 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: mixed • Income: professional (teachers) 	Developmental coaching [Professional development]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms • Resilience
Griffith 2008 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported 	Qigong [Physical activity]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms • Quality of life
Griffiths 2016 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract type: mixed (permanent and non-permanent) • Seniority: mixed (managers and non-managers) 	Psychoeducational programme [Psychoeducation]	Wait list	<ul style="list-style-type: none"> • Uptake of support services • Mental health literacy

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: mixed (mixed education levels) 			
Harris 2016 [US]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Organisation size: not reported Contract type: not reported Seniority: not reported Income: mixed 	Yoga and mindfulness [Yoga]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress Mental health symptoms
Hartfiel 2012 [UK]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: local government Organisation size: large Contract type: not reported Seniority: mixed (managers and non-managers) Income: mixed (local authority officers, health/education/social care professionals, managers and admin staff) 	Yoga	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress
Hartfiel 2011 [UK]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Size or organisation: large Contract type: not reported Seniority: not reported Income: not reported 	Yoga	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress Mental health symptoms
Haslam 2013 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public 	Workplace parenting intervention [Work-life balance]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Industry: education • Organisation size: Not reported • Contract type: mixed (full time and part time) • Seniority: not reported • Income: professional (teachers) 			<ul style="list-style-type: none"> • Job satisfaction
Hasson 2005 [Sweden]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: IT and media • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed 	Stress management programme [Stress management]	Usual practice	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Hilcove 2020 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed 	Mindfulness-based yoga [Yoga]	Control	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Hinman 1997 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: university • Contract type: not reported • Seniority: not reported • Income: not reported 	Computerised exercise programme [Physical activity]	Control	<ul style="list-style-type: none"> • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Hoogendijk 2018 [The Netherlands]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 	Professional coaching [Professional development]	Usual practice	<ul style="list-style-type: none"> • Mental wellbeing • Job stress
Huang 2020 [China]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: mixed • Seniority: not reported • Income: professional 	Balint [Group support]	Control	<ul style="list-style-type: none"> • Job stress
Huang 2019 [China]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: first year residents • Income: professional 	Balint [Group support]	Wait list	<ul style="list-style-type: none"> • Job stress • Job satisfaction
Hwang 2019 [Australia]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported 	Mindfulness	Teaching as usual	<ul style="list-style-type: none"> • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Seniority: not reported • Income: mixed 			
Imamura 2014 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: information technology • Organisation size: large • Contract type: not reported • Seniority: mixed (managers and non-managers) • Income: not reported 	Internet CBT [CBT]	Email with short tips on stress management (non-CBT)	<ul style="list-style-type: none"> • Mental health symptoms
Jeffcoat 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector - private • Industry: education • Size of organisation: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (teachers, administrators, counsellors, psychologists, behavioural analysts, librarians, custodians, nurses, technicians, and specialists) 	Acceptance and commitment therapy	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms
Jennings 2019 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported 	Mindfulness-based intervention [Cultivating Awareness and Resilience in Education (CARE) programme] [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: professional (almost all teachers had a Master's/specialist degree or higher) 			
Kakinuma 2010 [Japan]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: information technology Organisation size: large Contract type: Not reported Seniority: not reported Income: professional (system engineers) 	Sleep hygiene [Sleep therapy]	Wait list	<ul style="list-style-type: none"> Mental health symptoms
Kaspereen 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Organisation size: medium Contract: full time Seniority: not reported Income: not reported 	Relaxation therapy [Relaxation]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress
Kiley 2018 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: health and social care Organisation size: large Contract type: not reported Seniority: mixed Income: mixed (education levels included: high school/associate degree, Bachelor's/some master's work, Master's degree) 	Guided imagery [Relaxation]	Usual practice	<ul style="list-style-type: none"> Job stress Mental health symptoms Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Klatt 2017 [Denmark]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: finance • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported 	Mindfulness-based intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Job satisfaction
Kloos 2019 [The Netherlands]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: social care (nursing homes) • Organisation size: not reported • Contract type: mixed (part time and full time) • Seniority: not reported Income: mixed (job roles included registered nurse, licensed practical nurse, nurse assistant and student)	Positive psychology	Usual practice	<ul style="list-style-type: none"> • Mental wellbeing • Job satisfaction
Kojima 2010 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: white-collar workers 	Cognitive behavioural therapy training [CBT]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Mental health symptoms
Krick 2020 [Germany]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: police 	Mindfulness-based intervention [Mindfulness]	Control	<ul style="list-style-type: none"> • Mental wellbeing

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported 			
Lemaire 2011 [Canada]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (physicians) 	Biofeedback based stress management tool [Stress management]	Wait list	<ul style="list-style-type: none"> • Job stress
Lilly 2019 [US and Canada]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: emergency services • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (educational level mixed) 	Online mindfulness-based intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress
Limm 2011 [Germany]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: not reported • Seniority: lower and middle managers • Income: mixed education level 	Stress management	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Lin 2019 [China]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: Healthcare • Organisation size: large • Contract type: permanent • Seniority: mixed (assistant nurse, nurse, senior nurse, supervisor nurse, associate chief nurse or higher) • Income: mixed education (technical secondary school, junior college, bachelor's degree, master's degree or higher) 	Mindfulness-based group intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Job satisfaction
Lloyd 2013 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract size: not reported • Seniority: not reported • Income: mixed education level 	Acceptance and commitment therapy	Wait list	<ul style="list-style-type: none"> • Job stress • Quality of life
Lloyd 2017 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported 	Acceptance and commitment therapy	Wait list	<ul style="list-style-type: none"> • Job stress
Maatouk 2018	RCT	Workplace:	Selection, optimisation, and compensation	Wait list	<ul style="list-style-type: none"> • Mental wellbeing

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
[Germany]		<ul style="list-style-type: none"> • Sector: not reported • Industry: Healthcare • Organisation size: Large • Contract type: mixed (full-time and part-time) • Seniority: not managers or leadership • Income: professional (nurses) 	[SOC training]		<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life
Mache 2015 [Germany]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: professional (hospital physicians) 	Psychosocial programme [Resilience]	Usual practice	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Job satisfaction • Resilience
Mache 2017 [Germany]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: Large • Contract type: full time • Seniority: not reported • Income: professional 	Coping skills [Resilience]	Usual practice	<ul style="list-style-type: none"> • Job stress • Job satisfaction • Resilience
Mache 2018 [Germany]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: full time 	Mental health training [Emotional skills training]	Wait list	<ul style="list-style-type: none"> • Job stress • Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Seniority: junior • Income: professional 			
Maglia 2019 [Italy]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional 	Psychotherapy and yoga	Control	<ul style="list-style-type: none"> • Job stress • Quality of life
McConachie 2014 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: social care: • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (education level: secondary school education only, higher education college, university education) 	Acceptance and mindfulness-based stress management [Acceptance and commitment therapy]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress
McGonagle 2020 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional 	Positive psychology-based coaching [Positive psychology]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Job satisfaction
Medisauskaite 2019 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare 	Psycho-educational programmes [Psychoeducation]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Organisation size: mixed (hospital and non-hospital) • Contract type: not reported • Seniority: not reported • Income: professional (doctors) 			
Mino 2006 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: public • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported 	Stress management - CBT based [CBT]	Usual practice	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life
Morgan 2016 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: small • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 	Work-Related Self-Affirming Implementation Intention (WS-AII) [Positive psychology]	Control implementation intervention (CII)	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms
Morgan 2015 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: medium • Contract time: not reported • Seniority: mixed (teaching staff, managers, support staff, premises maintenance staff) 	Work-Related Self-Affirming Implementation Intention (WS-AII) [Positive psychology]	Control implementation intervention (CII)	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		Income: mixed (mixed (teaching staff, managers, support staff, premises maintenance staff))			
Mori 2014 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: information technology • Organisation size: not reported • Contract type: not reported • Seniority: not management • Income: not reported 	CBT training [CBT]	Wait list	<ul style="list-style-type: none"> • Mental health symptoms
Moyle 2013 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: social care (long-term care facility for residents with dementia) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mostly personal care workers 	Foot massage [Massage therapy]	Control- silent resting	<ul style="list-style-type: none"> • Mental health symptoms • Job satisfaction
Mueller 2018 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: students • Seniority: students • Income: students 	Online professional development programme [Professional development]	Wait list	<ul style="list-style-type: none"> • Job satisfaction • Resilience
Muller 2016	RCT	Workplace:	Selection, optimisation, and compensation	Wait list	<ul style="list-style-type: none"> • Mental wellbeing

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
[Germany]		<ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • organisation size: large • Contract type: permanent employees with mixed full-time and part-time contracts • Seniority: not reported • Income: professional 	[SOC training]		
Muller 2015 [Sweden]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public and private • Industry: mixed (education, healthcare, automotive, and construction industry) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (mixed education levels) 	Massage and mental training Massage [Relaxation and massage] Mental training [Relaxation] Massage [Massage therapy]	Pause group Control	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Myers 2017 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: large • Contract type: not reported • Seniority: mixed (all employees) • Income: mixed (all employees) 	Wellness intervention [Wellbeing promotion]	Usual care	<ul style="list-style-type: none"> • Mental wellbeing
Nadler 2020 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: not reported 	Online workplace-based mindfulness training [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Organisation size: large • Contract type: full time • Seniority: not reported • Income: mixed 			
Nishinoue 2012 [Japan]	RCT	Workplace <ul style="list-style-type: none"> • Sector: private • Industry: Service (IT) • Organisation size: not reported • Contract type: not reported • Seniority: Mixed (26.8% were in managerial positions) • Income: mixed (mixed education levels) 	Behavioural training and sleep hygiene [Sleep therapy]	Sleep hygiene	<ul style="list-style-type: none"> • Mental health symptoms
Ohrt 2015	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare (counselling) • Organisation size: not reported • Contract type: internship/practicum students • Seniority: students • Income: students 	Psychoeducation	Typical supervision	<ul style="list-style-type: none"> • Job stress
Oishi 2018 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type; not reported • Seniority: not reported 	CBT	Wait list	<ul style="list-style-type: none"> • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Oliver 2018 [UK]	RCT	<ul style="list-style-type: none"> Income: professional (teachers) Workplace: <ul style="list-style-type: none"> Sector: public Industry: civil service Organisation size: large Contract type: not reported Seniority: not reported Income: earned a full-time equivalent salary of £20,000-£39,999 (55.5%) 	Self-help goal-based intervention [Professional development]	Wait list	<ul style="list-style-type: none"> Mental wellbeing
Olson 2016 [US]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: not reported Industry: health and social cares Organisation size: not reported Contract type: not reported Seniority: not reported Income: home care workers 	Safety, health and wellbeing intervention [Multi-component intervention]	Usual practice	<ul style="list-style-type: none"> Quality of life
Oude Hengel 2010 [The Netherlands]	cRCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: construction industry Organisation size: medium and large Contract type: not reported Seniority: mixed (construction workers and supervisors) Income: blue collar workers (bricklayers and carpenters) 	Multicomponent intervention	Usual practice	<ul style="list-style-type: none"> Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Page 2013 [Australia]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract type: permanent • Seniority: not reported • Income: not reported 	Positive psychology-based wellness programme [Psotove psychology]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job satisfaction
Palumbo 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size; large • Contract type: not reported • Seniority: not reported • Income: professional (nurses) 	Tai chi [Physical activity]	Usual practice	<ul style="list-style-type: none"> • Absenteeism
Park 2020 [South Korea]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare (mental health practitioners) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional 	Simulation education programme [Imagery, simulation and skills training]	Comparison group Control	<ul style="list-style-type: none"> • Mental wellbeing
Pidd 2015 [Australia]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: catering • Organisation size: not reported 	Psychological wellbeing and substance use intervention [Stress management and resilience training]	Usual practice	<ul style="list-style-type: none"> • Mental health symptoms • Quality of life

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Contract type: apprenticeship • Seniority: training • Income: trainee chefs 			
Ploukou 2018 [Greece]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional 	Music therapy	Wait list	<ul style="list-style-type: none"> • Mental health symptoms
Pollak 2020 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professionals 	Motivational interviewing	Wait list	<ul style="list-style-type: none"> • Job stress
Poulsen 2015 Australia	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: mixed (full time and part time) • Seniority: not reported • Income: Professional (radiation therapists and oncology nurses) 	Recovery training programme [Resilience]	Written materials	<ul style="list-style-type: none"> • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Proudfoot 2009 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: not reported • Seniority: sales agents • Income: not reported 	Cognitive behavioural training [CBT]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job satisfaction • Psychological distress
Rankhambe 2020 [India]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: transport • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: bus drivers 	Om chanting [Relaxation]	Control	<ul style="list-style-type: none"> • Mental health symptoms
Redhead 2011 [UK]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: mixed (qualified and unqualified nurses) 	Psychosocial intervention [Professional development]	Wait list	<ul style="list-style-type: none"> • Job stress
Ripp 2016 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported 	Facilitated discussion group [Group support]	Control No intervention	<ul style="list-style-type: none"> • Job stress

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Contract type: not reported Seniority: residents Income: professional 			
Roeser 2013 [Canada and US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: education Organisation size: not reported Contract type: not reported Seniority: not reported Income: professional (teachers with mixed education: bachelors', master's, JD or PhD) 	Mindfulness training programme [Mindfulness]	Wait list	<ul style="list-style-type: none"> Job stress Mental health symptoms
Rollins 2016 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: healthcare Organisation size: not reported Contract type: not reported Seniority: not reported Income: highly education 	Burnout prevention programme [Resilience]	Workshop on person centred treatment planning	<ul style="list-style-type: none"> Job stress Job satisfaction Absenteeism Employee retention
Rosas-Santiago 2019 [Mexico]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: civil service Organisation size: large Contract type: not reported Seniority: not reported Income: not reported 	Cognitive behavioural and psychoeducational intervention [CBT]	Wait list	<ul style="list-style-type: none"> Job stress
Saadat 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: not reported 	Stress management training [Work-life balance]	Usual treatment with release time	<ul style="list-style-type: none"> Job stress Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: residents • Income: professional 		(time off some clinical duties for relaxation) Or Usual treatment with routine duties.	
Schoeps 2019 [Spain]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public and private • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 	Emotional skills training	Textbook or digital material about social emotional learning in the classroom (with no face to face instruction)	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms
Schroeder 2018 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare: • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (physicians) 	Mindfulness-based intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Job stress • Resilience
Sforzo 2012 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: full-time • Seniority: not reported 	Wellness education and wellness facility access [Wellbeing promotion]	Control	<ul style="list-style-type: none"> • Job stress • Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: not reported 			
Shimazu 2005 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: manufacturing Organisation size: large Contract type: not reported Seniority: not reported Income: white-collar workers 	Web-based psychoeducation [Problem solving]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress Job satisfaction
Shirotsuki 2017 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: manufacturing Organisation size: not reported Contract type: full time Seniority: not reported Income: office workers 	Computerised CBT Computerised CBT + supplement soft drink [CBT]	Usual practice	<ul style="list-style-type: none"> Job stress Mental health symptoms
Shulman 1996 [US]	RCT	Workplace: <ul style="list-style-type: none"> Sector: private Industry: manufacturing Organisation size: large Contract type: not reported Seniority: not reported Income: mixed (clerical and professional) 	Chair massage [Massage therapy]	Break therapy	<ul style="list-style-type: none"> Mental health symptoms
Skeffington 2016 [Australia]	cRCT	Workplace <ul style="list-style-type: none"> Sector: public Industry: Emergency services 	Resilience training [Resilience]	Training as usual	<ul style="list-style-type: none"> Job stress Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Organisation size: not reported • Contract type: Not reported • Seniority: Trainees • Income: Not reported 			
Sok 2020 [South Korea]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professionals (nurses) 	Simulation-based CPR training [Imagery, simulation, and skills training]	Control	<ul style="list-style-type: none"> • Job stress
Sood 2014 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (radiology physicians) 	Stress management and resiliency training [Stress management and resilience training]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life
Sood 2011 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (physicians) 	Stress management and resilience training	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Quality of life • Resilience

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Steinberg 2016 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed (nurses, patient care assistants, family support coordinators, chaplain, janitor, pharmacist, unit clerk) 	Mindfulness-based intervention [Mindfulness]	Wait list	<ul style="list-style-type: none"> • Absenteeism
Strijk 2012 [Netherlands]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: full and part time • Seniority: not reported • Income: mixed 	Worksite vitality intervention [Multi-component intervention]	Control	<ul style="list-style-type: none"> • Mental health symptoms
Tarrasch 2020 [Israel]	cRCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: small and medium • Contract type: not reported • Seniority: not reported • Income: professional (teachers) 	Contemplative practices and social and emotional skills training [Emotional skills training]	Control	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms
Travis 2018 [US]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public 	Transcendental meditation [Meditation]	Wait list	<ul style="list-style-type: none"> • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Industry: local government • Organisation size: not reported • Contract type: not reported • Seniority: mixed (supervisors and administrative staff) • Income: not reported 			
Umanodan 2014 [Japan]	cRCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: full time • Seniority: mixed (managers and non-managers) • Income: not reported 	Stress management training [Stress management]	Wait list	<ul style="list-style-type: none"> • Job stress • Job satisfaction • Productivity
Unterbrink 2012 [Germany]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: mixed (full time and part time) • Seniority: not reported • Income: professional (teachers) 	Psychological group training [Stress management]	Wait list	<ul style="list-style-type: none"> • Job stress
Van Berkel 2014 [The Netherlands]	RCT	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: research • Size of organisation large • Contract type: not reported • Seniority: not reported 	Mindfulness training with e-coaching and health promotion [Mindfulness and E-coaching]	Usual practice	<ul style="list-style-type: none"> • Job stress • Mental health symptoms • Job satisfaction

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> Income: mixed (highly educated and not highly educated) 			
Van Drongelen 2013 [The Netherlands]	RCT	Workplace <ul style="list-style-type: none"> Sector: Not reported Industry: Transport Organisation size: Large Contract type: not reported Seniority: Mixed Income: professional (Pilots) 	Mobile sleep intervention [Sleep therapy]	Control	<ul style="list-style-type: none"> Job stress
Verweij 2018 [The Netherlands]	RCT	Workplace: <ul style="list-style-type: none"> Sector: public Industry: healthcare Organisation size: large Contract type: not reported Seniority: residents Income: Professional 	Mindfulness-based stress reduction [Mindfulness]	Wait list	<ul style="list-style-type: none"> Mental wellbeing Job stress
Vuori 2012 [Finland]	RCT	Workplace: <ul style="list-style-type: none"> Sector: Mix of public and private Industry: Mix of local government, research institutes, employment office, finance, multi-service and occupational health services Organisation size: Mix of medium and large Contract type: 89% view their job as secure Seniority: Not reported Income: Not reported 	Resource-building intervention [Resilience]	Control	<ul style="list-style-type: none"> Mental wellbeing Job stress Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
Wachi 2007 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: Manufacturing • Organisation size: large • Contract type: not reported • Seniority: mixed • Income: not reported 	Music-making [Music therapy]	Control	<ul style="list-style-type: none"> • Job stress • Mental health symptoms
Weber 2019 [Europe]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public and private • Industry: not reported • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed 	Kelaa mental resilience app [Resilience]	Wait list	<ul style="list-style-type: none"> • Mental wellbeing • Job stress • Mental health symptoms
Wei 2017 [China]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: Healthcare • Organisation size: large • Contract type: Mix of permanent and contract • Seniority: not reported • Income: not reported 	TAU and active management [Stress management]	TAU	<ul style="list-style-type: none"> • Job stress
Yamagishi 2008 [Japan]	RCT	Workplace: <ul style="list-style-type: none"> • Sector: Not reported • Industry: Healthcare • Organisation size: not reported 	Career-identity training	Control	<ul style="list-style-type: none"> • Job stress • Mental health symptoms

Study [Country]	Study design	Setting	Intervention	Comparator	Outcome
		<ul style="list-style-type: none"> • Contract type: full time • Seniority: not reported • Income: not reported 			

Table 3: Summary of intervention characteristics

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Online resilience programme	Abbott 2009	The programme aims to enhance seven components of resilience (emotion regulation, impulse control, optimism, causal analysis, empathy, self-efficacy and reaching out) and is based on cognitive therapy.	<ul style="list-style-type: none"> • Videos and slides 	<ul style="list-style-type: none"> • Video of a psychologist and slides guide user through the skills. • Users can interact at any time with several Virtual Partners to aid understand of key learning components from multiple perspectives. • Individual call from a staff member was offered in the 2nd and 10th week to answer questions about accessing the programme of applying skills 	<ul style="list-style-type: none"> • Psychologist guided participants through skills video. • Staff members of Reflective Learning conducted calls and facilitated group video conference. 	<ul style="list-style-type: none"> • Online • Individual phone calls • Group video conferencing 	<ul style="list-style-type: none"> • 10 week programme.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> Group conference call with two staff members for participants to share their experiences and interact with staff. Participants also received emails from the Project Manager, encouraging them to complete the programme and questionnaires. 			
Resource enhancing intervention	Ahola 2012	Increase in career management preparedness might strengthen employees' personal resources and help them to mould their psychosocial factors at work in such a way that the risk for	<ul style="list-style-type: none"> Information leaflets regarding the programme. 	<ul style="list-style-type: none"> Skills training: defining one's own strengths and career interest; the principles of lifelong learning; practising organisational change management; obtaining career-related resources from social networks; 	<ul style="list-style-type: none"> 2 employees from each organisation (1 HR, 1 Occupational Health) who underwent 4 days training at the Finnish Institute of Occupational Health. 	<ul style="list-style-type: none"> Group workshops 	<ul style="list-style-type: none"> Four half-day sessions, which were delivered over 1 or 2 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		depression would decrease.		<p>solving social conflicts and managing one's career.</p> <ul style="list-style-type: none"> • Active learning methods used participants' own career knowledge and career choice skills in discussions and role-plays. • Trainers worked in pairs to build trust and facilitate group processes, and social support was provided by facilitating modelling and strengthening supportive behaviour in the groups. • Preparation against setbacks was accomplished through inoculation training. 			

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Modified mindfulness-based stress reduction	Aikens 2014	To increase measures of mindfulness, decrease stress, enhance resiliency, and improve employee vigour and work engagement, thereby resulting in an increase in positive organisational behaviour and enhanced employee well-being.	<ul style="list-style-type: none"> • Website • Workbook containing a practice guide • Audio exercises • Text message service (opt-in) 	<ul style="list-style-type: none"> • The first and fifth class meetings were in-person, • Subsequent class meetings were conducted via webinar • Classes were followed by workbook and online training tasks. • Participants received pre-programmed e-mail coaching and specific feedback. • There was also an opt-in customised text messaging system to provide daily practice reminders and encouragement. 	A board-certified internal medicine physician, with training in integrative medicine and MBSR	<ul style="list-style-type: none"> • Online • In-person classes • Text messages 	<ul style="list-style-type: none"> • 7 week online programme • 1 hour virtual class meetings • Home practice varying between 2 and 5 times per week with lengths of between 17 and 37 minutes • The total time commitment was 17.8 hours.
Yoga	Alexander 2015	Mind-body intervention to promote self-care and prevent burnout in nurses	<ul style="list-style-type: none"> • Handouts 	<ul style="list-style-type: none"> • Participants learned breathing consciousness • Instructor taught basics of postural 	Experienced yoga instructor, who is an osteopathic physician	Face-to-face yoga class	8 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				alignment, deep breathing, and monitoring the mind with simple meditations.			
Relaxation techniques	Alexopoulos 2014	It was assumed that the implementation of the techniques (muscle relaxation combined with diaphragmatic breathing) would lead to stress reduction and daily life parameters.	<ul style="list-style-type: none"> • Brochure-benefits of healthy daily routine, diet, exercise • Diary to note how often relaxation techniques were practiced. • CD containing educational material on stress reduction exercises 	<ul style="list-style-type: none"> • Informative session on stress physiology and pathophysiology its clinical manifestations and coping mechanisms. • Seminar and brochures on the benefits of healthy daily routine (sleep, diet and exercise) • Instruction on the specific relaxation techniques (diaphragmatic breathing combined with muscle relaxation exercises) • Weekly contact with researchers for queries on the techniques 	Researcher	Audio recordings	2 x 20 minute daily sessions for 8 weeks.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				and possible side effects.			
Web-based mindfulness stress management (WSM)	Allexandre 2016	A web-based mindfulness program in the workplace offers the opportunity to use a self-directed group practice and support as a cost-effective and scalable solution to improve adherence.	<ul style="list-style-type: none"> • Website • Material in written and audio formats • Daily articles • Email reminders • Introductory talks and mediation exercises were provided on CDs in mp3 format for participants without internet access at home 	<ul style="list-style-type: none"> • 3 arm trial in which all intervention groups received the following: • New mindfulness themes each week • Mindfulness meditation techniques provided in audio format • Email reminders • Programme could be accessed at home or work. • In addition for for group WSMg1 - Groups of 15 to 18 people met for 1 hour once a week. • In addition for WSMg2 Group meetings on weeks 3, 6 and 8 were facilitated by a licensed 	<ul style="list-style-type: none"> • Online (all intervention groups) • For WSMg1, group meetings were facilitated by selected company employees who participated in the WSM program before the start of the study. • For WSMg2 a licensed clinical counsellor or licensed social worker in area of stress management and CBT facilitated group meetings 3, 6, and 8. 	<ul style="list-style-type: none"> • Online (all groups) • Group sessions (WSMg1 and WSMg2) 	<ul style="list-style-type: none"> • 8 week intervention • For WSMg1 and WSMg2 - 1 hour group meetings every week.
Web-based mindfulness stress management + group support (WSMg1)		Group support may also improve engagement, retention, and effectiveness.					
Web-based mindfulness stress management with group support and expert support in stress management and CBT (WSMg2)		Prior findings have suggested that clinical support may have a greater effect on adherence than peer support.					

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				clinical counsellor or licensed social worker.			
Mindfulness-based self-care	Ameli 2015	Mindfulness is defined as paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of moment-by-moment experiences.	<ul style="list-style-type: none"> • A course binder with mindfulness practice descriptions • Weekly at-home practice plans • A list of mindfulness resources 	<ul style="list-style-type: none"> • Mindfulness exercises included mindful breathing, body scan, mindful walking, mindful movements, mindful eating, and loving-kindness meditation. • A buddy system was established to enhance a sense of community and encourage at-home practice. 	A professionally trained teacher with more than 15 years of mindfulness and yoga practice experience	<ul style="list-style-type: none"> • Didactic material and facilitated inquiry and group discussions 	<ul style="list-style-type: none"> • 5-session, 7.5-hour program • Participants engaged in 60 to 70 minutes of mindful practice in each class. • Daily at-home mindfulness practice was strongly encouraged.
Mindfulness-based stress reduction	Amutio 2015	The intervention followed the MBSR program (Kabat-Zinn, 2003) and was based on the psycho-educational model of Krasner et al. (2009).	<ul style="list-style-type: none"> • Set of mindfulness CDs with exercises • A record sheet 	<ul style="list-style-type: none"> • Intensive group training session • Individual practice at home using CDs, practicing the same exercises as in classes. • Participants recorded 	MBSR instructor who was trained by Kabat-Zinn at the Stress Reduction Clinic in the University of Massachusetts, following the standardised protocol	<ul style="list-style-type: none"> • Group training • Individual home practice 	<ul style="list-style-type: none"> • 8 weeks • Weekly 2.5-hour sessions • 8-hour retreat session • 45 minutes of daily practice

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				practices using record sheet			
Yoga and mindfulness	Ancona 2014	To provide stress management skills for teachers working in under-resourced areas with high levels of occupational stress.	<ul style="list-style-type: none"> None reported 	<ul style="list-style-type: none"> Sessions included yogic breathing techniques, yoga postures, and guided mindful reflection practices. Practices were conducted seated in chairs. instructors discussed how to recognise activation of the stress response, how to calm oneself mentally and physically, and how to relax and strengthen the body. Practice between classes was encouraged 	Holistic Life Foundation intervention developer	<ul style="list-style-type: none"> Class sessions 	<ul style="list-style-type: none"> Six sessions (45 minutes duration) 3 weeks
Online stress intervention	Ansley 2021	The primary goals of the intervention were to instruct strategies participants may use as coping resources for	<ul style="list-style-type: none"> Open learning platform 	<ul style="list-style-type: none"> Each online module included written instructions and videos that provided information, demonstrations, 	Online	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> Eight 30-minute modules The program was self-paced with the recommendati

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		stress management; and to promote socioemotional competencies that cultivate positive learning experiences associated with lower burnout rates and higher teacher efficacy.		<p>and examples of how each strategy may be applied.</p> <ul style="list-style-type: none"> • Participants were encouraged to select one or two coping strategies instructed in the online program, begin with small changes, and practice consistently. Throughout the program, participants developed personalized stress management plans associated with their desired goals. 			<p>on of completing two modules per week for four weeks.</p>
Imagery and skills training	Arnetz 2009	The aim of the study was to test the effects of trauma resilience training on stress and performance among new police recruits.	<ul style="list-style-type: none"> • Scripts of various critical trauma incidents (CTIs) to help police recruits create mental 	<ul style="list-style-type: none"> • Initial psychoeducational session • Small group sessions of relaxation and imagery training with mental skill rehearsal. • These included: 	National special forces senior officers, trained to deliver the intervention by the researchers and with experience of mental training.	<ul style="list-style-type: none"> • Group sessions (10 or less participants) 	<ul style="list-style-type: none"> • One initial psychoeducational session • 10 weekly group sessions of 2 hours duration • Practice at home

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
			images of stressors relevant to their work. <ul style="list-style-type: none"> • Survey covering 33 different scenarios. • Audio tape to support home practice. 	training in progressive and cue- controlled relaxation; imagery training through verbal presentation of CTI scripts; cognitive and behavioural skills training in coping techniques; group discussion around thoughts and feelings; home- practice of cue-controlled relaxation.			
Situational skills training	Arnetz 2013	To enhance the sense of control over stress-provoking situations by rendering the incidents more predictable and by providing a psychological/tactical repertoire to utilize	<ul style="list-style-type: none"> • A scripted audiotape was provided to facilitate the imaginal process and to induce cue-controlled relaxation 	<ul style="list-style-type: none"> • Initial psychoeducational session on nature of the intervention. • Description of the intervention components (relaxation training, use of guided imagery to facilitate imaginal exposure to potentially stressful 	Swedish Special Forces officers who had been trained by the researchers in administering the intervention	<ul style="list-style-type: none"> • Group sessions where each facilitator worked with 8 cadets 	<ul style="list-style-type: none"> • Weekly, 9-sessions and 90-min classroom format • Officers encouraged to review the scenarios at home 3 or more times per week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<p>incidents, and the mental practice of police tactical skills.</p> <ul style="list-style-type: none"> • Didactics in adaptive coping strategies for the scenarios • Presentation on the theory of stress, impact on health and performance, and the benefits of imagery-based exposure and skills training. • Teaching of Jacobsen's (1938) progressive muscle relaxation technique • 2 stress scenarios with direction in adaptive coping skills and police technical/strategic skills • Discussion on possible 			

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				unanticipated effects			
Modified mindfulness-based stress reduction	Asuero 2014	The intervention was modelled after the intensive phase of Krasner's study, which emphasizes mindfulness in everyday activities.	<ul style="list-style-type: none"> • CD with a recording of the exercises • An explanatory book • Instructions to practice at home between sessions 	<ul style="list-style-type: none"> • 8 weekly group sessions with 21 and 22 • Weekly sessions included educational presentation, formal mindfulness meditation, narrative and appreciate inquiry exercises and discussion • Additional 8 hour session 	A certified MBSR teacher	<ul style="list-style-type: none"> • Group classes 	<ul style="list-style-type: none"> • 8 weeks • Weekly 2.5-hour sessions • 8-hour intensive session
Problem solving training	Ayers 2007	Bandura's Social Cognitive Theory postulates that improvement in skills, including problem-solving skills, is mediated by self-efficacy, which involves believing that one can use the skill to deal effectively with	<ul style="list-style-type: none"> • Booklet in which participants wrote their goal 	<ul style="list-style-type: none"> • Participants identified a goal they wanted to achieve. • Meeting with a researcher to discuss self-efficacy, happiness and goal achievement • Questionnaire completion to identify barriers 	Researcher – no further details provided	<ul style="list-style-type: none"> • By phone 	<ul style="list-style-type: none"> • 4 weeks consisting of 3 phone calls (one of 30 to 60 minutes in length,) with activities twice a week.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		prospective situations.		<p>to impeding achievement of the goal.</p> <ul style="list-style-type: none"> Teaching of problem solving skills through a multistep problem-solving model similar to that described by (D'Zurilla & Nezu, 1999) Journal writing for 4 weeks to record actions taken towards achieving the goal. 			
Mindfulness-based IARA Model (an Italian acronym translatable into meeting, compliance, responsibility, autonomy)	Barattucci 2019	IARA is a model that encompass mindfulness, psychosynthesis, and counselling principles using emotional education, role-play, relaxation and breathing techniques, guided imagery, inter-personal and self-management skill improvement.	None reported	<ul style="list-style-type: none"> IARA training was given in a group setting with 19 to 22 HCP. There were taught, group, and individual elements, as well as homework 	IARA trainers who had followed a specific qualifying course and were either a psychologist, neuroscientist, psychologist or nurse.	<ul style="list-style-type: none"> Group meetings 	<ul style="list-style-type: none"> Four 8-hour group meetings

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Person-centred care (PCC)-based psychoeducational intervention	Barbosa 2015	The intervention aimed to develop person-centred care competences and tools for stress management.	<ul style="list-style-type: none"> • Handouts with relevant information 	<ul style="list-style-type: none"> • Each session comprised 2 components—educative and supportive. • In the 3 days following each session, the same professionals assisted each participant individually during morning care, clarifying doubts and making suggestions to implement more PCC. 	A gerontologist and a physical therapist	<ul style="list-style-type: none"> • Group sessions included active-learning methods, including group discussions, role-playings, or brainstorming. 	<ul style="list-style-type: none"> • 8 weekly sessions of approximately 90 minutes
Professional development	Barr 2015	<p>To examine the impacts of a professional development intervention on teachers in terms of self-efficacy, burnout and professional engagement and satisfaction.</p> <p>The aim was to support teachers to develop their</p>	<ul style="list-style-type: none"> • Teachers resource book 'Facing history and ourselves: holocaust and human behaviour'. • Additional print and digital resources. 	<ul style="list-style-type: none"> • 5 day professional development seminar for teachers • Follow up support from Facing History staff over the following year through coaching and workshops as teachers developed 	Facing history and ourselves (non-profit organisation) programme staff members.	<ul style="list-style-type: none"> • Initial group seminar • Initial follow up meeting • Ongoing coaching as requested . • Guest speakers and workshops – no further detail 	<ul style="list-style-type: none"> • 5 day seminar (35-40 hours) • Minimum of one hour follow-up meeting • Coaching as requested.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		capacity to implement a historical interdisciplinary case study using a student centred pedagogy.		<p>lesson plans and implemented them.</p> <ul style="list-style-type: none"> • Access to curricular resources and materials. 			
Mindfulness training [SMART-in-Education (Stress Management and Relaxation Techniques) program]	Benn 2012	Changes in mindfulness would mediate long-term changes in stress, distress, and wellbeing. With greater attention to internalized processes, it was proposed that both parents and educators would learn to modify their cognitions and responses in ways that support more optimal mental functioning and caregiving competence	None reported	<ul style="list-style-type: none"> • Mindfulness practices included specific mental training exercises • Typical sessions consisted of question-and answer periods, didactic lectures and group discussions, modelling of mindfulness practices, and actual group mindfulness practice. 	Instructors who had formal professional training in MBSR or mindfulness-based cognitive therapy. In addition, they had received 3 days of training in the SMART curriculum by the curriculum developers, with ongoing supervision and consultation as needed.	<ul style="list-style-type: none"> • Group sessions • Mindfulness practices • Homework assignments 	<ul style="list-style-type: none"> • 5 weeks • 36 hours • Nine 2.5 hour sessions • 2 full days
Acceptance and commitment therapy +	Bethay 2013	This intervention was constructed based upon examination of	Not reported	<ul style="list-style-type: none"> • Sessions included brief didactics about stress in the 	Advanced graduate student with 1 year of training and	<ul style="list-style-type: none"> • Each session was attended by four to eight participants. 	Three 3-h group sessions that were administered at

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
applied behavioural analysis		ACT treatment protocols. Treatment components were adapted to address the particular difficulties encountered by intellectual disabilities staff, such as dealing with emotional reactions to challenging behaviours, as well as perceived lack of support from and cooperation among co-workers.		workplace and the ACT model. <ul style="list-style-type: none"> • Participants shared examples of work stressors and coping strategies. • Participants engaged in guided mindfulness exercises. • Participants were asked to practice mindfulness exercises as homework • Participants made behavioural commitments to practice valued actions. 	supervision in ACT		1-week intervals for 3 weeks
Acceptance and commitment therapy and Problem-solving training	Bond 2000	To compare the utility of Acceptance and Commitment Therapy (ACT) - s an emotion focused stress management intervention	Stress management intervention manual	<ul style="list-style-type: none"> • Group discussions • Didactic teaching • Experience orientated exercises. 	Not reported	<ul style="list-style-type: none"> • Group sessions 	3 x half day sessions. The first two were on consecutive weeks and the third was delivered 3 months later.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		designed to increase an individual's ability to cope with workplace stress, with a problem-solving approach (Innovation Promotion Programme – IPP) which trains individuals to identify and alleviate stressors.		<ul style="list-style-type: none"> Homework and review of homework <p>In the ACT group participants were taught how to accept thoughts and feelings they found undesirable without trying to change them.</p> <p>In the IPP group participants were taught how to identify stressors and modify them through using brainstorming, creative techniques and action planning.</p>			
Mindfulness app (Headspace)	Bostock 2019	To reduce stress by improving capacity to cope with stressful situations and enhancing attention regulation	<ul style="list-style-type: none"> Smartphone (Android or iPhone) Omron R2 wrist blood pressure monitor 	<ul style="list-style-type: none"> 1-hour in-person introductory talk app contained several short introductory videos Listeners were led through pre-recorded 	<ul style="list-style-type: none"> Headspace app Introductory talk was provided by Headspace founder 	<ul style="list-style-type: none"> Smartphone app 	10 to 20 minutes per day for 45 days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				mindfulness sessions.			
Communication skills training and stress management skills training	Bragard 2010	The training is a person-directed intervention bringing together a communication skills training and a stress management skills training has been developed to help medical residents deal with their own discomfort. The teaching method is learner-centred, skill-focused, practice-oriented and intensive.	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Communication skills training offered theoretical information presenting adequate communication skills in two-person and three-person interviews. • Participants were invited to practise the principles discussed in the theoretical sessions through role-plays with immediate feedback offered by experienced facilitators. • The stress management skills training focused on four topics: detection of job stressors and stress outcomes; relaxation 	Not reported	<ul style="list-style-type: none"> • Small groups (up to 7 participants) 	30-hour communication skills training and 10-hour stress management skills training

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				techniques; cognitive restructuring; and time management.			
Heart rate variability biofeedback	Brinkmann 2020	HRV-Bfb is a well-established, empirically supported technique for improving self-regulation and alleviating symptoms of stress, anxiety, and other psychophysiological disorders. During HRV-Bfb training individuals learn to breathe at the optimal respiratory frequency to maximally increase their HRV.	<ul style="list-style-type: none"> • Mobile HRV training device 	<ul style="list-style-type: none"> • HRV-Bfb training consisted of a psychoeducation about the physiology of stress and the relationship between stress and heart rate variability, as well as instruction in the use of the mobile HRV training device. • HRV-Bfb exercises consisted of slow breathing either following the pacer or independently and experimenting in changing breathing to maximize HRV (using the feedback 	Not reported	<ul style="list-style-type: none"> • Psychoeducation details not reported. Use of HRV-Bfb is conducted individually. 	The trainings for the respective intervention method took place over four consecutive half days. Participants practiced their skills independently after the initial training for a period of 6 weeks.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				provided by the light).			
Mindfulness-based intervention	Brinkmann 2020	The MBI was based on Mindfulness-Based Stress Reduction (MBSR) by Kabat-Zinn (1990) but also included elements of self-compassion, acceptance and commitment therapy and Mindfulness-Based Cognitive Therapy and consisted of formal guided meditations and informal exercises.	<ul style="list-style-type: none"> Meditation CDs consisting of 12 guided meditations which were recorded by a member of our team to support formal meditation at home. 	<ul style="list-style-type: none"> Examples of formal guided meditations include mindfulness of the breath and mindfulness of thoughts, feelings, and physiological sensations. Informal meditation practices encouraged brief pauses throughout the day during which participants would volitionally shift their attention to present moment awareness without judging 	Not reported	<ul style="list-style-type: none"> Not reported 	The trainings for the respective intervention method took place over four consecutive half days. Participants practiced their skills independently after the initial training for a period of 6 weeks.
Relaxation response	Calder Calisi 2017	Relaxation response is a diaphragmatic breathing pattern and a repetitive mental focus that breaks the train	<ul style="list-style-type: none"> Journal of relaxation breathing sessions 	<ul style="list-style-type: none"> Initial session on the Relaxation response benefits and utilization in personal lives. Practice of the actual technique. 	Not reported	<ul style="list-style-type: none"> Classes 	8-week intervention with initial 45 minute class and twice daily 10-20 minute individual practice

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		of everyday thought		<ul style="list-style-type: none"> Participants were encouraged to do the breathing exercises twice per day, and to keep a journal of their relaxation breathing sessions. 			
Meditation	Carissoli 2015	Sitting meditation consisting of different exercises, such as mindful breathing and thought distancing. In terms of mindful breathing, participants learned how to direct their attention to the sensations of breathing and to notice when their mind wandered away; in terms of thought distancing, participants had to try to perceive thoughts as	'It's time to relax app' created by using the Eclipse Integrated Development Environment.	<ul style="list-style-type: none"> All participants were initially met and given instructions and descriptions of the research. Baseline psychometric assessment and demographic data were collected (time 0). Participants practiced meditation by listening to the guided or free meditation supported by the smartphone application. 	Mobile app	<ul style="list-style-type: none"> Mobile app 	Meditation participants had to practice two mindfulness meditations per day, lasting 15 minutes.

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		“events” in their minds, simply observing the process of thought.					
Mindfulness-based programme	Cascales-Perez 2020	The objective of mindfulness-based stress reduction (MBSR) programmes is to promote awareness of the present moment without judging, evaluating or reacting to the different thoughts or emotions that may arise. Development of these abilities appears especially important for healthcare professionals.	Audio files	<ul style="list-style-type: none"> The programme uses meditation-contemplation exercises and yoga-type stretching. Besides guided exercises, programme modules included group discussions on issues such as attention, emotions, reaction of stress, communication and healthy life habits. Inquiry was used to support group discussions where patients shared their experience of guided exercises. Participants in each subgroup 	The instructor had been trained in the programme.	<ul style="list-style-type: none"> Group sessions with 15 participants in each group 	Eight 2.5 hour sessions over 8 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				formed a WhatsApp group that the instructor used for support.			
Socio-emotional learning programme (RULER)	Castillo Gualda 2017	RULER is a socio-emotional learning (SEL) intervention based on the theoretical model of the four branches of EI. The training pursued the following objectives: (a) develop teachers' emotional skills in learning; (b) exploit emotional skills to become good educational professionals and improve personal/professional relations; (c) deal with stress; and (d) establish and build the necessary requirements to integrate RULER tools within the school's	None reported	Teachers received training covering the four tools that comprise the foundations of emotional education. These are intended to be applied first on their own and integrated into teachers' daily personal/professional lives for several months, and they are then to be taught and integrated in their classes.	Not reported	<ul style="list-style-type: none"> Delivered outside of working hours 	3-month intervention consisting of training delivered through 24 contact hours over 8 sessions of 3 hours.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		educational curriculum					
Hatha yoga	Cheema 2013	To improve markers of physical fitness, musculoskeletal pain, psychological stress and health related quality of life	None reported	<ul style="list-style-type: none"> Based on the Yoga Synergy Water Sequence Participants were instructed to choose the level of difficulty appropriate to them during any given session 	Experienced instructor	<ul style="list-style-type: none"> Group session 	<ul style="list-style-type: none"> 10 weeks 50 minute sessions 3 times per week
Resource workshop	Chen 2009	Based on the conservation of resources theory, employees in an organisation introducing new Information Technology received a resources workshop in addition to the technical training. The aim was to enhance their psychological resources, reduce anticipated stress and help them adjust to		<ul style="list-style-type: none"> 5 days technical training to use the new information technology. An additional resources workshop based on a stress prevention programme which focused on recognising the symptoms of stress and skills training to improve coping. 	Experienced organisational consultants.	<ul style="list-style-type: none"> Workshop 	<ul style="list-style-type: none"> Not reported

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		the new technology.					
Meditative prayer	Chirico 2019	In a Christian prospective, prayer can take different forms, among which are conversational prayer, meditative prayer, ritual prayer, and intercessory prayer. In this study, we used meditative prayer, which consists of contemplation of spiritual themes and the relationship of the divine with the mankind.	Not reported	<ul style="list-style-type: none"> The protocol required the combination of an individualized Christian prayer and a focus group of prayer reflection. Before the treatment, participants attended two didactic lectures, followed by an individual interview with the instructor. 	Expert in religion psychology	<ul style="list-style-type: none"> Group lecture and focus group and individual interview 	<ul style="list-style-type: none"> 16 training sessions (two 30-minute sessions per week) that occurred over 8 consecutive weeks. Participants were advised to practice the prayer once daily for 10 min at home before sleeping.
Diaphragmatic breathing and progressive muscular relaxation	Christakis 2012	To provide trainees with easy, drug free, techniques that can improve their stress and thus their quality of life and their professional development.	Audio CD containing instructions on using diaphragmatic breathing and progressive muscular relaxation techniques.	<ul style="list-style-type: none"> Participants were provided with audio CDs containing instructions on using diaphragmatic breathing and progressive muscular relaxation techniques. 	Not reported	<ul style="list-style-type: none"> Audio recordings and telephone sessions 	<ul style="list-style-type: none"> Suggested use of the audio CD was twice a day for 8 weeks.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> Compliance to the study and guidance was provided through regular telephone sessions every week. 			
PTSD Clinicians Exchange	Clarke-walper 2020	The intervention links clinicians with resources to enhance access to specialized training, which has been associated with reduced levels of burnout. The Exchange also provides clinicians with immediate feedback regarding their current level of burnout and suggests possible self-care strategies to address burnout symptoms, targets social support, by providing	Web-based tool	<ul style="list-style-type: none"> The PTSD Clinicians Exchange is composed of three sections: 26 key practices for PTSD; a number of interactive features aimed at connecting clinicians with each other; and a self-care section that provides resources aimed at managing stress, burnout, and secondary traumatic stress (STS). The Exchange also includes a self-assessment component so 	Online	<ul style="list-style-type: none"> Web-based 	<ul style="list-style-type: none"> Not reported

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		clinicians with the opportunity to connect with other colleagues and to receive feedback from experts.		that clinicians can ascertain their current level of burnout, STS, and compassion satisfaction.			
Motivational interviewing	Coffeng 2014	Motivational interviewing (MI) is a counselling style that stimulates behavioural change by focusing on exploring and resolving ambivalence	Web-based social media platform, worksheets, group discussion	<ul style="list-style-type: none"> Team leaders who had received 2-days training form a GMI-professional led sessions within their own team 	Team leaders	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> Four 90-minute sessions within 3.5 months.
Meditation	Copeland 2021	Meditation was described as a way to enhance mindfulness and become present in the moment. Participants were assured there is no right or wrong way to meditate, it is normal for the mind to wander during meditation, and the most important thing is that they take the time to do it.	<ul style="list-style-type: none"> Meditation app Record keeping log 	<ul style="list-style-type: none"> Participants were asked to download a meditation app on their smartphone. 	App	<ul style="list-style-type: none"> App 	<ul style="list-style-type: none"> Participants were asked to meditate for approximately five minutes at work every day they worked during the six-week period.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Outdoor breaks	Copeland 2021	Being outdoors is an opportunity to disconnect themselves from their work and to recharge themselves.	Record keeping log	<ul style="list-style-type: none"> Participants were asked to take a break outdoors at work every day they worked during the six-week period. Participants were told they could engage in activity (walking a path) or sit quietly (in the healing garden), but they were to turn off personal phones and work phones/pagers during this time. 	Not reported	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Every day for a minimum of 5 minutes for 6 weeks
Gratitude	Copeland 2021	The act of complimenting or thanking another person can be intrinsically rewarding and motivating. It can also increase a sense of connection/relationship between people	A record keeping log	<ul style="list-style-type: none"> Participants were asked to thank three people and compliment three additional people at work every day they worked during the six-week period. 	Not reported	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> 6 weeks
Journaling	Copeland 2021	Journaling is an opportunity to reflect on their	<ul style="list-style-type: none"> Small three-ring notebooks 	<ul style="list-style-type: none"> The journaling could take any form the 	Not reported	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Participants were asked to journal for a

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		experiences during their work shift and also as an opportunity to take the perspective of “the other”.	were provided with prompts	<p>participant wished.</p> <ul style="list-style-type: none"> Participants were asked to date each journal entry to keep track of how often they journaled during the six-week period. 			<p>minimum of five minutes at work every day they worked during the six-week period.</p> <ul style="list-style-type: none">
Workplace mindfulness training	Crain 2017	To reduce automatic stress reactivity and cultivate greater emotional calm and mental clarity.	None reported	<ul style="list-style-type: none"> Mindfulness practices, group discussions of mindfulness practice, small-group activities to practice skills in real-life scenarios, lecture and guided home practices, and homework assignments Practices included body scans, focused-attention meditation, open-monitoring meditation, and loving-kindness meditation. 	The mindfulness instructor that created the programme	<ul style="list-style-type: none"> Group classes Home assignments 	<ul style="list-style-type: none"> 8-week programme 11 sessions – 2 were half day Saturday session and the rest were out of work hours during the week total contact time of 36 hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Mindfulness-based stress reduction (MBSR)	Daigle 2018	To improve the self-regulation of attention, which may increase concentration.	<ul style="list-style-type: none"> Materials including exercises A copy of Kabat-Zinn's (1990) book describing the MBSR program. 	<ul style="list-style-type: none"> Participants attended 8 weekly group sessions of 2.5 hours each, and received course material. Daily practices of 45 minutes each were recommended and a full day retreat was included. 	Not reported	<ul style="list-style-type: none"> Group sessions Daily practice Full-day retreat 	<ul style="list-style-type: none"> 8 weeks 8 weekly group sessions of 2.5 hours each. 45-minute daily practices Full day retreat
Energy management training course	Das 2019	The intervention uses a multidisciplinary approach rooted in performance psychology, exercise physiology, and nutrition to help maximize energy and promote lifelong behavior change. The intervention blends cognitive behavioural therapy and acceptance and commitment therapy to directly target	<ul style="list-style-type: none"> The workshop manual A portable exercise booklet with quick, energizing workouts, A comprehensive online support (e-course) 	<ul style="list-style-type: none"> Participants learned techniques to optimize daily energy levels, create short- and long-term goals, and review feedback from important people in their lives through individual reflection, group discussion, didactics, and in vivo exercises. Supplemental educational materials encouraged 	3 trained professional coaches	<ul style="list-style-type: none"> Group-based, in-person intervention 	<ul style="list-style-type: none"> 2.5 days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		the participant's thoughts, actions, emotional processing, and social interactions.		participants to work toward their action plan by adopting behavioural changes aligned with personal goals, such as reducing stress, managing energy, and maximizing purpose.			
Chair massage	Day 2009	Massage therapy may reduce strain symptoms and it may positively affect employee health and well-being.	<ul style="list-style-type: none"> • Not reported 	Participants were seated around a boardroom table, leaned forward at the hip with their head and arms on a pillow and received massage treatment to the back, neck, head, arms, wrists, and hands.	Massage therapy students	<ul style="list-style-type: none"> • Group sessions 	<ul style="list-style-type: none"> • Weekly 20-minute sessions for 4 weeks
Lunchtime park walks	De Bloom 2017	According to Kaplan's attention restoration theory (1995), natural environments more than urban settings promote psychological distance from	<ul style="list-style-type: none"> • Route maps 	<ul style="list-style-type: none"> • Participants assigned to the park walking group took a guided walk on a predetermined route in the nearest park at a slow, low-intensity pace. 	Work and organizational psychologists	<ul style="list-style-type: none"> • Group or individual 	<ul style="list-style-type: none"> • 15 minutes daily in prescribed lunch break activities for ten consecutive working days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		one's usual context, effortless attention, immersion in a coherent physical or conceptual environment, and are often compatible with personal purposes.		<p>They were asked to pay attention to their surroundings and to avoid discussion during this 15-minute walk.</p> <ul style="list-style-type: none"> • The trainers walked the route together with the group during the training (1 month before intervention). • Participants could walk either alone or in a group, but were encouraged not to talk to each other. 			
Relaxation exercises	De Bloom 2017	Relaxation techniques are designed to reduce adverse stress reactions by generating a bodily state that is the physiological opposite of stress.	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Two procedures were used in the relaxation training: 1) a release-only version of progressive muscle relaxation and 2) a deep breathing and acceptance exercise 	Work- and organisational psychologists	<ul style="list-style-type: none"> • Individual one-to-one 	<ul style="list-style-type: none"> • 15 minutes daily in prescribed lunch break activities for ten consecutive working days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> The method was taught for one hour. 			
Brief online form of Emotional Freedom Techniques [EFT]	Dincer 2020	The basic principle of EFT is to send activating and deactivating signals to the brain by stimulating points on the skin that have distinctive electrical properties, usually by tapping on them. These points correspond with the acupressure points that in Traditional Chinese Medicine are believed to regulate the flow of the body's energies.	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> The EFT session began by presenting the participants with a picture of the acupressure points and showing them how to gently tap on them using their index and middle fingers. After this demonstration, the participants followed the basic steps of an EFT session. 	Reseachers	<ul style="list-style-type: none"> Online in subgroups of 5 participants. 	<ul style="list-style-type: none"> A single 20-minute session
Online wellbeing intervention	Dyrbye 2016	To determine the impact of an individualised online wellbeing intervention on physicians.	<ul style="list-style-type: none"> Web based surveys 	<ul style="list-style-type: none"> Intervention group received a menu of 5 or 6 self-directed micro tasks and were asked to 	Online	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> 10 weekly surveys Each task could be completed within less

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<p>complete 1 each week.</p> <ul style="list-style-type: none"> Task were focused on career satisfaction, mindfulness, positive psychology and covered various domains e.g. fostering team work, recognising personal strengths, work-life balance. 			<p>than 5 minutes during the working day.</p>
Nursing theory and simulation training	El Khamali 2018	To assess if a multi-faceted education programme for ICU nurses which included simulation scenarios, reduced stress by enabling nurses to cope with stressful situations e.g. cardiac arrest, and work related stressors, e.g. workload, lack of autonomy.	<ul style="list-style-type: none"> Clinical sheet introducing the clinical scenario, and a simulated patient medical record. Video recording of the simulation 	<ul style="list-style-type: none"> Nursing theory recap of skills expected in ICU Participation in simulation scenarios of patients with deteriorating conditions 3 stage debriefing session – nurses shared their emotions and described their stress; reflective analysis of why actions were or 	Nurse instructors	<ul style="list-style-type: none"> Small groups (6 nurses) 	<ul style="list-style-type: none"> 5 day intervention (3 days in the first week and 2 in the second)

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				were not taken using video recordings; reinforcement of learning and future learning objectives.			
Transcendental meditation (TM)	Elder 2014	Meditation and relaxation programme that involves the effortless use of a sound without meaning (mantra), which allows the mind to settle to quieter levels of thought	None reported	<ul style="list-style-type: none"> • TM was taught in a standard 7-step course • Two didactic lectures, followed by individual interview with the instructor. • The instructor provided individual instruction in the technique to each participant. • Participants met with the instructor as a group to review and discuss experiences. • Participants were advised to practice the technique twice a day for 15 to 20 minutes at home 	Two certified TM instructors	<ul style="list-style-type: none"> • Lectures • One-to-one instruction • Group sessions • Individual practice 	<ul style="list-style-type: none"> • 4 months • At home practice was twice a day for 15 to 20 minutes

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Stress management training	Eriksen 2002	The training was developed to improve the coping ability of the participants through a cognitive behavioural approach.	30 minute audiotaped instruction	<ul style="list-style-type: none"> • Maladaptive cognitions and lifestyle factors were identified and attempts were made to modify these. • Effective strategies for interpersonal communication and social skills were explored with role play and video recordings. • Practical exercises, including progressive relaxation, autogenic training, and visualisation, were covered. • Participants were given homework to practice using audiotapes. 	Professional instructors trained in the method	<ul style="list-style-type: none"> • Lectures • Group discussion 	<ul style="list-style-type: none"> • 2-hour intervention once a week for 12 weeks
Physical exercise	Eriksen 2002	The general aim was to improve physical capacity, muscle	Not reported	<ul style="list-style-type: none"> • The exercise was dynamic and rhythmical at moderate intensity (70- 	Professional instructors trained in the method	<ul style="list-style-type: none"> • Group 	<ul style="list-style-type: none"> • 1 hour twice a week for 12 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		strength and flexibility.		<p>80%) of maximum heart rate).</p> <ul style="list-style-type: none"> • Overloads, anaerobic, and static work were avoided. • Special care was taken to avoid injury in general and to make the workout a positive event for the participants. 			
Integrated health programme	Eriksen 2002	It consisted of three main components: physical exercise; information about stress, coping, health and nutrition; and practical examination at the worksite.	Not reported	<ul style="list-style-type: none"> • In the theoretical part (10 hours), information was provided regarding physical and emotional aspects of wellbeing. • Physical exercise sessions consisted of ergonomics, warm-up/aerobic, alternative working positions and strength training, 	Professional instructors trained in the method.	<ul style="list-style-type: none"> • Group 	<ul style="list-style-type: none"> • 2 hours once a week for 12 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				stretching, and relaxation.			
Yoga	Fang 2015	Yoga has been a traditional contemplative practice for thousands of years and has emerged as a health maintenance practice and therapeutic intervention in the early 20th century	None reported	<ul style="list-style-type: none"> Participants performed yoga regularly in the hospital yoga workshop under the guidance of a coach The programme included physical postures, loosening exercises, breathing exercises and meditation 	Coach	<ul style="list-style-type: none"> Workshops 	<ul style="list-style-type: none"> More than two times every week 50 to 60 minute sessions
Web-based happiness training	Feicht 2013	Positive interventions help to implement and increase happiness-relevant activities. These are “treatment methods or intentional activities aimed at cultivating positive feelings, positive behaviours, or positive cognitions”	Emails	<ul style="list-style-type: none"> Participants attended an introductory event. Participants received an email every week at work, explaining the current topic and the 3 exercises. Participants studied documents pertaining to the current topic 	Web-based	<ul style="list-style-type: none"> Email 	<ul style="list-style-type: none"> 7 weeks 10 to 15 minutes per week

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				during working hours <ul style="list-style-type: none"> Performance and documentation of the exercises took place at home during free time. 			
Modified mindfulness-based stress reduction	Flook 2013	To make training engaging and accessible to teachers, while addressing concerns relevant to the role of teaching.	Guided recordings to support practice	<ul style="list-style-type: none"> 6-hour immersion course 2.5 hours per week of classes Individual practice	MBSR instructors with over 15 years of experience	<ul style="list-style-type: none"> Classes practice outside of class 	<ul style="list-style-type: none"> 8 weeks 26 hours of group practice and instruction Individual practice of 15 to 45 minutes per day for 6 days per week.
Workplace sleep health promotion programme	Garbarino 2020	Evidence-based training modules provided police officers with clinically relevant information to help them modify lifestyle habits that could affect their sleep hygiene.	<ul style="list-style-type: none"> A power point presentation with videos of case studies A manual on sleep hygiene 	<ul style="list-style-type: none"> Training included the medical importance of sleep; the relationship between sleep and wellbeing; sleep apnoea and other sleep disorders; sleepiness countermeasures and sleep hygiene. Training was designed to be 	Team involving a neurophysiologist, a psychologist, a physician, and an occupational health specialist.	<ul style="list-style-type: none"> Small groups of 10 to 20 trainees 	<ul style="list-style-type: none"> Initial training: two 4-hour sessions Booster session: 4 hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<p>interactive, and trainers encouraged and guided open discussion about sleep-related questions and concerns.</p> <ul style="list-style-type: none"> • Participants who had sleep problems or were dissatisfied with the quantity or quality of sleep, were given additional counselling and reinforced sleep hygiene. 			
Community Resiliency Model (CRM)	Grabbe 2020	CRM is a self-care program that provides a biological perspective on mental health and stress reactions. Mental well-being is enhanced through the use of sensory awareness skills.	Free CRM "ichill" app	<ul style="list-style-type: none"> • Classes used lecture, active engagement, discussion, demonstration, and participation. • Participants could access the free CRM "ichill" app after the class. 	Certified CRM Teachers trained by California's Trauma Resource Institute	<ul style="list-style-type: none"> • Classes with between 2 and 8 participants 	<ul style="list-style-type: none"> • 3-hour class
Developmental coaching	Grant 2010	Developmental coaching programme for	Multirater feedback measures	<ul style="list-style-type: none"> • Initial multi-rater feedback process in which 	Experienced professional coaches with	<ul style="list-style-type: none"> • Individual coaching sessions 	<ul style="list-style-type: none"> • 10 sessions over 20 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		teachers drawing on theories of leadership with the aim of facilitating goal attainment, enhancing leadership and communication skills, reducing stress, anxiety and depression and improving wellbeing. and resilience.		<p>participants completed a measure of their existing leadership style and received feedback.</p> <ul style="list-style-type: none"> 10 individual coaching sessions before which participants completed a GROW model (Goal Reality options and Way forward) which then guided the session. 	post graduate qualifications in psychology.		at 1-2 week intervals.
Qigong	Griffith 2008	Medical qigong emphasises precise movements intended to create a sensation of pressure or stretching of muscle and/or connective tissue at targeted acupuncture points.	<ul style="list-style-type: none"> DVD Manual 	<ul style="list-style-type: none"> Subjects practiced movements until they experienced a sensation of stretching or pressure in the targeted acupuncture points Movements were synchronized with specific breathing patterns 	Senior apprentice in qigong	<ul style="list-style-type: none"> Group classes At-home practice 	<ul style="list-style-type: none"> 6-week intervention 1-hour group classes twice per week 30 minutes of individual practice on non-class days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Psycho-educational programme	Griffiths 2016	MH-Guru was designed to increase anxiety and depression literacy, decrease negative attitudes to these conditions, provide advice to supervisors and colleagues to assist co-workers with mental ill-health and promote help seeking.	<ul style="list-style-type: none"> Online - simple multi-media, interactive format containing graphics and in-programme exercises 	<ul style="list-style-type: none"> MH-Guru comprises two modules: depression; generalised anxiety disorder. Each is comprised of information about the condition (prevalence, symptoms, how to identify if a person is depressed, a symptom checker, treatments, risk factors, myth busting, advice to supervisors, and colleagues; sources of help. Presented in a simple multi-media, interactive format (graphics exercises, video vignettes of consumers with lived experience of depression or anxiety). 	The programme was scripted by the researcher, and was developed by Australian National University	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> Intervention completed over 2 weeks. 2 modules each taking approximately 30 minutes to complete.

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Yoga and mindfulness	Harris 2016	The intervention was manualized, and each week involved a different thematic focus with variations on the theme in each of the four daily sessions.	<ul style="list-style-type: none"> Personal practice cards, which included written instructions 	<ul style="list-style-type: none"> A typical session included centring and setting an intention for the practice; breathing practices; movement/posture practice; revisiting the breathing practice; relaxation/meditation practice (varied focus on relaxation, mindfulness, self-care, compassion, loving-kindness, and gratitude); and closing practice involving setting an intention for the workday 	<ul style="list-style-type: none"> A certified yoga instructor with experience in other meditation practices. 	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> 64 intervention sessions, each lasting approximately 20 minutes, for four days/week for 16 weeks
Dru yoga	Hartfiel 2012	Dru yoaga is characterised by graceful movements, directed breathing and relaxation techniques	<ul style="list-style-type: none"> DVD 	<ul style="list-style-type: none"> Lunchtime and after work classes The Dru Yoga classes in this intervention were divided into four stages: 	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Group classes Home practice 	<ul style="list-style-type: none"> 8-week programme One 50-minute class per week 20-minute home practice twice a week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		including affirmation and visualisation. Dru yoga is a particularly safe safe and therapeutic form of yoga that can be practised by most people		<p>activation exercises, energy block release sequences, postures and relaxation</p> <ul style="list-style-type: none"> Participants were invited to practice at home at least twice per week using the 20 minute DVD 			
Dru yoga	Hartfiel 2011	Dru Yoga is a particularly safe, accessible, and therapeutic form of yoga that can be practiced by most people.	<ul style="list-style-type: none"> CD for home practice Home-practice form 	<ul style="list-style-type: none"> Lunchtime classes The Dru Yoga consisted of flowing movements, directed breathing, and relaxation techniques that included affirmation and visualisation 	Senior Dru Yoga instructor	<ul style="list-style-type: none"> Group classes At-home practice 	<ul style="list-style-type: none"> 6 week programme At least one 60 minute session per week Home practice
Workplace parenting intervention	Haslam 2013	To evaluate the Workplace Triple P programme (Positive Parenting Programme) among teachers balancing work	<ul style="list-style-type: none"> None reported 	<ul style="list-style-type: none"> A tailored form of Triple P designed specifically for working parents was delivered. 	<ul style="list-style-type: none"> Group sessions delivered by 2 registered psychologists. It is unclear who 	<ul style="list-style-type: none"> Group sessions Individual phone calls 	<ul style="list-style-type: none"> Two full day group sessions delivered a week apart. Three individual phone calls.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		and family responsibilities. The programme aims to reduce stress and improve work-family conflicts.		<ul style="list-style-type: none"> Group sessions taught a range of parenting strategies to encourage desirable behaviour and self-regulation in children Practical strategies e.g. getting out of the house in the morning, transitioning between home and school life 3 follow up telephone calls to encourage self-regulation and to enhance the use of a acquired skills. 	telephoned participants .		
Stress management programme	Hasson 2005	Web-based cognitive exercises, aimed at decreasing unwanted stress and promoting health and recovery through health promotion initiatives.	<ul style="list-style-type: none"> A diary for monitoring Chat function Online intervention where most exercises were presented in three different 	<ul style="list-style-type: none"> Web-based cognitive exercises, aimed at decreasing unwanted stress and promoting health and recovery through health promotion initiatives were 	Online	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> 6 month intervention Exercises lasted 1 to 60 minutes

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
			<p>modes: on the web-site as plain text; as a downloadable PDF-file sometimes including descriptive images; as a flash animation, with image and sound.</p>	<p>offered to participants.</p> <ul style="list-style-type: none"> The exercises included techniques for relaxation, time management, cognitive reframing. Participants had access to a chat function. 			
Mindfulness-based yoga	Hilcove 2020	This practice draws from the mental and spiritual disciplines of Raja Yoga, where inwardly focused attention and meditative awareness can be used when on the yoga mat and applied in everyday life.	<ul style="list-style-type: none"> Each participant was provided with a DVD and CD of the yoga routine and breathing exercises 	<ul style="list-style-type: none"> The MB yoga intervention was a beginner level program, starting with seated centring, brief teaching about yoga, focused attention on the breath, and yogic breath practice Participants were encouraged to journal and log their weekly yoga practice as personal accountability 	Not reported	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> Weekly sessions over a period of 6 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				tools, which were submitted weekly.			
Computerised exercise programme	Hinman 1997	The software programme includes sets of stretching, circulatory, and relaxation exercises that are purported to reduce stress, increase productivity, prevent fatigue, improve circulation, and decrease the likelihood of repetitive strain injuries.	<ul style="list-style-type: none"> • Computer network 	<ul style="list-style-type: none"> • The morning session consisted of general warm-up, back, wrist, and finger exercises • The afternoon session focused on neck, leg, shoulder, relaxation, and circulation exercises. 	Online	<ul style="list-style-type: none"> • Online 	<ul style="list-style-type: none"> • Fifteen minute exercise breaks were taken twice a day for 8 weeks
Professional coaching	Hoogendijk 2018	To test the effect of Key2Teach professional coaching programme on teachers' feelings of self-efficacy and exhaustion in managing primary school students with externalising	<ul style="list-style-type: none"> • Video interaction guidance (VIG) • 'bug in ear' technology • Video recorder 	<ul style="list-style-type: none"> • 12 sessions in 2 phases. • Phase 1: 4 sessions focusing on providing insight into the teachers' own student - teacher representation and how this influences their interactions with the student. 	14 coaches who were previously trained in School Video Interaction Guidance S-VIG prior to the study and trained specifically in the Key2Teach programme by the researchers using a standard protocol,	<ul style="list-style-type: none"> • Individual coaching sessions 	<ul style="list-style-type: none"> • 12 sessions, 9 of 45 to 60 minute duration and 3 of 30 to 45 minute duration.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		problem behaviour.		<ul style="list-style-type: none"> Phase 2: 8 sessions on improving dysfunctional interactions between student and teacher through (VIG), and synchronous coaching in class with the coach using keywords via 'bug in the ear' technology, 			
Balint	Huang 2020	Balint groups training, including the case reports and group discussions, attempted to throw light on the doctor-patient relationship through case presentations by group members and group discussions facilitated by experienced trainers.	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> The intervention involved case reported and group discussion 	Senior Balint trainers from Guangdong Balint Society	<ul style="list-style-type: none"> Group session 	<ul style="list-style-type: none"> Eight weekly 1.5-hour sessions
Balint	Huang 2019	Balint is a group training method, which aims to	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> The intervention included included 2 	All group leaders in this training program were	<ul style="list-style-type: none"> Group sessions of 8 to 12 	<ul style="list-style-type: none"> 10 sessions each lasting 1 hour

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		help physicians better understand their role in the physician–patient relationship and also assists them in improving interpersonal skills.		lectures and 10 small group discussion sessions <ul style="list-style-type: none"> • A volunteer before each meeting prepared a case, which showcased a challenging doctor–patient encounter. Each participant in the discussion groups could volunteer to report their case. The volunteer briefly described the case, then other participants and the group leader decided whether to choose the reported case as that day's topic. 	formally trained and qualified by the “Asia-link Program”	participants and 1 to 2 group leaders.	
Mindfulness-based training programme	Hwang 2019	The aim of the program is to provide educators with support for self-management of stress as well as	<ul style="list-style-type: none"> • A program booklet explaining key concepts and practices 	<ul style="list-style-type: none"> • A typical session consists of experiential and physical practice, debriefing and sharing personal 	13 facilitators with more than 5 years of practice experience, who had previously trained in implementing other	<ul style="list-style-type: none"> • The program adopts individual, didactic and group formats 	<ul style="list-style-type: none"> • Eight 90-min weekly training sessions

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		increases in mindfulness, self-awareness and emotional regulation. The program introduces a range of experiential, physical and everyday exercises, such as mindful yoga, walking, eating and breathing, along with empathetic listening, all of which are conducive to the cultivation of mindfulness and compassion and the promotion of self-care		<p>experiences, reflection activities, discussion and facilitator-led didactic activities.</p> <ul style="list-style-type: none"> Participants received weekly emails that reminded them of what they had learned and practiced in previous sessions, along with links to audio recordings of guided meditations and video clips presenting theoretical information. 	mindfulness-based programs and were working professionally as mindfulness facilitators. Of the 13 facilitators, five were former teachers and five had corporate training backgrounds. In addition, six facilitators were practicing or had trained as psychologists, psychotherapists or counsellors.		
Internet CBT programme	Imamura 2014	Based on cognitive-behavioural therapy	<ul style="list-style-type: none"> Lessons, web-access, homework and feedback 	<ul style="list-style-type: none"> Participants were sent e-mail reminders to complete each lesson and/or to submit homework if they had not already done so. 	Online content and feedback provided by clinical psychologists	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> Six weekly lessons to be completed within 10 weeks of baseline survey

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> • CBT components included were self-monitoring skills, cognitive restructuring skills, assertiveness, problem-solving skills, and relaxation skills 			
Acceptance and commitment therapy (ACT)	Jeffcoat 2012	ACT works by modifying psychological flexibility processes such as increased acceptance, mindfulness, and values-based action.	<ul style="list-style-type: none"> • Workbook • Online quizzes • Emails • Discussion/message board • 	<ul style="list-style-type: none"> • Participants received books and had access to quizzes • Standardized email feedback was given following quiz completion • A discussion/message board became available 	Book Get Out of Your Mind & Into Your Life (Hayes & Smith, 2005)	<ul style="list-style-type: none"> • Book • Online quizzes 	<ul style="list-style-type: none"> • 8 weeks
Mindfulness-based intervention [Cultivating Awareness and Resilience in Education (CARE) programme]	Jennings 2019	CARE is a mindfulness-based intervention designed to promote the social and emotional competence teachers need to manage stress	<ul style="list-style-type: none"> • Workbook • Audio recordings of mindfulness awareness practices to facilitate home practice 	<ul style="list-style-type: none"> • Program activities included didactic and experiential practices • Each participant was scheduled for three one-to-one support calls over the course 	Team of 3 facilitators who met minimum requirements of a master's degree, two years of experience with the programme, and a personal	<ul style="list-style-type: none"> • Group classes • One-to-one support calls • Home practice 	<ul style="list-style-type: none"> • Total of 30 taught hours • Five 6-hour days delivered over the course of a school day.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		and promote positive classroom interactions and student learning.		<p>of the programme.</p> <ul style="list-style-type: none"> Coaches followed a scripted protocol designed as a semi-structured interview based in motivational interviewing. 	mindfulness practice		
Sleep hygiene education	Kakinuma 2010	Sleep hygiene education concerns various aspects of lifestyle and behaviours as well as environmental factors such as light, noise, and temperature for the intervention and prevention of insomnia	A check sheet to examine sleep habits	<ul style="list-style-type: none"> Lecture to review current sleep habits, provide information on sleep hygiene, and establish future sleep habit goals. Participants completed the check sheet regarding their current sleep habits 10 min prior to the lecture. Email follow-up was conducted. 	Occupational health physician	<ul style="list-style-type: none"> Lectures and email 	<ul style="list-style-type: none"> 1-hour intervention
Relaxation therapy	Kaspereen 2012	A customised relaxation programme, involving meditation, deep	Not reported	<ul style="list-style-type: none"> Each participant sat in a chair and was told to sit any way he or 	Licensed professional counsellor, national board - certified clinical	<ul style="list-style-type: none"> Group classes 	<ul style="list-style-type: none"> 30 to 45 minute sessions weekly for 4 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		breathing and relaxation music, to focus on the job-related stressor that participants faced.		<p>she felt most comfortable.</p> <ul style="list-style-type: none"> Participants were orally guided via script while playing soothing music. The script provided specific imagery so that the participants visualized aspects of the students and building, in a more positive light and with a peaceful mind. 	hypnotherapist, and doctoral student.		
Guided imagery (GI)	Kiley 2018	Guided imagery is a relaxation technique that relies on descriptive language to facilitate listener visualization of detailed, calming images, with the goal of achieving a relaxation response.	<ul style="list-style-type: none"> MP3 players containing 6 GI tracks 	<ul style="list-style-type: none"> Participants listened to tracks in the workplace during breaks GI tracks were free or low cost, aimed at a goal of relaxation and stress relief, and included a script describing a peaceful setting (pleasant imagery). Participants were not given 	Recorded audio tracks	Recorded audio tracks	<ul style="list-style-type: none"> 4 weeks At least one GI track (length between 6 and 15 minutes) three times per week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				set guidelines for determining which tracks to chose.			
Mindfulness-based stress reduction [Mindfulness in motion {MIM}]	Klatt 2017	MBIs are interventions that retrain the mind to modify its usual stress response to increase coping and resilience in the face of adversity.	<ul style="list-style-type: none"> • MP3 player with brief pre-recorded guided individual practice sessions • A form to record the daily home practice 	Group sessions included: <ul style="list-style-type: none"> • individual reflective writing • voluntary community sharing of reflective responses • didactic mindfulness meditation instruction • yoga stretches • mindfulness meditation 	Trained instructor	<ul style="list-style-type: none"> • Group sessions • At-home practice 	<ul style="list-style-type: none"> • 8 weeks • 60 minutes per week
Online multicomponent positive psychology intervention	Kloos 2019	The multicomponent This Is Your Life intervention consists of evidence-based activities from several positive psychology theories. Positive psychology interventions have particularly great potential	<ul style="list-style-type: none"> • Website 	<ul style="list-style-type: none"> • Online intervention with 8 modules • Each module consists of psycho-education and approximately five evidence-based positive psychology exercises • Gamified aspects of the 	<ul style="list-style-type: none"> • Online 	Online	<ul style="list-style-type: none"> • 8 to 12 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		as a self-care technique for nursing staff.		<p>intervention include a storyline of following a journey towards a flourishing life</p> <ul style="list-style-type: none"> The interface of the online training was explained in a face-to-face introduction on site, and with website manuals. 			
CBT training	Kojima 2010	CBT techniques aid in rearranging one's thought patterns, resulting in improvement in self-esteem.	<ul style="list-style-type: none"> Column sheets 	<ul style="list-style-type: none"> The group training consisted of three parts: explaining CBT; assessing thinking tendencies; practicing preparation of the column sheet. Three email sessions which involved homework assignments. 	<ul style="list-style-type: none"> Group sessions by 2 CBT specialists (one psychiatrist and one psychotherapist) Email sessions by one occupational physician and three occupational healthcare nurses. 	Group sessions and email sessions	<ul style="list-style-type: none"> A 3 hour lecture and 3 email sessions over 2-3 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Mindfulness-based intervention	Krick 2020	Mindfulness has been defined as a construct with different skills that can be developed and cultivated: observing (perceiving inner and external experiences), acting with awareness (being aware of present actions and behavior), being non-judgmental (being free from evaluating the present experiences), and being nonreactive (accepting experiences without responding).	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> The intervention in this study included mindfulness practices; elements of mindful body movements and stretching; and cognitive education. The training sessions were complemented by mandatory weekly homework. The intervention was integrated in a regular module of the police education. 	<ul style="list-style-type: none"> An experienced trainer 	Groups of eight to 15 members	<ul style="list-style-type: none"> Six sessions each lasting 2 hr over a period of 6 weeks
Biofeedback based stress management tool	Lemaire 2011	A stress management tool that incorporates a biofeedback device provided the physician	<ul style="list-style-type: none"> Pocket sized biofeedback device that calculates changes in heart rate. 	<ul style="list-style-type: none"> Individual training on: the quick coherence technique (rhythmic breathing coupled with 	<ul style="list-style-type: none"> Personnel employed by the health region who had undergone formal training to become 	Individual training.	<ul style="list-style-type: none"> 28-day intervention with 30-minute standardized training session.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		with direct evidence of positive physiological change that has been achieved by rhythmic breathing coupled with actively self-generated positive emotions such as appreciation for something or someone.	<ul style="list-style-type: none"> • A software application (emWavePC) for use on a laptop or computer. • Brochure describing the provincial physician wellness support program. 	<ul style="list-style-type: none"> • self-generated positive emotions); the principles of the biofeedback device (through demonstrations) • Optional follow-up instruction • Research assistant contact twice weekly to measure stress and well-being, heart rate and blood pressure; to document adherence; and to record a 3-minute biofeedback session using the software. 	qualified as instructors.		
Online mindfulness-based intervention [Destress 9-1-1]	Lilly 2019	MBIs model, teach and cultivate inner attentional resources with the goal of learning to recognise and accept stress responses.	<ul style="list-style-type: none"> • Online Destress 9-1-1 intervention • Introduction and reminder emails 	<ul style="list-style-type: none"> • 7 online modules, each completed on a weekly basis • Exercises were largely meditation-based or designed to enhance mindfulness 	<ul style="list-style-type: none"> • The online intervention was developed by clinicians trained in mindfulness-based approaches. • Audio-guided exercises were 	Online	<ul style="list-style-type: none"> • 7 weeks • Modules: 20 to 30 minutes in length • Daily practice: 5 to 10 minutes

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				during daily activities <ul style="list-style-type: none"> Daily outside practice 	recorded by researchers		
Stress management	Limm 2011	Designed to <ul style="list-style-type: none"> foster awareness of and insight into stress situations in the workplace provide tools to better deal with stressful situations at work identify and strengthen individual resources, e.g. social networking Encourage social support between the participants. 	None reported	<ul style="list-style-type: none"> Group-orientated prevention seminar Sharing of remembered individual stressful situations at work ('empathy exercise') Trainer, helps the group search for the best possible solutions. 2 refresher courses ('booster sessions'), to enhance the effect. 	<ul style="list-style-type: none"> Trainer – no details provided 	<ul style="list-style-type: none"> Seminars Group activity 	<ul style="list-style-type: none"> A 2-day seminar and two 180-minute booster sessions delivered over 3 to 6 months.
Mindfulness-based group intervention based on MBSR and mindfulness-based cognitive therapy	Lin 2019	Although MBCT is derived from MBSR, it incorporates some elements of cognitive-behavioural therapy and	<ul style="list-style-type: none"> Network Chatgroup through WeChat (mobile phones) PowerPoint slides and 	<ul style="list-style-type: none"> Sessions covered different themes Participants had access to a network Chatgroup to share their 	A researcher who has been practicing mindfulness for 2 years and attended several MBSR courses, retreats, and	<ul style="list-style-type: none"> Group sessions At-home practice 	<ul style="list-style-type: none"> 8 weeks 2-hour weekly sessions Home daily practice of 20 minutes for 6 days a week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		places greater emphasis on promoting enhanced awareness of one's relationship with thoughts and feelings, which facilitates coping with a painful affect and challenging circumstances.	audio recordings of guided mindfulness exercises	practice experiences of ask the instructor questions.	other training activities related to mindfulness and meditation		
Acceptance and commitment therapy	Lloyd 2013	To increase present moment awareness and undermine unhelpful avoidance of, and entanglement with, one's thoughts and emotions. To teach acceptance and mindfulness as an alternative strategy for dealing with problematic thoughts and feelings.	<ul style="list-style-type: none"> • Handouts • CDs • Summary sheets of the main concepts and points of discussion 	<ul style="list-style-type: none"> • The training consisted of various metaphors, mindfulness, and cognitive defusion techniques, as well as values and goals clarification exercises in order to help participants learn "how to deal with psychological barriers to effective and enjoyable living". 	The first author, who had received prior training in ACT.	<ul style="list-style-type: none"> • Group training sessions 	<ul style="list-style-type: none"> • 3 x 3 hour training sessions, two of which occurred on consecutive weeks with a third that occurred two months later

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> Homework assignments 			
Acceptance and commitment therapy (ACT)	Lloyd 2017	To increase people's awareness of their thinking patterns, as well as the impact that these thinking patterns can have on their daily work and personal lives; and to teach participants how to orient themselves towards their goals and desired life directions, and how to take steps towards these.	<ul style="list-style-type: none"> Handouts Training session summary sheets CD's 	<ul style="list-style-type: none"> Participants were emailed the details of their training dates and location Homework assignments, handouts, training session summary sheets and CD's were used to support practice of the training techniques outside of the sessions. Participants were also asked not to discuss the training content with anybody in their department until the study was complete. 	Researcher who had received prior training in ACT	<ul style="list-style-type: none"> A group format was used to deliver the training and each group consisted of between eight and 12 employees 	<ul style="list-style-type: none"> Each participant was required to attend three, three-hour training sessions, two of which occurred on consecutive weeks and a third which occurred two months after this initial training phase
Selection, optimization, and compensation (SOC)	Maatouk 2018	Ageing was considered in the context of a popular theory of successful ageing: SOC, a	Not reported	<ul style="list-style-type: none"> Sessions included: Introduction to the subject: "ageing in care 	A psychologist and/or a doctor trained in psychotherapy. (Minimum of a degree in	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> 7 weekly sessions (2 hours) and an additional booster

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		strength-based (instead of a deficit-based) approach enabling a positive, resource-oriented view on the process of ageing		professions"; Reflecting the working biography; Coping with stress and the concept of mindfulness; SOC-focused sessions.	medicine or psychology; training or experience in psychotherapy/ group leading; at least 2 years ' work experience).		session after 6 weeks
Mental health training	Mache 2018	The mental health training was designed on the basis of Lazarus's transactional model of stress.	Not reported	<ul style="list-style-type: none"> • Training focused on actual working situations and problems, coping strategies, and support between colleagues and goals for the future. • The training sessions included psychoeducation (theoretical input, watching videos, oral group discussions, experiential exercises, and home assignments). • 	Two qualified psychologists, both trained in cognitive behavioural as well as solution-focused work	<ul style="list-style-type: none"> • Face-to-face and via home assignments 	<ul style="list-style-type: none"> • 12 weekly sessions of 1.5 hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Psychosocial programme	Mache 2015	Based on principles of cognitive behavioural training and solution-focused group work.	Not reported	<ul style="list-style-type: none"> Group sessions involved psycho-education (theoretical input), videos, discussions, experiential exercises, and homework. Topic specific sessions included self-awareness and self esteem; resilience; positive thoughts and emotions; (see evidence table) Sessions on how to speak up to supervisors and senior physicians, 	Two psychologists-familiar with cognitive behavioural and solution-focused work in group sessions	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> 12 weekly sessions lasting 2 hours
Coping skills training	Mache 2017	The training modules included both well-established problem solving and emotion regulation strategies according to Lazarus's	Not reported	<ul style="list-style-type: none"> Discussion groups Training modules covering specific work related topics (see evidence table) and including psycho-education, 	Certified occupational health psychologists who had expertise in several stress management techniques, cognitive behavioural	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> 3-month intervention made up of twelve 3-hour sessions

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		transactional model of stress.		<p>theoretical input, watching videos, experiential exercises, role plays.</p> <ul style="list-style-type: none"> • Practical sessions including coping strategies. 	therapy and solution-focused training.		
Psychotherapy and yoga	Maglia 2019	Combining group psychotherapy and yoga exercises may effectively improve psychological well-being by reducing stress perception and increasing the quality of life of mental health professionals.	Not reported	<ul style="list-style-type: none"> • The training was modelled on the patient, considering the baseline assessment • Participants completed two subjective self-administered scales before and after the group psychotherapy plus yoga exercise intervention. 	Clinical psychologist led the group therapy. It is unclear who provided the Yoga Vidya exercises.	<ul style="list-style-type: none"> • Group 	<ul style="list-style-type: none"> • One weekly session of 2 h for a total duration of 12 weeks (1 h of group psychotherapy and 1 h of yoga exercises)
Acceptance and mindfulness-based stress management	McConachie 2014	Acceptance and mindfulness workshop derived from a protocol based on the core principles of Acceptance and	None reported	<ul style="list-style-type: none"> • Full-day workshop, followed by a half day refresher session after six weeks 	Not reported	<ul style="list-style-type: none"> • Group workshops • At-home assignments 	<ul style="list-style-type: none"> • Total length not specified • Full day workshop and half-day refresher training

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		Commitment therapy (ACT) and adapted for use within ID services		<ul style="list-style-type: none"> • Workshop involved didactic teaching, group discussions, written exercises, the use of metaphors, short video presentations and practical and interactive exercises. • Workshops were carried out in groups of between 3 and 10 participants. • Mindfulness exercises were practised during sessions, were and given as homework assignments to be completed between sessions. 			
Positive psychology-based coaching	McGonagle 2020	Social support can relieve stress, and setting and achieving goals during coaching can help to build	Validated questionnaires/tools	<ul style="list-style-type: none"> • Participants completed questionnaires, and results were used as a focus for first conversations. 	Five coaches with differing qualifications	<ul style="list-style-type: none"> • 6 coaching sessions over a 3-month period; First session undertaken face-to-face 	Face to face and over the phone

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		self-efficacy. A positive psychology coaching intervention will promote positive emotional states in PCPs, which will improve their levels of personal resources and well-being. Through evoking experiences of positive emotion, coaching will build PCPs personal resources, leading to well-being and lower burnout.		<ul style="list-style-type: none"> The last session assessed progress, defining ways to sustain success, and conducting a gratitude reflection. The second through fifth sessions used participant-chosen topics and a toolbox of evidence-based positive psychology coaching exercises, designed to be used flexibly based on client goals and learning preferences. 		and next five sessions undertaken over the phone.	
Psycho educational programmes	Mediasauskaite 2019	Four intervention conditions in which groups of participants were taught about: <ul style="list-style-type: none"> Group 1 - The psychology of stress and burnout, or 	Groups 1.2. and 4 – websites. Materials not reported for Group 3.	<ul style="list-style-type: none"> Participants completed online modules as follows: <ul style="list-style-type: none"> Group 1- module 1 Group 2- module 2, Group 3 – module 3 	Online	<ul style="list-style-type: none"> Online 	Not reported

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		<ul style="list-style-type: none"> • Group 2 - How to deal with a patient's death, or • Group 3- How to deal with distress, or • Group 4 - All three of the above. 		<p>Group 4- modules, 1.2 and 3.</p> <ul style="list-style-type: none"> • Module content was as follows: <p>Module 1 - the General Adaptation Syndrome (Selye, 1965), the Maslach burnout theory (Maslach and Jackson, 1981), the Job Demands-Resources model (Bakker and Demerouti, 2007).</p> <p>Module 2 the Kubler Ross stages of grief (Kübler-Ross, 1997)</p> <p>Module 3- how to develop resilience, cognitive emotional</p>			

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<p>regulation, relationships, work-family balance.</p> <ul style="list-style-type: none"> All groups then completed a quiz and open-ended reflection exercise. 			
Stress management – CBT based	Mino 2006	The stress management programme is based on the cognitive behavioural approach and is carried out at the workplace	<ul style="list-style-type: none"> Stress-management sheet based on self-administered format, Personal computer Email 	<ul style="list-style-type: none"> Lecture on work-related stress and health using a cognitive-behavioural program Participants were encouraged to attempt positive stress-coping strategies, to describe them on the stress management sheet including changes in their perception of stressors, feelings of stress, symptoms of anxiety and depression. 	A trained psychiatrist delivered counselling by email	<ul style="list-style-type: none"> Group lectures and individual email counselling 	4 hours of lectures in addition to email counselling

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> • 2-hour course of muscle relaxation training and encouragement to practice this. • Individualised counselling concerning stress and mental health by e-mail. 			
Work-Related Self-Affirming Implementation Intention (WS-All)	Morgan 2016	According to self-affirmation theory, people are motivated to preserve a positive, moral, and adaptive self-image and to thereby maintain "self-integrity". Experimental self-affirming manipulations have typically taken the form of value scales, where participants are encouraged to identify the values most	<ul style="list-style-type: none"> • Questionnaires containing the self-affirmation task 	<ul style="list-style-type: none"> • Participants were provided with an implementation intention prompt in the form of a sentence stem. • Participants were asked to write out the stem and their chosen option on three blank lines 	Written instructions to complete task	<ul style="list-style-type: none"> • Written instructions 	<ul style="list-style-type: none"> • Follow up after 2 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		important to them from from a list of statements describing different domains of self-worth.					
Work-Related Self-Affirming Implementation Intention (WS-All)	Morgan 2015	According to self-affirmation theory, people are motivated to preserve a positive, moral and adaptive self-image and to thereby maintain “self-integrity”. Implementation intentions are specific kinds of if-then plans that work by encouraging people to link in memory-critical situations with appropriate behavioural responses, and which have been used with some success to	<ul style="list-style-type: none"> • Questionnaire with intervention materials 	<ul style="list-style-type: none"> • In the materials, participants were provided with an implementation intention prompt in the form of a sentence stem. • Participants were asked to write out the stem and their chosen option on three blank lines. 	Written materials - an adapted version of the brief self-affirming implementation intention developed by Armitage et al. (2011)	<ul style="list-style-type: none"> • Written materials 	<ul style="list-style-type: none"> • 3-week follow up

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		change health behaviours.					
CBT training	Mori 2014	Based on cognitive behaviour therapy	<ul style="list-style-type: none"> Group lectures, homework sheets, group discussion 	<ul style="list-style-type: none"> Training programme including a group class on cognitive behaviour therapy and 1 month of homework via web-based CBT. Topics covered in the group program were: an overview of CBT; problem-solving techniques; and cognitive restructuring techniques. 4 emails with supplementary tips on cognitive restructuring were sent and answers provided to any questions. 	Group class was provided by a qualified CBT expert and support was provided by occupational health nurses	<ul style="list-style-type: none"> Group and online 	<ul style="list-style-type: none"> A single 150-minute class followed by 1 month of homework via web programme
Foot massage	Moyle 2013	Massage has been shown to be one way in which nurses'	<ul style="list-style-type: none"> Unscented Sorbolene (8-10mls) lubricant 	<ul style="list-style-type: none"> The foot massage was delivered individually in a separate room 	Expert certified therapist in the massage technique	<ul style="list-style-type: none"> Individual 	<ul style="list-style-type: none"> Each session lasted 10 minutes. Staff members could receive

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		stress can be reduced.		<p>with a closed door displaying a 'Do not disturb' sign.</p> <ul style="list-style-type: none"> In each session, participants received a standardized five-minute massage on each foot 			up to three sessions a week.
Online professional development programme	Mueller 2018	To determine if the 'Called to Care' curriculum increased the empathy resilience and work engagement of physical therapy students in their clinical internships.	<ul style="list-style-type: none"> Online modules 	<ul style="list-style-type: none"> 11 online modules each consisting of a video lecture, readings, and a discussion board with 5 to 6 questions per module. Participants had to post a response to at least one question per module. 	Online	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> 11 x 1 hour modules which participants completed at their own pace over their 10 week internship
Stress management - SOC	Muller 2016	This study evaluated a stress management intervention for nurses based on the model of Selection Optimisation and	<ul style="list-style-type: none"> Manuals on SOC, work stress, goal selection, action planning, Worksheets for action planning, 	<ul style="list-style-type: none"> Module 1 – Introduction to stress and wellbeing at work, identification of personal stressors, Introduction of 	A trainer (experienced occupational health professional) and a student assistant.	<ul style="list-style-type: none"> Group training for sessions 1-4 and session 6 Individual counselling for session 5. 	<ul style="list-style-type: none"> 6 sessions (16.5 hours in total) over a 9 month period. Time devoted to each module was: Module 1 – 10 hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		compensation (SOC) , the job demands resources model and active problem focused coping.	goal evaluation <ul style="list-style-type: none"> • Diary to monitor personal projects 	SOC and SMART goal setting, Selection of up to 3 personal goals and development of an action plan. <ul style="list-style-type: none"> • Module 2 – implementation and adaptation of the action plan, reporting back to the group. • Module 3 – Individual confidential counselling with the trainer, group session to reflect on experiences. 			Module 2- 4 hours Modules 3 – 2.5 hours.
Massage and mental training	Muller 2015	Back massage applied by an automated massage chair has been shown to produce a general muscle relaxation. This type of artificial massage seems to be especially	<ul style="list-style-type: none"> • The armchair used in the present study was the “Recovery Chair” included in the “Concept of Recovery”™. The 	<ul style="list-style-type: none"> • Participants all used the same massage programme, but were able to make individual adjustments regarding the strength of the massage. 	Not applicable	<ul style="list-style-type: none"> • Audiotapes and mechanical chair 	<ul style="list-style-type: none"> • 15 minute sessions three times per week for 8 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		useful for people who dislike being touched by other people. The mental training programmes include soft music combined with verbal instructions which are designed to help achieve a relaxing mental state.	<ul style="list-style-type: none"> armchair is equipped with the ability to give massages to the neck, shoulders, back and calves. Audiotapes 	<ul style="list-style-type: none"> Participants listened to different programmes in the following order: "Recovery", "Mindfulness—learn to live in the present", "The way to a better and deeper sleep", "Reduce the negative stress", "Learn to think positively"—week five, "Increase your mental strength", "How to get a greater enjoyment of life" and "Recovery". 			
Mechanical massage	Muller 2015	Back massage applied by an automated massage chair has been shown to produce a general muscle relaxation. This type of artificial massage seems to be especially useful for people who dislike being	<ul style="list-style-type: none"> The armchair used in the present study was the "Recovery Chair" included in the "Concept of Recovery"[™]. The armchair is 	<ul style="list-style-type: none"> Participants all used the same massage programme, but were able to make individual adjustments regarding the strength of the massage. 	Not applicable	<ul style="list-style-type: none"> Mechanical chair 	<ul style="list-style-type: none"> 15 minute sessions three times per week for 8 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		touched by other people.	equipped with the ability to give massages to the neck, shoulders, back and calves.				
Mental training	Muller 2015	The mental training programmes include soft music combined with verbal instructions which are designed to help achieve a relaxing mental state.	<ul style="list-style-type: none"> • Audiotapes 	<ul style="list-style-type: none"> • Participants listened to different programmes in the following order: "Recovery", "Mindfulness—learn to live in the present", "The way to a better and deeper sleep", "Reduce the negative stress", "Learn to think positively"—week five, "Increase your mental strength", "How to get a greater enjoyment of life" and "Recovery". 	Not applicable	<ul style="list-style-type: none"> • Audiotapes 	<ul style="list-style-type: none"> • 15-minute sessions three times per week for 8 weeks
Fun for wellness	Myers 2017	The issue targeted by the FFW intervention is the promotion	<ul style="list-style-type: none"> • Online platform 	<ul style="list-style-type: none"> • Participants were provided with 30 days of 24 h access to 	Online	<ul style="list-style-type: none"> • Online 	<ul style="list-style-type: none"> • 30-day access to online platform

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		of multidimensional well-being. Self-efficacy theory provided the theoretical framework that guided the creation of 152 capability-enhancing learning opportunities (i.e., challenges) for participants to engage with.		<p>up to 152 challenges designed to promote multidimensional well-being.</p> <ul style="list-style-type: none"> Challenges included watching vignettes, watching/reading mini-lectures, engaging in self-reflection exercises and chat rooms, and playing interactive games. 			
Online mindfulness	Nadler 2020	The aim of the study was to assess the potential benefits of an online mindfulness-based intervention with a group of highly educated and skilled knowledge workers.	<ul style="list-style-type: none"> Online programme Emails 	<ul style="list-style-type: none"> The intervention included short videos, brief guided meditation practices, and suggestions for how to integrate mindfulness into daily activities at work. The program could be accessed 24 hours a day 	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> 8-week programme Participants were asked to watch the weekly video and practice the guided meditations 6 out of 7 days a week (for a total of 144 – 480 min depending on the length of

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				while at work or at home.			the meditation practice).
Individually based behavioural training combined with group-based sleep hygiene education	Nishinoue 2012	Sleep hygiene education includes aspects of lifestyle and behaviour as well as environmental factors such as light and noise and is expected to serve as a preventative role in those without overt sleep disturbances, allowing it to be profitably incorporated into occupational health education. However, such education has been reported to be less effective when applied as the sole measure taken to improve sleep habits.	<ul style="list-style-type: none"> Educational resources 	<ul style="list-style-type: none"> Participants received group-based sleep education with around 20 to 30 participants. Following the education, participants used knowledge to improve sleep quality. Participants were interviewed individually regarding current sleeping habits, and were asked to incorporate a behavioural modification into everyday life. Participants were able to communicate with instructors via email 	<ul style="list-style-type: none"> Sleep hygiene education: physician employed by the IT company Individually based behavioural training: two occupational health nurses in addition to the physician employed by the company 	<ul style="list-style-type: none"> Group Individual 	<ul style="list-style-type: none"> Sleep hygiene education: 40-minute educational session and group sessions repeated 5 times. Individually based behavioural training: single 30 minute session
Psychoeducation	Ohrt 2015	Intervention sought to address holistic wellness and	<ul style="list-style-type: none"> Self-report questionnaires 	<ul style="list-style-type: none"> Presentations included information about burnout, 	University staff	<ul style="list-style-type: none"> Group class/seminar and presentations 	<ul style="list-style-type: none"> 1.5-hour psychoeducational presentation

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		burnout within the context of clinical supervision.	<ul style="list-style-type: none"> • Information about wellness models • Dimensions of wellness; wellness worksheet 	<ul style="list-style-type: none"> wellness models and dimensions of wellness. • Participants completed a wellness worksheets. • Participants discussed these topics together. • The facilitator used group counselling skills to link CITs and promote universality and cohesion among the supervision group. • Participants engaged in a group wellness brainstorming activity, where they identified specific wellness strategies and developed two SMART wellness goals. • The practicum or internship supervisor conducted brief intervention 			

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				wellness goal check-ins.			
CBT	Oishi 2018	CBT may improve the performance of schoolteachers as well as their stress management skills by improving their cognitive flexibility.	<ul style="list-style-type: none"> • Web-based CBT program • Emails 	<ul style="list-style-type: none"> • Participants were given 1 session of group education and a Web-based CBT program lasting for 3 months. • The efficacy of the intervention was evaluated via self-administered questionnaire survey. 	One leader (specialist in CBT), one coleader (specialist in CBT), and three assistants	<ul style="list-style-type: none"> • Group seminar • Group training • Web-based homework 	<ul style="list-style-type: none"> • 3 month programme
Self- help goal based intervention	Oliver 2018	This study tested an online self-help goal setting and planning intervention (GAP) among working adults. GAP aims to identify approach orientated goals, develop action steps towards achieving them, anticipate obstacles and keep up motivation.	<ul style="list-style-type: none"> • 6 online modules consisting of guidance and downloadable worksheets. 	<ul style="list-style-type: none"> • Module 1 – setting personal goals (work or home related) • Module 2 – Imagining achieving goals, • Module 3 - action planning • Module 4 and 5 – implementing plans and amending them in response to obstacles, • Module 6 – review and 	Online	<ul style="list-style-type: none"> • Online modules • Supporting email • Offer of a telephone call 	<ul style="list-style-type: none"> • 6 modules to be completed over 5 weeks, each requiring around 30 minutes to complete. • Offer of one phone call of 15-20 minutes duration.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				embedding skills. <ul style="list-style-type: none"> • 2 weeks into the programme an optional phone call was offered by email to review progress and discuss any issues. 			
COMmunity of Practice And Safety Support (COMPASS) Total Worker Health intervention	Olson 2016	COMPASS integrates several evidence-based intervention tactics, including elements of effective social support groups, scripted team-based health promotion programs, and goal setting with behavioural self-monitoring.	<ul style="list-style-type: none"> • Intervention participants received a brief intervention orientation and additional materials (workbook, knee pad, step counter) before finishing enrolment. 	<ul style="list-style-type: none"> • A researcher-led half-day workshop • 12 monthly peer-led meetings that were implemented by using scripted workbooks and supporting materials. • Monthly meetings involved a WorkLife check-in, educational lesson, goal setting, healthy meal break, Work-Life support, and a reflection. Educational lessons and goals alternated 	Peer leaders who had received brief facilitator training	<ul style="list-style-type: none"> • Peer-led group sessions 	A half-day workshop, followed by 12 monthly meetings

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				between safety and health or well-being topics.			
Worksite prevention programme	Oude Hengel 2012	The intervention was developed using the Intervention Mapping approach, meaning that theoretical information from literature was combined with practical information from stakeholders (employers, supervisors, workers, health professionals, and providers). By applying the Intervention Mapping approach, the intervention is not only tailored to the construction workers but also to the abilities and opportunities of	<ul style="list-style-type: none"> Rest-break tool 	Physical component: <ul style="list-style-type: none"> Two individual training sessions with a physical therapist and using a Rest-Break tool. Participants were provided with three recommendations on how to improve physical workload. the Rest-Break tool aimed to raise awareness about the importance of reducing fatigue by taking flexible rest breaks. Workers were asked to fill in the tool weekly and to discuss the results with their supervisor. 	Physical therapist and empowerment trainer	Group and individual training	6-month intervention

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		the implementers.		Mental component: <ul style="list-style-type: none"> Participants received two interactive empowerment training sessions to improve their influence at the worksite. 			
Positive psychology-based wellness intervention	Page 2013	The Working for Wellness programme aims to support participants to enhance their wellbeing by identifying their strengths and apply them, setting self-concordant goals, to 'craft' their jobs and to cultivate supportive relationships.	<ul style="list-style-type: none"> Training materials included activity books and resource packs including theories, tips and resources as well as activities. 	<ul style="list-style-type: none"> 6 sessions covering topics as follows: <ul style="list-style-type: none"> Session 1 – Wellbeing at work and rating own wellbeing, Session 2 – Knowing and using ones' strengths and job crafting, Session 3 – setting goals, developing action plans, Session 4 – 'Flow' Session 5 – optimising relationships, Session 6 review of learning and 	A facilitator (first author) delivered sessions according to a set training manual.	<ul style="list-style-type: none"> Small group sessions 	1 hour weekly session for 6 weeks.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				setting future action plans.			
Tai Chi	Palumbo 2012	Tai chi is an ancient Chinese martial art with a set of slowly paced and smoothly connected movements of all body parts, which emphasize mind-body connection	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Each Tai Chi class lasted 45 minutes, with 10 minutes of breathing exercises, followed by 30 minutes of Tai Chi practice, and ended with five minutes of visualization/cool down exercises. Participants were asked to practice on their own for 10 minutes each day at least 4 days per week for 15 weeks. 	Tai Chi instructor	<ul style="list-style-type: none"> Group class 	<ul style="list-style-type: none"> 15-week intervention with weekly 45 minute classes and 10 minutes of home practice 4 times per week.
Simulation education programme	Park 2020	The programme is a psychological first aid programme that utilised fire situation scenarios and standardized patients for training disaster	<ul style="list-style-type: none"> Training script 	<ul style="list-style-type: none"> The lecture, included content about using the Psychological Life Support (PLS) application A pre-simulation group briefing of 30 minutes 	Not specified	<ul style="list-style-type: none"> Group/class-based followed by one-to-one 	<ul style="list-style-type: none"> 2-hour lecture 30-minute pre-simulation 15-minute simulation training 15-minute debriefing session

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		mental health practitioners.		<ul style="list-style-type: none"> Individual simulation training Individual debriefing sessions that involved the participants, the Standardized Patient, and the researcher. 			
Psychological wellbeing and substance use intervention	Pidd 2015	The intervention focused on enhancing coping and communication skills, and understanding and reducing risk of alcohol and other drug (AOD)-related harm.	<ul style="list-style-type: none"> Alcohol and other drug (AOD) and workplace bullying information sheets 	<ul style="list-style-type: none"> Practical exercises to assess individual stress levels and practice alternative stress reduction techniques. Practical exercises to improve communication skills. The intervention addressed workplace factors that contribute to harmful AOD use and implications for workplace safety and career progression. 	Not reported	<ul style="list-style-type: none"> Group training 	<ul style="list-style-type: none"> Two sessions (1x2 h and 1x1 h) over a 2-week period

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Music intervention	Ploukou 2018	Music is seen as an alternative expressive modality and a way to get in touch with emotions and develop relationships.	<ul style="list-style-type: none"> Percussion was selected as Bongo drum, Djembe, Doumbek and in some cases Maraca, Castanets, Triangle, Wood block, Ratchet and Tambourine. 	<ul style="list-style-type: none"> A music teacher helped the group to play and improvise music using percussion instruments. Courses consisted of varied multitask exercises of progressive difficulty, sometimes involving team playing, or individual performances. 	Music teacher	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> Each percussion music session lasted 60 minutes and took place once a week for four weeks.
Motivational interview	Pollak 2020	Motivational Interviewing (MI) has tools to address ambivalence and reluctance.	<ul style="list-style-type: none"> Audio-record device Measurement tools 	<ul style="list-style-type: none"> Coaching involved an initial one-hour didactic session covering the tenets of MI followed by a same day 1:1 initial meeting in which the coach discussed how to implement MI into clinical encounters. The participants set a goal for two MI skills. 	Experienced MI coach	<ul style="list-style-type: none"> Class/group based followed by one-to-one sessions 	<ul style="list-style-type: none"> Total time 3.5 hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<ul style="list-style-type: none"> • Participants audio-recorded two clinical palliative care encounters. • The coach met with participants for an individual coaching session. • The participants audio-recorded two more challenging clinical palliative care encounters, followed by a second coaching session. 			
Recovery training	Poulsen 2015	Based on four recovery pathways used by Hahn and colleagues	<ul style="list-style-type: none"> • Workshop (including practical exercises and interactive discussions.) • Education leaflets 	<ul style="list-style-type: none"> • A recovery training programme was tailored for cancer care workers. It included a module on social support during goal-setting, using peer mentoring. 	Not reported	<ul style="list-style-type: none"> • Face-to-face workshop 	<ul style="list-style-type: none"> • One day
Cognitive behavioural training programme	Proudfoot 2009	Based on cognitive behavioural	<ul style="list-style-type: none"> • Group discussion • Homework 	Not reported	Not reported	<ul style="list-style-type: none"> • Face-to-face sessions 	<ul style="list-style-type: none"> • Seven weekly sessions (3 hours per week)

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		therapy principles					following by a 6 week maintenance program and a review session after 3 months
Om chanting	Rankhambe 2020	Study the specific effect of Om chanting on anxiety levels in bus drivers	<ul style="list-style-type: none"> Daily attendance sheet Measurement tools 	<ul style="list-style-type: none"> A practice session of Om chanting was conducted for the before the start of the study 	Yoga teacher	<ul style="list-style-type: none"> Participant led under the supervision of a yoga teacher 	<ul style="list-style-type: none"> Om chanting once for 20 min in a day for 6 days/week for 4 weeks
Psychosocial intervention	Redhead 2011	Psychosocial interventions describe a range of new ways of helping to improve the quality of life of people experiencing psychotic symptoms. This can be useful in helping mental health professionals with patients, as well as reducing job stress.	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> In the training programme for qualified staff, the content covered a broad range of PSI including cognitive behavioural approaches for managing symptoms. In the training for unqualified staff sessions focussed on understanding symptom related behaviours, relationship formation and helping services 	Not reported	<ul style="list-style-type: none"> Group sessions in meeting room at workplace 	<ul style="list-style-type: none"> The training programme for qualified staff consisted of 16 half-day sessions delivered over 8 months.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				users to cope with symptoms. <ul style="list-style-type: none"> Teaching sessions were supplemented by small group supervision 			
Facilitated discussion	Ripp 2016	Based in theory that increased emotional support during training has the potential to prevent burnout in residents.	<ul style="list-style-type: none"> Session guide (for group leaders) 	Each session was organized around a theme (eg, death and dying, coping mechanisms) with an accompanying session guide that included teaching points, discussion questions, and associated readings.	Group leaders	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> 18 one hour sessions held twice-monthly
Mindfulness training programme	Roeser 2013	To foster mindfulness and self-compassion as resources that teachers can use to cope with stress more effectively and manifest emotional resilience more quickly	<ul style="list-style-type: none"> Mindfulness emotion diary Home mindfulness practice instructions and CDs 	<ul style="list-style-type: none"> Five main teaching activities to teach mindfulness and self-compassion to teachers Taught practices included body scans focused-attention meditation, open-monitoring meditation, and 	The primary author of the mindfulness training curriculum	<ul style="list-style-type: none"> Group classes group discussion home practice 	<ul style="list-style-type: none"> 8 weeks 11 sessions total of 36 contact hours

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				<p>loving-kindness meditation.</p> <ul style="list-style-type: none"> • Two lectures • Weekly group discussions of home practice and homework assignments <p>Teachers were invited to complete a mindfulness emotion diary.</p>			
Burnout prevention programme	Rollins 2016	BREATHE (Burnout Reduction: Enhanced Awareness, Tools, Handouts, and Education) is consistent with differentiated job demands and resources model and addresses burnout by enhancing providers' personal resources for reducing emotional exhaustion and cynicism and increasing their	<ul style="list-style-type: none"> • Workshop, • Workbook, • Personalised plan 	Organisational leaders approved administrative leave for workshop participation. and recruitment for and scheduling of the workshops occurred in two waves over ten months to diffuse the burden of staff.	Psychologists with experience in mindfulness and cognitive-behavioural therapy approaches.	<ul style="list-style-type: none"> • Face-to-face workshop 	<ul style="list-style-type: none"> • One day

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		sense of personal accomplishment and work engagement.					
Cognitive behavioural intervention	Rosas-Santiago 2019	To determine the effect of a Cognitive Behavioral Intervention on coping rates and burnout syndrome in a sample of public servants working at an autonomous public institution.	<ul style="list-style-type: none"> • Project and informational material • Informed consent forms • manual explaining the content of each work session and some examples • Related exercises; service evaluation forms 	<ul style="list-style-type: none"> • An orientation session was held 	Therapist with CBI training	<ul style="list-style-type: none"> • Group intervention delivered in a workplace facility 	<ul style="list-style-type: none"> • A two-hour session per week for a total of eight sessions.
Stress management training	Saadat 2012	'Coping with Work and Family Stress' is based on Pearlin and Shoolers 'Hierarchy of Coping Mechanisms' – responses that change a stressful situation,	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • 4 components as follows: • 1- eliminating or modifying stress through training in identifying stressful situations, use of problem solving and communication 	Not reported	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • 16 x 1.5 hour weekly sessions.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		responses that control the meaning of it, and responses that control stress that has occurred. This study evaluates the programme effects on anaesthesiology residents wellbeing.		<p>skills and increasing social networks.</p> <ul style="list-style-type: none"> • 2 – modifying cognitive and appraisal processes • 3- stress management (relaxation, deep breathing, diet, exercise) and minimising avoidance coping (use of alcohol, teaching refusal skills) • 4 – Development of personal stress management plan . 			
Emotional skills training	Schoeps 2019	Based on the ability model of emotional intelligence and aimed to reduce work-related stress and enhance psychological well-being by developing emotional	<ul style="list-style-type: none"> • Visualisation/ meditation, role-playing exercises, individual retrospection , group discussion, homework 	<p>The first five sessions were devoted to group cohesion and to work on the four abilities of the emotional intelligence model.</p> <ul style="list-style-type: none"> • The two remaining sessions focused on real 	Not reported	<ul style="list-style-type: none"> • Group session 	<ul style="list-style-type: none"> • Seven 2-hours sessions over three months

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		abilities and skills		world application of emotional abilities in their relationship with assertiveness, conflict resolution, self-esteem and empathy.			
Mindfulness-based intervention	Schroeder 2018	Examine the impact of a brief mindfulness-based intervention (MBI) on burnout, stress, mindfulness, compassion, and resilience among physicians.	<ul style="list-style-type: none"> • A secure web-based survey system • Measures 	<ul style="list-style-type: none"> • Weekend training plus follow-up sessions 	Not reported	<ul style="list-style-type: none"> • Instructor-led 	<ul style="list-style-type: none"> • 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend.
Multipoint educational intervention	Sforzo 2012	The intervention was intended to mildly inundate employees with a consistent, company-supported wellness message. Consistent with the underlying ecological approach, it was hypothesized that influencing	<ul style="list-style-type: none"> • Electronic messages • Access to the Mayo Clinic EmbodyHealth portal • Access to a Plus One–developed interactive website (i.e. “Flex”) where additional wellness 	<ul style="list-style-type: none"> • Educational classes were offered, which included nutrition, exercise, and stress management information. • Cafeteria tour enhanced understanding of the food environment 	Not reported	<ul style="list-style-type: none"> • Group classes • Cafeteria tour • Fitness facility access 	<ul style="list-style-type: none"> • 12 weeks with one lecture per week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		these multiple levels (individual, work group, organizational) was expected to lead to behaviour change, in addition to maintenance of existing health-promoting habits.	information (e.g., self-quizzes, health habits diary) was available. The Flex site was also used to post information about daily healthy meal offerings available in the cafeteria. <ul style="list-style-type: none"> • Fitness facility 	<ul style="list-style-type: none"> • Electronic messages were sent to emphasise healthy eating, exercise, and stress management each week. • Participants were offered corporate-sponsored, enhanced access to healthy programming. The company waived the normal fee for membership in the fitness facility and provided a 25% discount (via Compass Group) for healthy meal choices in the cafeteria 			
Web-based psychoeducation	Shimazu 2005	Based on social cognitive theory, this programme aimed to increase knowledge of	<ul style="list-style-type: none"> • Online modules 	<ul style="list-style-type: none"> • Participants complete 5 online chapters at their own pace. 	Online	<ul style="list-style-type: none"> • Online 	<ul style="list-style-type: none"> • Online learning to be completed over the period of 1 month.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		stress and increase self-efficacy and problem solving behaviour among workers in clerical and managerial roles.		<ul style="list-style-type: none"> • Chapters 1 and 2 – Cognitive preparation and motivation – basic knowledge about stress and ways of coping. • Chapters 3 and 4 – Acquiring skills and rehearsing them – interactive modules covering the 6 stages of problem solving. • Chapter 5 – application – putting skills into practice and relapse prevention. 			
Computerised CBT and Computerised CBT + supplement drink	Shirotsuki 2017	This study investigated if a soft drink supplemented with L-carnosine enhanced the effects of a self help computerised CBT programme in reducing anxiety	<ul style="list-style-type: none"> • Self help guide book • Monitoring sheet to record moods and weekly tasks • In the CBT + drink arm a daily 100ml soft drink 	<ul style="list-style-type: none"> • A short course on mental health before and after the CBT sessions. . • Computerised CBT programme consisting of psycho-education about stress management, 	Online CBT delivered by an e-learning platform with no therapy support or contact. It is unclear who delivered the mental health sessions before	<ul style="list-style-type: none"> • Online CBT • Unclear if the mental health course was delivered in groups or individually. 	<ul style="list-style-type: none"> • 2 x 30 minute sessions on mental health • 6 weekly computer-based sessions

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		depression and fatigue in employees of food and drink manufacturing and sales companies.	containing 200mg L-carnosine.	<p>coping, behaviour activation and cognitive restructuring.</p> <ul style="list-style-type: none"> Each session included a 5-10 minute film with corresponding reading from the self help guide, Daily moods and weekly tasks were recorded on task sheets. In the CBT + drink arm – daily consumption of 100ml of supplemented soft drink. 	and after the CBT.		
Chair massage	Shulman 1996	Massage mitigates stress through relieving muscular tension, and many healthcare professionals regard touch as vitally important in interactions and healing,	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Participants received an onsite 15-minute chair massage once per week for 6 weeks 	Massage practitioners	<ul style="list-style-type: none"> Individual, in-person 	<ul style="list-style-type: none"> 15 minute massage once per week for 6 weeks
Resilience training	Skeffington 2016	The MAPS (Mental Agility and	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> Each one-hour MAPS session comprised a fully 	Registered psychologist with a masters level	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> Four 1-hour sessions over 4 weeks

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		psychological Strength (MAPS) training programme focusses on building knowledge of psychological wellbeing and PTSD as well as practical skills such as cognitive restructuring, support seeking, and self-soothing or self-moderating, all of which are factors in the aetiology of PTSD and other post-trauma pathologies.		<p>contained module.</p> <ul style="list-style-type: none"> • Modules included an introduction to the programme, how to “take a moment” to be able to choose their response while under stress, identifying and using appropriate supports, and maintenance and self-care. 	qualification and experience in delivering psycho-education and training seminars and treating stress and trauma syndromes		
Simulation-based CPR training programme	Sok 2020	The study sought to identify CPR stress perceived by clinical nurses, help improve nurses' knowledge and performance of CPR, and provide the necessary basic	<ul style="list-style-type: none"> • A video lecture • Questionnaire for each situation 	<ul style="list-style-type: none"> • A lecture on the guidelines and theories based on the 2015 Korean Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. 	The researcher (MSc Nursing and CPR instructor trained), three clinical nurses, and one evaluator participated as instructors in the study	<ul style="list-style-type: none"> • Groups of 15 participants. 	<ul style="list-style-type: none"> • Over 2 days

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		data for improving the quality of CPR education.		<ul style="list-style-type: none"> After providing individual and team scenarios, the individual and team simulation-based practices were conducted. 			
Stress management and resilience training	Sood 2014	SMART sought to decrease stress and anxiety and improve resilience and quality of life. The SMART program teaches learners to focus their attention in the external world and to defer unrefined judgments. Learners also are taught to cultivate and guide their interpretations by five higher-order principles: gratitude, compassion, acceptance, meaning, and forgiveness.	<ul style="list-style-type: none"> Powerpoint presentation Reading materials that covered discussed skills 	<ul style="list-style-type: none"> A single 90-min group session Two follow-up phone calls at weeks 4 and 8. Participants were trained in a brief structured relaxation intervention (paced breathing meditation) At the conclusion of the in-person visit, participants were provided reading materials that covered the skills discussed. Participants were offered an optional 30–60-min follow-up session. 	Not reported	<ul style="list-style-type: none"> Small group sessions 	<ul style="list-style-type: none"> 90 minute group session Two follow-up calls Relaxation exercises for 5 to 15 minutes, once or twice a day. Optional 30 to 60-minute follow-up session.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
Stress management and resilience training	Sood 2011	This study aimed to assess the effect of a stress management and resiliency training programme (SMART) among physicians in a tertiary care hospital.	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Single SMART training session which focuses on 'attention' and 'interpretation' – teaching participants to delay judgement and interpret from a more flexible perspective cultivating emotions such as compassion, acceptance and forgiveness. • Training on paced breathing meditation and encouragement to practice this daily. 	Not reported	<ul style="list-style-type: none"> • Individual training session 	<ul style="list-style-type: none"> • 1 x 90 minute training session • An optional 30-60 minute follow up session. • Deep breathing exercises for 5 or 15 minutes, once or twice daily.
Mindfulness-based intervention	Steinberg 2016	The intervention was structured using a resilience conceptual framework, and emphasised the development of behaviours that strengthen the physical and emotional health	<ul style="list-style-type: none"> • CD recordings • Structured diaries 	<ul style="list-style-type: none"> • Group sessions comprised of a didactic introduction and discussion, and a combination of mindfulness and yoga practices with music • Participants performed daily practice using 	Trained mindfulness and certified yoga teacher who developed the programme (500 hour Yoga Alliance certified)	<ul style="list-style-type: none"> • Group sessions • Individual practice 	<ul style="list-style-type: none"> • 8 weeks • Weekly 1-hour sessions • 20 minutes of daily practice

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		of staff. The hypothesis was that increasing resilience through a mind-body intervention would decrease the effects of stress and risk for burnout.		<p>CDs to reinforce the group session.</p> <ul style="list-style-type: none"> Frequency of these practices was logged in the structured diary 			
Worksite lifestyle intervention	Strijk 2012	The intervention is aimed at improving mental and physical factors of vitality via a worksite health promotion (WHP) program containing physical exercising and yoga as effective tools to keep older workers vital, promote their health and thereby prolong their labour participation.	<ul style="list-style-type: none"> Written information about a healthy lifestyle in general Free fruit Questionnaires 	<ul style="list-style-type: none"> The intervention consisted of (1) a Vitality Exercise Program (VEP) with (2) provision of free fruit and combined with (3) three visits to a Personal Vitality Coach (PVC). The VEP consisted (1) yoga session, (2) workout session and (3) unsupervised aerobic exercise session. 	Yoga was guided by a qualified yoga instructor; Workout sessions were guided by certified fitness instructors.	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> 6-month intervention Weekly 45-minute VEP
Mindfulness: contemplative practices and socio-emotional skills training	Tarrasch 2020	Call to Care – Israel for Teachers” (C2CIT) program employs	<ul style="list-style-type: none"> Contemplative-based training and cooperative learning 	<ul style="list-style-type: none"> Each session included elements of psychoeducational materials, 	Not reported	<ul style="list-style-type: none"> Group classroom-based 	<ul style="list-style-type: none"> The intervention was spread throughout a full academic

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		mindfulness, compassion, and social-emotional skill training, with a unique emphasis on the construct of care. C2CIT is a professional teacher development program that aims to cultivate skills involved in receiving care and giving care to oneself, as well as extending care to all of one's students in a classroom.	strategies included psychoeducational materials	contemplative practices, social-emotional skills and group activities. <ul style="list-style-type: none"> • Homework assignments were outlined with sessions. 			year and included 20 weekly meetings. <ul style="list-style-type: none"> • Each session lasted 1 and a half hours.
Transcendental meditation	Travis 2018	This study tested if transcendental meditation could increase positive effect and decrease psychological distress in government employees.	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • The transcendental technique was taught over 5 sessions. • Session 1 – introductory lecture and personal interview. • Sessions 2-5 individual instruction on 	Not reported	<ul style="list-style-type: none"> • 1 x lecture • Personal interviews • 4 individual instruction sessions • 3 group meetings 	<ul style="list-style-type: none"> • Individual instruction sessions were 1.5 hours each over 4 consecutive days. • Knowledge meetings were held weekly

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				technique and 3 group meetings. <ul style="list-style-type: none"> • Individual meeting to verify correct practice of technique. • Knowledge and discussion • meetings. 			
Stress management training	Umanodan 2014	The study to develop and evaluate a computer- based stress management training programme, in order to improve employees of a manufacturing company's psychological resources, e.g. coping skills and social support and their knowledge of stress management.	<ul style="list-style-type: none"> • Computer based intervention 	<ul style="list-style-type: none"> • A computer based stress management programme consisting of: <ul style="list-style-type: none"> • Cognitive techniques - cognitive restructuring and causal attribution skills • Behavioural techniques – problem solving and time management, • Communication techniques – assertion and delegation skills. • Learning occurred in 2 phases – skills 	Online A member of office staff served as co-ordinator and sent reminder or prompt emails	<ul style="list-style-type: none"> • Online – all communication between author and participant was online with no face-face contact. 	<ul style="list-style-type: none"> • 6 sessions to be completed at participants own pace. • Average time to compete was 7.4 weeks.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				acquisition and implementation.			
Psychological group training	Unterbrink 2012	The manual-based psychological group program was aimed at teachers and focused on their professional relationships. The programme focussed on topics concerning information about stress biology, reflections of the participating teachers on their mental attitudes toward their own professional role, and considerations and discussions on how to manage interpersonal relationships with pupils, parents, and colleagues.	<ul style="list-style-type: none"> Not reported 	<ul style="list-style-type: none"> The group size ranged from 12 to 15 participants per group. The manual is composed of five modules dealing with the following issues: (i) basic knowledge of stress physiology and the effects of interpersonal relationships on health parameters; Jacobson's relaxation training; (ii) mental attitudes with particular respect to authenticity (being congruent with oneself) and identification with the professional role; (iii) competence in handling relationships with pupils; (iv) 	Certified psychotherapists moderated each group	<ul style="list-style-type: none"> Group sessions 	<ul style="list-style-type: none"> Ten 90-minute sessions over ten months

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				competence in handling relationships with parents; and (v) strengthening collegiality and social support among the staff (detecting and fending of splitting tendencies).			
Mindfulness training with e-coaching and health promotion [The Mindful Vitality in Practice (VIP)]	Van Berkel 2014	The working mechanism for increasing work engagement is that by becoming aware of thoughts, emotions, and bodily sensations, and accepting them in a non-judging way, personal resources can be built. Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their	<ul style="list-style-type: none"> • 2 CDs with guided meditation exercises • A booklet with examples of workplace situations, background and (workplace) exercises 	<ul style="list-style-type: none"> • Mindfulness-related training with homework exercises • Mindfulness-related training sessions had 4 to 17 participants • 8 sessions of e-coaching that was adapted to the mindfulness context. • Free fruit and snack vegetables were provided • Lunch walking routes, and a buddy-system were offered as supportive tools. 	Certified trainers who were members of the Society of Mindfulness-Based trainers in the Netherlands and Flanders	<ul style="list-style-type: none"> • Group sessions • E-coaching • Individual practice 	<ul style="list-style-type: none"> • 6 month intervention • 8 weekly 90 minutes mindfulness sessions • 8 e-coaching sessions • 30 minutes of individual practice 5 days per week

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		ability to cope with their environment successfully.					
mHealth intervention (intervention using mobile technology)	Van Drongelen 2014	The mHealth intervention among airline pilots consisted of tailored advice on exposure to daylight, sleep, physical activity, and nutrition. It was hypothesized that, easy obtainable, tailored advice would improve health-related behaviour, resulting in a reduction of sleep problems and fatigue and an improvement in health perception.	<ul style="list-style-type: none"> Email containing an instruction manual and unique login details. Mobile application that was available in the app stores for iOS and Android and a secure part of the project website. 	<ul style="list-style-type: none"> The app contained advice tailored to flight schedules and personal characteristics aiming to reduce fatigue and circadian disruption as much as possible. Participants were encouraged to read background information which was available in the glossary menu of the app. If applicable, the app guided the users to the project website with more information, including videos and audio files. The app had two types of 	Mobile app	<ul style="list-style-type: none"> Mobile app 	<ul style="list-style-type: none"> Access throughout 6-month study

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				reminders: timed alerts and geofencing alerts.			
Mindfulness-based stress reduction	Verweij 2018	Mindfulness is defined as intentionally paying attention to the present moment in a non-judgmental way. Although mindfulness has been taught for centuries as part of Buddhist tradition, the meditation practices taught in MBSR are psycho-educational and secular.	None reported	<ul style="list-style-type: none"> Participants practiced formal mindfulness exercises. Participants received psycho-education about stress Daily at home practice Residents participated in regular MBSR courses that were offered by the Radboud Centre for Mindfulness Group sizes were 8 to 16 participants 	11 different trainers, all of whom met the requirements of the good practice guidance for teaching mindfulness-based courses	<ul style="list-style-type: none"> Roup 	<ul style="list-style-type: none"> 8 weeks Weekly 2.5-hour sessions At-home daily practice of 45 minutes 6-hour silent day at the weekend
Resource-building group intervention	Vuori 2012	The intervention was designed to achieve its goals through the creation of a socially supportive environment that facilitates	Not reported	<ul style="list-style-type: none"> The workshop used methods such as active learning process, social modelling, gradual exposure, and practice through role playing. One 	The program was delivered by a co-trainer team of two trainers, and the recommendation was that one of them represent the occupational	<ul style="list-style-type: none"> Group workshops in classrooms or similar sites in the workplace. 	<ul style="list-style-type: none"> One-week intervention comprised of four half-day sessions

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		positive interactions and relationships between trainers and participants, as well as between the participants themselves. The training was designed to increase participants' job-search self-efficacy and motivation and to endorse the following career management skills:		<p>of its aims of the programme was to provide inoculation against setbacks.</p> <ul style="list-style-type: none"> The groups, comprising 8–15 employees and/or supervisors, assembled for five half-day sessions that focused on the enhancement of career management skills. 	health services (OHS) and the other human resources (HR) activities. The trainers were nominated by the participating organizations. Their instruction was provided by the FIOH research team over a period of 4 days. The trainers underwent the whole training program and were instructed in the principles of learning and given other related theoretical background. They also received practical advice		
Music making	Wachi 2007	Among the various stress-reduction strategies, the use of music is gaining recognition as an	A wide variety of percussion instruments: tubanos, claves, tambourines, djembes,	<ul style="list-style-type: none"> Participants were then taken to a room where they could choose an instrument. 	An experienced Japanese facilitator who had been trained in accordance with the protocol.	<ul style="list-style-type: none"> Group session 	<ul style="list-style-type: none"> One-hour intervention

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		effective means for improving quality of life. Much of the evidence on the benefits of using music for reducing psychological stresses.	gathering drums, and buffalo drums	<ul style="list-style-type: none"> The facilitator's role was to elicit laughter, self-expression, and a sense of togetherness. The only segment in which the facilitator specifically asked the participants to express the stress they were feeling was "Resonance Within." 			
Mental resilience app	Weber 2019	The app, developed as a digital prevention tool, seeks to translate insights from scientific research on psychology, sleep medicine, and neuroscience into an action-based program. It draws on the tenets of clinical, health, positive, cognitive,	<ul style="list-style-type: none"> App Smartphones Questionnaires 	<ul style="list-style-type: none"> The app is designed to implement lifestyle changes through (1) measuring behavior, cognitions, and emotions (tracking module) and (2) providing psychoeducational content (intervention module). 	Soma Analytics/DNAFit	<ul style="list-style-type: none"> Online 	<ul style="list-style-type: none"> The intervention lasted 4 weeks (28 sessions maximum and 28 nights maximum);

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
		biological, and social psychology to foster recovery and growth.		<ul style="list-style-type: none"> • Push-notifications were sent out as reminders with the option to turn them off. 			
Comprehensive management	Wei 2017	The aim of the intervention was to help emergency department nurses develop communication skills, approaches to conflicts, efficacy elevation, emotion control, and work skills.	Not reported	<ul style="list-style-type: none"> • Participants received regular management, which included focus group discussions and luncheon parties. Nurses were encouraged to talk about the problems they felt were stressful, and then they were offered targeted help. [Intervention and control groups] • In addition to regular management, participants received the active intervention, which included classes pertaining to communication 	Nurse managers	<ul style="list-style-type: none"> • Group classes at the workplace 	<ul style="list-style-type: none"> • 6-month intervention • Regular management - 30-minute meetings took place twice per week [intervention and control arms] • No information about the duration/intensity of active component of the intervention.

Brief name	Studies	Rationale, theory or goal	Materials used	Procedures used	Provider	Delivery method	Intensity/duration
				skills, approaches to conflict, efficacy elevation, and emotion control, as well as working skills.			
Yamagishi 2008	Career identity training	Career identity is defined as the cognitive representation of self, derived from past work experiences, beliefs, values, attributes, and motives that define individuals in terms of their work roles. Methods reported for improving career identity are similar to the methods used in career counselling.	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • The programme included: 1) the definition of career identity, 2) cognition of the participants' own career identity, 3) the characteristic of nurses' career identity, and 4) career goal management and planning. • The learning styles covered by the programme included text-based learning, a career anchor checklist, the inputting of one's past and present career identity, and the inputting of one's career goals and plans. 	Web-based training	<ul style="list-style-type: none"> • Web-based training 	<ul style="list-style-type: none"> • 60-minute training that could be completed at any point over 3 weeks

See [Appendix D](#) for full evidence tables.

1.1.6 Summary of studies included in the qualitative evidence

Table 4: Summary of qualitative studies

Study	Setting	Informants	Intervention	Method	Themes in study
Banerjee et al 2017	Public Sector: healthcare - NHS	NHS staff in clinical roles	Mindfulness	Semi-structure interviews. Thematic analysis.	<ul style="list-style-type: none"> • Motivation to reduce stress • Prior knowledge of the intervention • Personal Predisposition • Rationale • Length of Practices • Time of session • Intensity of the Intervention • Benefits – becoming more mindful • Benefits – increased sense of agency • Habitual Perseveration • Perceived Effects of Mindfulness on Mental Health and Well-Being • Change in Self-Compassion
Brook et al 2021	Public sector: Education - university Healthcare - UK NHS healthcare organization	Student participants - adult or child nursing students who were in the final year of their pre-registration nursing programme Academic participants involved in the implementation of the intervention including facilitators and nursing programme directors.	Educational intervention	Semi structured interviews and focus groups Thematic analysis	<p>Experience</p> <ul style="list-style-type: none"> • Content and relevance • Delivery and logistics <p>Identifying facilitators and overcoming barriers</p> <ul style="list-style-type: none"> • Attendance, engagement and timing • Role of the practice environment <p>Future scope</p> <ul style="list-style-type: none"> • Beneficial effect • Enduring impact

Study	Setting	Informants	Intervention	Method	Themes in study
Hugh-Jones et al 2018	Public Sector: Education - University	University staff with: academic/research roles; professional service roles such as in management and finance; clerical/student support role	Mindfulness	Semi-structured interviews. Abbreviated grounded theory analysis	<ul style="list-style-type: none"> • Pre-emptive strike against stress • Resonance • Shared experience • legitimising self-care • Intellectual justification • Management led • Personal awareness • Early detection of changes • Application of mindfulness in day-to-day lives (testing mindfulness) • Ability to cope • Skill building/Psychological asset • Improved clarity of mind • Changes over time enabled being at ease with one's self • Time/working environment
Hunter et al 2018	Public Sector: Healthcare - NHS	Midwives working full and part time	Mindfulness	Interviews; Interpretive Phenomenological Analysis (IPA),	<ul style="list-style-type: none"> • Discomfort • Image of mindfulness • Mindfulness as Indulgent • Motivation: Personal commitment and regular practice • Motivation: support • Self-realisation: Increase awareness of self and boundaries of the self • Centring the self • Taking/identifying opportunities to be mindful • Focussing • Stepping back • Taking control • Nurturing the self

Study	Setting	Informants	Intervention	Method	Themes in study
					<ul style="list-style-type: none"> • Self-care • Reconnecting with colleagues • Sub-theme: Motivation to engage • Sub-theme: Positive relationships with colleagues were a fundamental part of improving workplace culture • Renewed enjoyment, satisfaction and meaningfulness of work • Psychological assets • Improved workplace environment
Johnson et al 2020	Public sector Healthcare – NHS Education – University	Healthcare students and Healthcare professionals	Resilience coaching	Interviews Thematic analysis	<ul style="list-style-type: none"> • Tension between mandatory and voluntary delivery • The importance of experience and reference points for learning • Valuing peer learning and engagement • Opportunities to tailor learning
Kinman et al 2020	Public sector Social work	Social workers	Mindfulness	Qualitative open-ended questions (via questionnaire) and semi-structured interviews Thematic analysis using Braun et al. (2014)	Positive impact: personal and work <ul style="list-style-type: none"> • manage the stress • Improved mental clarity • Increased self-awareness • increase effectiveness at work • personal life Facilitator knowledge Intervention content Barriers to engagement <ul style="list-style-type: none"> • Finding time Organizational culture
Todd et al 2019	Public Sector: Education – Secondary school	Secondary school Teachers	Two different 8-week mindfulness based courses (.b Foundations and Mindfulness-Based	Mixed methods; Semi-structured Interviews; Thematic analysis	<ul style="list-style-type: none"> • Perceptions • Terminology, imagery and perceptions of value • Evidence-base; making the case

Study	Setting	Informants	Intervention	Method	Themes in study
			Stress Reduction (MBSR)	following elements of Braun et al	<ul style="list-style-type: none"> • Stress as a driver for mindfulness • Group experience was positive - sustained engagement • Convenience • Impact of attendance on day-to-day • Duration was key • Impact: work and personal • Sub-theme: Distal solution • Embedded training and impact on work role
Wright et al 2016	Public Sector: Healthcare – NHS - local emergency department and burns high-dependency unit of a single site of an acute hospital trust	Nurses	Complementary and alternative therapies (CATs) for relaxation and stress management within workplace wellbeing programmes	In-depth semi-structure interviews; qualitative thematic methods (Ritchie and Spencer, 1994).	<ul style="list-style-type: none"> • Evidence-base; making the case • Perceptions of mindfulness • Positive experiences • Provision of mindfulness as recognition of value • Working environment • Time - Work outside of working hours • Time - Work environment and culture • Cost

See [Appendix D](#) for full evidence tables and Appendix F.2 for full GRADE-CERQual tables

1.1.8 Economic evidence

A guideline wide search of published cost-effectiveness evidence was carried out for review questions 1, 2, 3, 4 and 5. There were no eligible studies for RQ 1.

1.1.8.1 Included studies

3432 records were assessed against the eligibility criteria.

3351 records were excluded based on information in the title and abstract. Both reviewers assessed all the records. The level of agreement between the two reviewers was 100%.

The full-text papers of 81 documents were retrieved and assessed. 15 studies were assessed as meeting the eligibility criteria. Of these, 8 studies were assessed as meeting the eligibility criteria for RQ 4. Both reviewers assessed all the full texts. The level of agreement between the two reviewers was 100%. For RQ 4, 8 studies were included (see appendix G for evidence study selection and appendix H for economic evidence tables).

1.1.8.2 Excluded studies

66 full text documents were excluded for this guideline. The documents and the reasons for their exclusion are listed in Appendix K – Excluded studies. Documents were excluded for the following reasons: review (n=32), no economic evaluation (n=18), ineligible outcomes (n=6), ineligible intervention (n=6), ineligible study design (n=2), and ineligible setting (n=2). The selection process is shown in Appendix G. See appendix J for list of excluded studies.

1.1.8 Summary of included economic evidence

Table 5 Summary of included economic evidence

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Barbosa (2015) A network intervention, STAR (support, transform, achieve, results), aiming to reduce work-family conflict ^a vs. no intervention	Minor limitations ^b	Partly applicable ^c	The study conducted a group randomised field experiment ^d with return on investment (ROI) analysis, over an 18-month time horizon and from an employer's perspective.	Incremental intervention cost per person; \$: <u>CALCULATED BY YHEC^e</u> Intervention vs. control 692.53 (=£498.55 in 2020 GBP) ^g Incremental company cost savings; \$: Intervention vs. control 1,850 (=£1,332 in 2020 GBP) ^g Incremental total cost per person; \$: <u>CALCULATED BY YHEC^e</u> Intervention vs. control Pre-intervention	Not reported	Return on investment; \$ (95% CI): 1.68 per dollar invested (-8.85 to 9.47)	Uncertainty: Eleven different scenarios were evaluated in the sensitivity analysis. These included adjusting the discount rate, the costs of presenteeism, turnover and healthcare utilization. Only one scenario gave a ROI <1. The majority of scenarios were within 0.15 of the base case (1.68). When 'hours of paid time off' were included (an instrument for absenteeism), the ROI was 1.24.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
				166.5 (=£120 in 2020 GBP) ^g Post-intervention 4,625.61 (=£3,330 in 2020 GBP) ^g			
Abbreviations: <i>CI</i> : confidence intervals; <i>ROI</i> : return on investment; <i>STAR</i> : support, transform, achieve, results;							
a. The intervention consists of three components: face to face participatory training sessions, computer-based training and behavioural self-monitoring.							
b. The main limitation was the lack of probabilistic sensitivity analysis, though the author also highlighted that some data inputs were self-reported which could reduce their reliability.							
c. The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and USA.							
d. Field experiment was group-randomized and conducted in an information technology division of a large Fortune 500 company in the United States							
e. Calculations performed by YHEC are unadjusted.							
f. ROI was calculated as the total cost benefit (from medical costs, presenteeism and turnover) minus intervention costs divided by the intervention cost.							
g. Converted by YHEC using historical exchange rates and PSSRU inflation indices.							

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Bedell (2010) A 6-week stress reduction program with 6 coaching sessions designed to help people better self-regulate	Major limitations ^b	Partly applicable ^c	A cohort study with return on investment (ROI) analysis from an employer's perspective and while the time horizon is not clearly stated, it is assumed to be 12-months.	Incremental intervention cost per person; \$: Intervention vs. control 300 (=£230 in 2020 GBP) ^f Incremental annual cost impact (adjusted); -%:	Incremental change in effectiveness ^d <u>CALCULATED BY YHEC</u> Intervention vs. control Total stress -0.1 (negative indicates intervention reduced)	Return on investment; \$: 1.95 per dollar invested	Not reported

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
stress, increase resiliency, and improve performance vs. an undefined control group ^a				<p><u>CALCULATED BY YHEC</u> Intervention vs. control</p> <p>Medical costs 12.8 decrease</p> <p>Pharmacy costs 5.4 decrease</p> <p>Incremental first year cost savings per participant; \$: Intervention vs. control</p> <p>585</p>	<p><i>stress more than control)</i></p> <p><i>The paper also reported a significant difference in mean-squared results for total stress</i></p> <p>Total well-being 0.17 <i>(positive indicates intervention increased total wellbeing more than control)</i></p> <p><i>The paper also reported a significant difference in mean-squared results for total stress</i></p>		

Abbreviations: ROI: return on investment

- The reviewer notes some participants in the control group received 'no intervention' while others had access to a phone-based lifestyle management program.
- The study did not state a time horizon and discounting was not discussed. Work-related costs, such as presenteeism and absenteeism, were not included. Sensitivity analysis was not conducted.
- The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the United States. The comparator was not clearly described.
- Effectiveness was measured using the Reformed Church of America Stress and Well-being Survey. However, no further information was provided making it difficult to interpret the results.
- ROI was calculated as the total cost benefit (from medical and pharmacy costs) divided by the intervention cost.
- Converted by YHEC using historical exchange rates and PSSRU inflation indices.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Noben (2014) Two interventions aiming to promote work functioning to reduce mental health complaints, both after an initial questionnaire: Occupational Physician (OP) visit or e-Mental Health training ^a vs. no intervention after initial questionnaire	Minor limitations ^b	Partly applicable ^c	The study conducted a pragmatic cluster randomised controlled trial with cost-utility analysis over a 6-month time horizon and from a societal perspective. Effectiveness of the intervention was measured as work functioning ^e .	Incremental intervention cost per person; mean, €: OP vs. control 73.11 (=£73.30 in 2020 GBP) ^h e-Mental Health vs. control Not reported Incremental total costs per person; €^d: OP vs. control - 486 (=£487 in 2020 GBP) ^h e-Mental health vs. control - 377 (=£378 in 2020 GBP) ^h <u>CALCULATED BY YHEC BASED ON AVAILABLE FIGURES^f</u> OP vs. e-Mental health - 109 (=£109 in 2020 GBP) ^h	Incremental work functioning effectiveness^e: <u>CALCULATED BY YHEC BASED ON AVAILABLE FIGURES^f</u> OP vs. control 0.04 e-Mental health vs. control -0.04 OP vs. e-Mental health 0.08	Incremental cost effectiveness ratios (ICERs); €: OP vs control Dominant (less costly and more effective for work functioning) e-Mental health vs. control 4054 (=£4,065 in 2020 GBP) ^h per one-point increase in work functioning ^g <u>CALCULATED BY YHEC BASED ON AVAILABLE FIGURES^f</u> OP dominates e-Mental health (OP was less costly and more effective for work functioning)	75% of the 5000 bootstrap replications of the ICER were dominant for the OP group, and 76% were in the south-west quadrant for the e-Mental Health group (less costly but less effective). The results were similar in both alternative scenarios, which differed the imputation technique.

Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician;

a. Interventions were randomized before the questionnaire

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Noben (2015) An initial screening questionnaire ^a (Workers' Health Surveillance instrument (WHS)) combined with an occupational physician occupational physician	Minor limitations ^b	Partly applicable ^c	The study conducted a pragmatic cluster randomised controlled trial with return on investment (ROI) analysis, over a 6-month time horizon and from an employer's perspective. The benefits from the intervention were related to the	Incremental intervention cost per person; mean, € (95% CI): Intervention vs. control 64 (52 to 76) (=€64 (52 to 76) in 2020 GBP) ^f Costs averted per person; €:	Not reported	Net benefits per person; € (95% CI): Intervention vs. control 651 (167 to 1,135) (=€653 (£167 to £1,138) in 2020 GBP) ^f Return on investment ^d;; €: Control	The incremental intervention cost difference and incremental total cost savings were both statistically significant ($p < 0.001$ and $p = 0.004$ respectively), as was the incremental net benefit ($p = 0.008$). When the productivity gains were lowered by 30%, the incremental ROI was still €8 per €1 invested. When 'hard to quantify' presenteeism benefits were ignored, the ROI was still €5 per euro invested.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
(OP) visit aiming to reduce mental health complaints vs. usual care			increased productivity levels due to decreased presenteeism and absenteeism.	Intervention vs. control Absenteeism 308 (=£309 in 2020 GBP) ^f Presenteeism 407 (=£408 in 2020 GBP) ^f		-3 per euro invested Intervention 7 per euro invested Incremental 11 per euro invested ^e	
<p><i>Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician; QALY: quality-adjusted life year; ROI: return on investment; WHS: Workers' Health Surveillance;</i></p> <p>a. The initial screening questionnaire was given to all participant. Those in the intervention group received personalised feedback and the OP intervention if screened-positive, whereas those in the control group did not receive feedback nor any intervention even if they had screened-positive.</p> <p>b. The trial had a short time-horizon that may not have captured the full effects of the intervention. Probabilistic sensitivity analysis was limited although confidence intervals were reported. Some direct effects like staff turnover and the spill-over effect of absenteeism were not included.</p> <p>c. The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the Netherlands.</p> <p>d. ROI was calculated total costs averted (due to the reduced absenteeism and presenteeism) divided by the intervention cost.</p> <p>e. For the incremental ROI, the cost of the questionnaire in the control group is considered even though it is not usual care. It must be highlighted that the main result from this study is the ROI of the intervention group, €7 per euro invested (reviewer comment).</p> <p>f. Converted by YHEC using historical exchange rates and PSSRU inflation indices.</p>							

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Oude Hengel (2014) Two individual (30 min) training sessions with a physical	Minor limitations ^a	Partly applicable ^b	The study conducted a cluster-randomised controlled trial with cost-benefit analysis (CBA)	Incremental intervention cost per person; mean, €: Intervention vs. control	Incremental effectiveness; mean, % (95% CI): Intervention vs. control	Incremental cost effectiveness ratios (ICERs); €: Intervention vs. control	Three additional scenarios were analysed. The first scenario included presenteeism ^f which resulted in reduced ICERs and increased the ROI. The second scenario analysed a subsample of workers in the intervention group

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
therapist which included a quick-scan questionnaire, (the Rest-Break Tool), and two group empowerment training sessions, and aimed to improve the health and work ability of workers vs. no intervention			and return on investment (ROI) analyses, over a 12-month time horizon and from an employer's perspective. Effectiveness of the intervention was measured for work ability ^c , physical health and mental health ^d .	118 (=£105 in 2020 GBP) ^h Incremental total costs ^e; mean, € (95% CI): Intervention vs. control -641 (-1,391 to -48)	Work ability -0.12 (-0.79 to 0.54) Physical health -0.80 (-3.22 to 1.61) Mental health 1.00 (-1.15 to 3.15) <i>Negative scores indicate a reduction in that area, and positive an improvement.</i>	Work ability 5,243 (=£4,652 in 2020 GBP) ^h per point increase Physical health 798 (=£708 in 2020 GBP) ^h per point increase Mental health -642 (=£570 in 2020 GBP) ^h per point increase (dominant) Return on investment; €: 6.40 per euro invested	who followed three or four training sessions. This produced similar results to the base case. The third scenario analysed a subsample of workers who had who completed both the base and follow-up questionnaires. This resulted in the intervention no longer being statistically significant, with increased ICERs and reduced ROI.

Abbreviations: CBA: cost-benefit analysis; ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year; ROI; return on investment

- Outcomes such as staff turnover, disability management and workers' compensation costs were not included in the evaluation, and there was a lack of deterministic sensitivity analysis.
- The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the Netherlands.
- Work ability was measured using the Work Ability Index which included two concepts – current work ability (one question) and work ability in relation to job demands (two questions). The total score was obtained by adding the weighted scores of these individual concepts.
- Physical and mental health were assessed using the Short-Form Health Survey (SF-12). The SF-12 provided two separate weighted scores for physical and mental health.
- Total costs were the intervention cost and cost of absenteeism.
- ROI was calculated total costs benefit (due to absenteeism) divided by the intervention cost.

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
g. Presenteeism was measured using an item of the World Health Organization and Work Performance Questionnaire; workers were asked to rate their overall work performance during the previous 4 weeks on an 11-point scale, ranging from “worst performance” (0) to “best performance” (10).							
h. Converted by YHEC using historical exchange rates and PSSRU inflation indices.							

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
van Dongen (2016) ‘Mindful VIP’ intervention, aiming to improve mental health and consisting of mindfulness training, e-coaching, and supporting elements like fruit/veg, lunch walking routes and a buddy system vs. no intervention	Minor Limitations ^a	Partly applicable ^b	The study conducted a randomised controlled trial with cosy-utility analysis (CUA) and return on investment (ROI) analysis, over a 12-month time horizon and from both an employer’s perspective and a societal perspective. Effectiveness of the intervention was measured for work engagement ^c , general vitality ^d , job satisfaction ^e	Incremental intervention cost per person; average, €: Intervention vs. control <u>Societal perspective</u> 171 (=£171 in 2020 GBP) <u>Employer’s perspective</u> 464 (=£465 in 2020 GBP) Incremental total costs per person; mean, € (95% CI): Intervention vs. control <u>Societal perspective</u> ^g	Incremental effectiveness: Intervention vs control Work engagement ^c -0.19 (-0.38 to 0.01) General vitality ^d -3 (-6 to 0.1) Job satisfaction ^e -0.02 (-0.22 to 0.18) Work ability ^f -0.32 (-0.81 to 0.16)	Incremental cost effectiveness ratios (ICERs); €: <i>This intervention cost more, for less effectiveness. Hence the intervention is dominated by no intervention in all cases. The paper reported the ratios, though they are meaningless when an intervention is dominant or dominated.</i>	Six additional analyses were conducted. All gave similar negative results for both perspectives for the ICERs. In every scenario, the most probable region of the cost-effectiveness plane was the north-west (less effective and more costly)

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
			and work ability f.	1,814 (-800 to 4,588) (=£1,818 (-£802 to £4,600) in 2020 GBP) ⁱ <u>Employer's perspective</u> ^h 2,038 (-548 to 4,752) (=£2,043 (-£549 to £4,764) in 2020 GBP) ⁱ		<u>Societal perspective</u> Work engagement -7,321 (= -£7,340 in 2020 GBP) ^j per one-point increase General vitality -470 (= -£471 in 2020 GBP) ^j per one-point increase <u>Employer's perspective</u> Work engagement -8,593 (= -£8,615 in 2020 GBP) ^j per one-point increase Job satisfaction -81,295 (= -£81,510 in 2020 GBP) ^j per one-point increase Work ability -5,081 (= -£5,094 in 2020	

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
						GBP) ^j per one-point increase Net monetary benefit per employee ^c; €: <u>Employer's perspective</u> -1,635 (= -£1,639 in 2020 GBP) ^j Return on investment ⁱ; € (95% CI): <u>Employer's perspective</u> -2.51 per euro invested (-8.19 to 3.1)	
<i>Abbreviations: CUA: cost-utility analysis; ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year; RCT: randomised controlled trial</i>							
a. The reviewer identified no significant limitations.							
b. The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the Netherlands. QALYs are not used, rather condition specific instruments for each domain.							
c. Assessed using Utrecht Work Engagement Scale, which is made up of 17 items and scored on a scale from 0 to 6 with higher scores indicating a better work engagement.							
d. Assessed using the RAND-36 Vitality Scale, which is scored on a 0 to 100 scale with higher scores indicating better general vitality.							
e. Explored using a one-item question of the Netherlands Working Conditions Survey, scored on a 0 to 5 scale with higher scores indicate better job satisfaction.							
f. Explored using the Work Ability Index, which was scored on a 0 to 20 scale with higher scores indicating a better work ability.							
g. Total costs were medical costs, sports costs, occupational health costs, absenteeism and presenteeism costs, and intervention costs							
h. Total costs were occupational health costs, absenteeism and presenteeism costs, and intervention costs							

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
i. ROI was calculated total costs benefit (from absenteeism, presenteeism and occupational health costs) divided by the intervention cost.							
j. Converted by YHEC using historical exchange rates and PSSRU inflation indices.							

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Van Holland (2018) The intervention was a POSE program: a comprehensive workers' health surveillance (WHS) program aimed at improving sustainable employability and consisting of elements from occupational medicine and rehabilitation medicine vs no intervention	Minor limitations ^a	Partly applicable ^b	A cluster randomised stepped wedge trial with return on investment (ROI) analysis, over a 12-month time horizon and from an employer's perspective	Incremental intervention cost per person; €: 200 (=£158 in 2020 GBP) ^e Total cost benefits per person ^c; average, € (95% CI): Intervention vs. control -775 (-1,077 to -440) (= -£614 (-£853 to -£348) in 2020 GBP) ⁱ	Not reported	Net benefit per person; € (95% CI): Intervention vs. control -975 (-1,340 to -691) (= -£772 (-£1,061 to -£547) in 2020 GBP) ^j Return on investment ^d; € (95% CI): -3.9 per euro invested (-5.7 to -2.5)	Several additional scenarios were evaluated, and all gave a negative return on investment.

Abbreviations: ICER: incremental cost-effectiveness ratio; POSE: Promotion of Sustained Employability; QALY: quality-adjusted life year; ROI: return on investment; WHS: workers' health surveillance

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
a.	There was a lack of sensitivity analysis and some outcomes, such as effect on staff turnover, were not included. The authors commented that program failure may have contributed to the absence of positive effects. For example, some of the program was not properly implemented and there was a poor follow-up of recommendations.						
b.	The intervention considered is relevant to the UK context but does not focus solely on mental health, Caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the Netherlands.						
c.	Total costs benefit comprised of the costs of presenteeism and absenteeism.						
d.	ROI was calculated total costs benefit (from absenteeism and presenteeism) divided by the intervention cost.						
e.	Converted by YHEC using historical exchange rates and PSSRU inflation indices.						

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
Wijnen (2019) Stress-Prevention@Work, an online portal aimed at reducing stress that contained a search engine that featured a range of interventions within it. Both organisational and employee level interventions were included. Examples of included interventions are guidelines, raising awareness, self-	Minor limitations ^a	Partly applicable ^b	A matched-cohort study in two parallel groups, with return on investment (ROI) analysis, over a 12-month time horizon and from an employer's perspective	Incremental intervention cost per year; €: 50 (=£44 in 2020 GBP) ^d per employee (rounded up from 47.38)	Not reported	Net monetary benefit per person; € (95% CI): Intervention vs. control 2,981 per year (329 to 6,291) (=£2,645 (£292 to £5,582) in 2020 GBP) ^d Return on investment ^c; €: Roughly 60 per euro invested <u>CALCULATED BY YHEC</u>	The bootstrapped 95% confidence interval of the NMB was €329 to €6291 (=£292 to £5,582 in 2020 GBP) ^d . The probability of statistical significance was only 0.078 (i.e. the NMB was not statistically significant). This means that the NMB estimate is very uncertain. A probabilistic sensitivity analysis found: A 96.7% likelihood of breaking even after year (NMB≥€50) (>£46 in 2020 GBP) ^d A 92.9% likelihood of NMB≥€500 (>£444 in 2020 GBP) ^d . An 88.2% likelihood of NMB≥€1000 (>£887 in 2020 GBP) ^d

Study	Limitations	Applicability	Other comments	Incremental			Uncertainty
				Costs	Effects	Cost-effectiveness	
help modules and screening for determinants of stress vs. a waitlist control who received the intervention after 12 months						Exact ROI using given numbers: 2,981/47.38= 62.92 per euro invested	A 51% likelihood of NMB=€2891 (>£2,565 in 2020 GBP) ^d
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; NMB: net monetary benefit; QALY: quality-adjusted life year; ROI: return on investment;</i>							
a. There was a lack of additional one-way sensitivity analysis on inputs and some outcomes, such as staff turnover, were not included.							
b. The intervention considered is relevant to the UK context, but caution is required when transferring the results of the study given the difference in prices and healthcare systems between the UK and the Netherlands.							
c. ROI was calculated total costs benefit (from absenteeism and presenteeism) divided by the intervention cost.							
d. Converted by YHEC using historical exchange rates and PSSRU inflation indices.							

1.1.9 Economic model

A simple cost-consequence model was developed which covers more than 1 evidence review in the guideline so the full write up is contained in a separate report (Evidence Review G).

The model was used to establish the impact of mental wellbeing interventions at work over a one-year time horizon from both the employer perspective and a wider perspective including employee outcomes. The model synthesized evidence from a range of sources including the effectiveness and cost-effectiveness reviews, and other relevant studies.

The number of employees receiving the intervention was multiplied by each category in the model: the cost of the intervention, the cost of absenteeism, the cost of presenteeism, and the cost of staff turnover. These figures were then summed in order to produce the net cost impact of the intervention.

A hypothetical case study was modelled using a combination of published data and assumptions. In addition, several hypothetical scenarios were considered which were based on entirely assumption-based inputs. It is intended that the model will be used as an interactive cost-calculator for employers who are considering implementing a mental health intervention at work, or other interested parties. The model allows users to input values and generate bespoke results, specific to their workplace.

The hypothetical case study analysis (based on a combination of published evidence and assumptions) showed that mental health interventions at work can be cost saving for an employer. However, the results depend on a myriad of factors such as the size of the organisation and the cost of absenteeism.

From an employer's perspective, an intervention is more likely to result in cost savings when: (i) the baseline level of absenteeism is high, (ii) baseline presenteeism is relatively low, (iii) baseline staff turnover is high, (iv) the intervention is low cost, and (v) the intervention is demonstrated to have a positive influence on absenteeism, presenteeism or turnover. Every single employer will have a unique set of characteristics and, therefore, it is not possible to make a generalised statement about which interventions are likely to be cost-effective.

1.1.10 Summary of the quality of the effectiveness evidence, certainty of the qualitative evidence and economic evidence statement

Quantitative

Emotion-focussed – Mindfulness

Emotion-focussed - Mindfulness compared to Control for mental wellbeing

Patient or population: patients with mental wellbeing

Settings: Workplace

Intervention: Emotion-focussed - Mindfulness

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Emotion-focussed - Mindfulness				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.64 standard deviations lower (0.85 to 0.43 lower)		1302 (12 studies)	⊕⊕⊕⊖ low ^{1,2,3,4}	Benefit

Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.61 standard deviations lower (0.88 to 0.34 lower)		877 (8 studies)	⊕⊕⊕⊕ low ^{1,2,3,4}	Benefit
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.49 standard deviations lower (0.71 to 0.28 lower)		362 (3 studies)	⊕⊕⊕⊕ low ^{3,4,5,6}	Benefit
Mental wellbeing - Online and group		The mean mental wellbeing - online and group in the intervention groups was 1.48 standard deviations lower (2.34 to 0.63 lower)		51 (2 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,6}	Benefit
Job stress		The mean job stress in the intervention groups was 0.50 standard deviations lower (0.71 to 0.29 lower)		1893 (19 studies)	⊕⊕⊕⊕ low ^{1,2,3,4}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 0.47 standard deviations lower (0.74 to 0.19 lower)		1173 (11 studies)	⊕⊕⊕⊕ very low ^{3,4,7,8}	Benefit
Job stress - Online		The mean job stress - online in the intervention groups was 0.42 standard deviations lower (0.77 to 0.07 lower)		640 (5 studies)	⊕⊕⊕⊕ very low ^{1,3,4,8}	Benefit
Job stress - Online and group		The mean job stress - online and group in the intervention groups was 1.19 standard deviations lower (1.9 to 0.48 lower)		54 (2 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,6}	Benefit
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.61 standard deviations lower (1.3 lower to 0.08 higher)		34 (1 study)	⊕⊕⊕⊕ low ^{1,3,9,10}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.48 standard deviations lower (0.69 to 0.27 lower)		1630 (13 studies)	⊕⊕⊕⊕ low ^{1,2,3,4}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.54 standard deviations lower (0.82 to 0.26 lower)		1243 (10 studies)	⊕⊕⊕⊕ very low ^{1,3,4,8}	Benefit
Mental health symptoms - Online		The mean mental health symptoms - online in the intervention groups was 0.47 standard deviations lower (0.73 to 0.21 lower)		229 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,4,9}	Benefit
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was 0.22 standard deviations lower (0.9 lower to 0.46 higher)		34 (1 study)	⊕⊕⊕⊕ low ^{1,3,9,10}	Benefit
Mental health symptoms - Group - cRCT sample size not adjusted		The mean mental health symptoms - group - cRCT sample size not adjusted in the intervention groups was 0.29 standard deviations lower (0.65 lower to 0.06 higher)		124 (1 study)	⊕⊕⊕⊕ very low ^{1,3,9,11}	Benefit
Job satisfaction		The mean job satisfaction in the intervention groups was 0.28 standard deviations lower (0.48 to 0.08 lower)		400 (4 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,6}	Benefit
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.24 standard deviations lower (0.47 to 0.01 lower)		311 (3 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,6}	Benefit
Job satisfaction - Online		The mean job satisfaction - online in the intervention groups was 0.41 standard deviations lower (0.83 lower to 0.01 higher)		89 (1 study)	⊕⊕⊕⊕ low ^{1,3,9,10}	No difference

Quality of life - Group		The mean quality of life - group in the intervention groups was 0.21 standard deviations lower (0.58 lower to 0.17 higher)		110 (2 studies)	⊕⊕⊕⊖ low ^{1,3,6,10}	No difference
Absenteeism - Group		The mean absenteeism - group in the intervention groups was 0.09 higher (0.57 lower to 0.75 higher)		52 (1 study)	⊕⊕⊕⊖ low ^{1,3,9,10}	No difference
Work climate - Online		The mean work climate - online in the intervention groups was 0.09 lower (0.23 lower to 0.05 higher)		229 (1 study)	⊕⊕⊕⊖ low ^{1,3,9,10}	No difference
Productivity		The mean productivity in the intervention groups was 0.34 standard deviations higher (0.14 lower to 0.81 higher)		112 (3 studies)	⊕⊕⊕⊖ low ^{1,3,6,10}	No difference
Productivity - Online		The mean productivity - online in the intervention groups was 0.63 standard deviations higher (0.2 lower to 1.46 higher)		46 (1 study)	⊕⊕⊕⊖ moderate ^{1,3,4,9}	No difference
Productivity - Online and group		The mean productivity - online and group in the intervention groups was 0.2 standard deviations higher (0.38 lower to 0.77 higher)		66 (2 studies)	⊕⊕⊕⊖ low ^{1,3,6,10}	No difference
Resilience		The mean resilience in the intervention groups was 5.87 lower (9.82 to 1.92 lower)		29 (1 study)	⊕⊕⊕⊖ moderate ^{1,3,9,10}	No difference
<p>*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).</p> <p>CI: Confidence interval;</p> <p>GRADE Working Group grades of evidence High quality: Further research is very unlikely to change our confidence in the estimate of effect. Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate. Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Very low quality: We are very uncertain about the estimate.</p> <p>¹ Serious concerns due to self-reported outcomes ² Serious concerns as I-squared is between 50% and 75% ³ No concerns as study, population, intervention, comparator and outcome match the review protocol ⁴ No concerns as 95% CIs do not cross the line of no effect ⁵ Very serious concerns due to self-reported outcomes and missing outcome data ⁶ No concerns as I-squared is less than 50% ⁷ Very serious concerns due to self-reported outcomes, issues with randomisation, per-protocol analysis, and deviations from intended interventions. ⁸ Very serious concerns as I-squared is above 75% ⁹ Single-study analysis ¹⁰ Serious concerns as 95% CIs cross the line of no effect ¹¹ Very serious concerns as 95% CIs cross the line of no effect, and ICC to adjust sample size was not reported</p>						

Emotion-focussed – Mindfulness and E-coaching

Emotion-focussed - Mindfulness and E-Coaching compared to Usual practice for mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Mindfulness and E-Coaching

Comparison: Usual practice

Outcomes	Illustrative comparative risks* (95% CI)	Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk				
	Corresponding risk				
	Usual practice				
	Emotion-focussed - Mindfulness and E-Coaching				

Job stress	The mean job stress in the intervention groups was 0.03 standard deviations higher (0.23 lower to 0.29 higher)	226 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Mental health symptoms	The mean mental health symptoms in the intervention groups was 0.09 standard deviations higher (0.17 lower to 0.35 higher)	230 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Job satisfaction	The mean job satisfaction in the intervention groups was 0.11 standard deviations higher (0.15 lower to 0.37 higher)	232 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Yoga

Emotion-focussed - Yoga compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Yoga

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Yoga				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.78 standard deviations lower (1.1 to 0.46 lower)		162 (3 studies)	⊕⊕⊕⊖ low ^{1,2,3,4}	Benefit
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.89 standard deviations lower (1.3 to 0.47 lower)		99 (2 studies)	⊕⊕⊕⊖ low ^{2,3,4,5}	Benefit
Mental wellbeing - Group - cRCT sample size not adjusted		The mean mental wellbeing - group - crct sample size not adjusted in the intervention groups was 0.62 standard deviations lower (1.13 to 0.12 lower)		63 (1 study)	⊕⊕⊕⊖ very low ^{3,6,7,8}	Benefit
Job stress		The mean job stress in the intervention groups was 0.51 standard deviations lower (0.74 to 0.29 lower)		322 (6 studies)	⊕⊕⊕⊖ low ^{1,2,3,4}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 0.72 standard deviations lower (1.06 to 0.37 lower)		139 (3 studies)	⊕⊕⊕⊖ low ^{2,3,4,5}	Benefit
Job stress - Group and individual		The mean job stress - group and individual in the intervention groups was		139 (1 study)	⊕⊕⊕⊖ moderate ^{3,4,7,9}	Benefit

		0.64 standard deviations lower (1.10 to 0.18 lower)				
Job stress - Group - cRCT sample size not adjusted		The mean job stress - group - crct sample size not adjusted in the intervention groups was 0.16 standard deviations lower (0.54 lower to 0.22 higher)	139 (2 studies)	⊕⊕⊕⊖ very low ^{2,3,6,10}	No difference	
Job stress	765 per 1000	352 per 1000 (237 to 520)	RR 0.46 (0.31 to 0.68)	105 (1 study)	⊕⊕⊕⊕ moderate ^{3,4,7,9}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.8 standard deviations lower (1.2 to 0.39 lower)		330 (5 studies)	⊕⊕⊕⊖ low ^{3,4,9,11}	Benefit
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 1.01 standard deviations lower (1.54 to 0.49 lower)		182 (3 studies)	⊕⊕⊕⊖ low ^{3,4,9,11}	Benefit
Mental health symptoms - Group and individual		The mean mental health symptoms - group and individual in the intervention groups was 0.64 standard deviations lower (1.1 to 0.18 lower)		76 (1 study)	⊕⊕⊕⊕ moderate ^{3,4,7,9}	Benefit
Mental health symptoms - Group - cRCT sample size not adjusted		The mean mental health symptoms - group - crct sample size no adjusted in the intervention groups was 0.37 standard deviations lower (0.87 lower to 0.13 higher)		76 (1 study)	⊕⊕⊕⊖ very low ^{3,6,7,10}	No difference
Job satisfaction		The mean job satisfaction in the intervention groups was 0.06 standard deviations lower (0.7 lower to 0.59 higher)		37 (1 study)	⊕⊕⊕⊖ low ^{3,7,9,12}	No difference
Quality of life		The mean quality of life in the intervention groups was 0.11 standard deviations higher (0.54 lower to 0.75 higher)		37 (1 study)	⊕⊕⊕⊖ low ^{3,7,9,12}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to issues with randomisation, per-protocol analysis, and issues with randomisation

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes and per-protocol analysis

⁶ Very serious concerns due to issues with randomisation and self-reported outcomes

⁷ Single-study analysis

⁸ Serious concerns as ICC to adjust sample size was not reported

⁹ Serious concerns due to self-reported outcomes

¹⁰ Very serious concerns as 95% CIs cross the line of no effect, and ICC to adjust sample size was not reported

¹¹ Serious concerns as I-squared is between 50% and 75%

¹² Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Meditation

Emotion-focussed - Meditation compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Meditation

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Meditation				
Job stress		The mean job stress in the intervention groups was 0.76 standard deviations lower (1.12 to 0.41 lower)		168 (4 studies)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Job stress - Group and individual		The mean job stress - group and individual in the intervention groups was 0.91 standard deviations lower (1.29 to 0.54 lower)		124 (2 studies)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Job stress - Online		The mean job stress - online in the intervention groups was 0.37 standard deviations lower (0.97 lower to 0.24 higher)		44 (2 studies)	⊕⊕⊖⊖ low ^{1,2,3,5}	No difference
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.53 standard deviations lower (0.93 to 0.13 lower)		162 (3 studies)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Mental health symptoms - Group and individual		The mean mental health symptoms - group and individual (copy) in the intervention groups was 0.71 standard deviations lower (1.07 to 0.35 lower)		124 (2 studies)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Mental health symptoms - Online		The mean mental health symptoms - online in the intervention groups was 0.06 standard deviations lower (0.70 lower to 0.57 higher)		102 (1 study)	⊕⊕⊖⊖ low ^{1,3,5,6}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns as 95% CIs cross the line of no effect

⁶ Single-study analysis

Emotion-focussed - CBT

Emotion-focussed - CBT compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - CBT

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - CBT				

Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.17 standard deviations lower (0.75 lower to 0.4 higher)	418 (3 studies)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference	
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.46 standard deviations lower (0.93 lower to 0.01 higher)	370 (2 studies)	⊕⊕⊕⊕ very low ^{1,2,3,5}	No difference	
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.55 standard deviations higher (0.03 lower to 1.13 higher)	48 (1 study)	⊕⊕⊕⊕ very low ^{3,5,6,7}	No difference	
Job stress		The mean job stress in the intervention groups was 0.21 standard deviations lower (0.38 lower to 0.04 higher)	536 (5 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,8}	No difference	
Job stress - Group		The mean job stress - group in the intervention groups was 0.23 standard deviations lower (0.48 lower to 0.02 higher)	248 (3 studies)	⊕⊕⊕⊕ low ^{1,3,5,8}	No difference	
Job stress - Online		The mean job stress - online in the intervention groups was 0.2 standard deviations higher (0.37 lower to 0.77 higher)	48 (1 study)	⊕⊕⊕⊕ very low ^{3,5,6,7}	No difference	
Job stress - Group and online		The mean job stress - group and online in the intervention groups was 0.27 standard deviations lower (0.52 to 0.01 lower)	240 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,4,7}	Benefit	
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.43 standard deviations lower (1.02 lower to 0.17 higher)	1063 (5 studies)	⊕⊕⊕⊕ very low ^{2,3,5,9}	No difference	
Mental health symptoms - Group training		The mean mental health symptoms - group training in the intervention groups was 0.4 standard deviations lower (0.65 to 0.15 lower)	255 (2 studies)	⊕⊕⊕⊕ moderate ^{1,3,4,8}	Benefit	
Mental health symptoms - Online		The mean mental health symptoms - online in the intervention groups was 0.07 standard deviations higher (0.37 lower to 0.5 higher)	640 (2 studies)	⊕⊕⊕⊕ very low ^{3,5,9,10}	No difference	
Mental health symptoms - Group and Online		The mean mental health symptoms - group and online in the intervention groups was 1.62 standard deviations lower (1.97 to 1.27 lower)	168 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,4,7}	Benefit	
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.46 standard deviations lower (0.77 to 0.15 lower)	166 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,4,7}	Benefit	
Quality of life - Group		The mean quality of life - group in the intervention groups was 0.12 standard deviations lower (0.68 lower to 0.44 higher)	51 (1 study)	⊕⊕⊕⊕ low ^{3,4,7,111}	No difference	
Employee turnover	105 per 1000	33 per 1000 (9 to 116)	RR 0.31 (0.09 to 1.1)	177 (1 study)	⊕⊕⊕⊕ moderate ^{3,5,7}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **RR:** Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Serious concerns as I-squared is greater than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns as 95% CIs cross the line of no effect

⁶ Very serious concerns due to self-reported outcomes, issues with randomisation and per-protocol analysis

⁷ Single-study analysis

⁸ No concerns as I-squared is less than 50%

⁹ Very serious concerns due to self-reported outcomes, missing data, issues with randomisation and per-protocol analysis

¹⁰ Very serious concerns due to self-reported outcomes and missing outcome data

Emotion-focussed – Problem solving

Emotion-focussed - Problem solving compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Problem solving

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Problem solving				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.52 standard deviations lower (1.23 lower to 0.2 higher)		324 (2 studies)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.17 standard deviations lower (0.44 lower to 0.1 higher)		213 (1 study)	⊕⊕⊕⊕ very low ^{1,3,4,5}	No difference
Mental wellbeing - Individual		The mean mental wellbeing - individual in the intervention groups was 0.89 standard deviations lower (1.28 to 0.5 lower)		111 (1 study)	⊕⊕⊕⊕ moderate ^{3,5,6,7}	Benefit
Job stress - Online		The mean job stress - online in the intervention groups was 0.06 standard deviations lower (0.32 lower to 0.21 higher)		213 (1 study)	⊕⊕⊕⊕ very low ^{1,3,4,5}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.03 standard deviations lower (0.64 lower to 0.59 higher)		41 (1 study)	⊕⊕⊕⊕ low ^{3,4,5,6}	No difference
Job satisfaction		The mean job satisfaction in the intervention groups was 0.16 standard deviations lower (0.37 lower to 0.04 higher)		356 (3 studies)	⊕⊕⊕⊕ very low ^{1,4,8}	No difference
Job satisfaction - Online		The mean job satisfaction - online in the intervention groups was 0.2 standard deviations lower (0.48 lower to 0.07 higher)		204 (1 study)	⊕⊕⊕⊕ very low ^{1,3,4,5}	No difference
Job satisfaction - Individual		The mean job satisfaction - individual in the intervention groups was 0.19 standard deviations lower (0.57 lower to 0.18 higher)		111 (1 study)	⊕⊕⊕⊕ low ^{3,4,5,6}	No difference
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.12 standard deviations higher (0.5 lower to 0.73 higher)		41 (1 study)	⊕⊕⊕⊕ low ^{3,4,5,6}	No difference
Quality of life - Group		The mean quality of life - group in the intervention groups was		41 (1 study)	⊕⊕⊕⊕ low ^{3,4,5,6}	No difference

0.08 standard deviations higher
(0.53 lower to 0.69 higher)

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to self-reported outcomes and issues with randomisation

² Serious concerns as I-squared is greater than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

⁶ Serious concerns due to self-reported outcomes

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ No concerns as I-squared is less than 50%

Emotion-focussed - Psychoeducation

Emotion- focussed - Psychoeducation compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion- focussed - Psychoeducation

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Emotion- focussed - Psychoeducation				
Job stress		The mean job stress in the intervention groups was 0.07 standard deviations lower (0.3 lower to 0.15 higher)		365 (6 studies)	⊕⊕⊕⊖ very low ^{1,2,3,4}	No difference
Job stress - Online		The mean job stress - online in the intervention groups was 0.02 standard deviations higher (0.29 lower to 0.33 higher)		219 (4 studies)	⊕⊕⊕⊖ very low ^{1,2,3,4}	No difference
Job stress - Group - cRCT sample size not adjusted		The mean job stress - group - crct sample size not adjusted in the intervention groups was 0.17 standard deviations lower (0.5 lower to 0.15 higher)		146 (2 studies)	⊕⊕⊕⊖ very low ^{2,3,5,6}	No difference
Mental health symptoms - Online training		The mean mental health symptoms - online training in the intervention groups was 0.05 standard deviations higher (0.26 lower to 0.36 higher)		227 (4 studies)	⊕⊕⊕⊖ very low ^{1,2,3,4}	No difference
Job satisfaction - Group - cRCT sample size not adjusted		The mean job satisfaction - group - crct sample size not adjusted (copy) in the intervention groups was 0.55 standard deviations lower (1.07 to 0.02 lower)		58 (1 study)	⊕⊕⊕⊖ low ^{2,3,7,8}	Benefit
Quality of life - Group training		The mean quality of life - group training in the intervention groups was 0.09 standard deviations lower (0.4 lower to 0.22 higher)		227 (4 studies)	⊕⊕⊕⊖ very low ^{1,2,3,4}	No difference
Mental health literacy - Online training		The mean mental health literacy - online training in the intervention groups was		275 (1 study)	⊕⊕⊕⊖ low ^{1,3,9,10}	Benefit

	0.25 standard deviations lower (0.49 to 0.01 lower)			
Uptake of support services - Online training	The mean uptake of support services - online training in the intervention groups was 0.79 standard deviations lower (1.04 to 0.55 lower)	275 (1 study)	⊕⊕⊕⊖ low ^{1,9,10}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns due to self-reported outcomes or missing outcome data

⁶ Very serious concerns as 95% CIs crossed the line of no effect and ICC to adjust sample size was not reported

⁷ Serious concerns due to missing outcome data

⁸ Serious concerns as ICC to adjust sample size was not reported

⁹ Single-study analysis

¹⁰ No concerns as 95% CIs do not cross the line of no effect

Emotion-focussed – Stress management

Emotion-focussed - Stress management compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Stress management

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Stress management				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.34 standard deviations lower (0.89 lower to 0.21 higher)		51 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Job stress		The mean job stress in the intervention groups was 0.28 standard deviations lower (0.49 to 0.06 lower)		1938 (10 studies)	⊕⊖⊖⊖ very low ^{3,5,6,7}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 0.34 standard deviations lower (0.72 lower to 0.05 higher)		1060 (5 studies)	⊕⊖⊖⊖ very low ^{3,4,5,6}	No difference
Job stress - Online		The mean job stress - online in the intervention groups was 0.08 standard deviations lower (0.23 lower to 0.07 higher)		813 (3 studies)	⊕⊖⊖⊖ very low ^{2,3,4,5}	No difference
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.48 standard deviations lower (1 lower to 0.03 higher)		65 (2 studies)	⊕⊕⊕⊖ low ^{1,3,4,8}	No difference

Job stress - Online - Hasson 2005	66 per 1000	143 per 1000 (80 to 182)	OR 2.36 (1.22 to 3.14)	277 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,7}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.03 standard deviations higher (0.12 lower to 0.19 higher)		692 (3 studies)	⊕⊖⊖⊖ very low ^{3,4,5,8}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.03 standard deviations higher (0.14 lower to 0.19 higher)		655 (2 studies)	⊕⊖⊖⊖ very low ^{3,4,5,8}	No difference
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was 0.16 standard deviations higher (0.48 lower to 0.81 higher)		655 (1 study)	⊕⊕⊖⊖ low ^{1,2,3,4}	No difference
Mental health symptoms - Online - Hasson 2005	66 per 1000	104 per 1000 (57 to 182)	OR 1.64 (0.85 to 3.14)	277 (1 study)	⊕⊕⊖⊖ low ^{1,2,3,4}	No difference
Job satisfaction - Online		The mean job satisfaction - online in the intervention groups was 0.21 standard deviations lower (0.52 lower to 0.11 higher)		156 (1 study)	⊕⊖⊖⊖ very low ^{2,3,4,5}	No difference
Absenteeism - Group		The mean absenteeism - group in the intervention groups was 0.05 standard deviations higher (0.13 lower to 0.24 higher)		501 (1 study)	⊕⊖⊖⊖ very low ^{2,3,4,5}	No difference
Productivity - Online		The mean productivity - online in the intervention groups was 0.22 standard deviations lower (0.57 lower to 0.14 higher)		124 (1 study)	⊕⊖⊖⊖ very low ^{2,3,4,5}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; OR: Odds ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes and missing outcome data

⁶ Serious concerns as I-squared is greater than 50%

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ No concerns as I-squared is less than 50%

Emotion-focussed – Acceptance and commitment therapy

Emotion-focussed - Acceptance and commitment therapy compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Acceptance and commitment therapy

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Emotion-focussed - Acceptance and commitment therapy				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.54 standard deviations lower (1.02 to 0.05 lower)		296 (2 studies)	⊕⊕⊕⊕ very low ^{1,2,3,4}	Benefit
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.28 standard deviations lower (0.64 lower to 0.08 higher)		120 (1 study)	⊕⊕⊕⊕ very low ^{3,5,6,7}	No difference
Mental wellbeing - Individual		The mean mental wellbeing - individual in the intervention groups was 0.77 standard deviations lower (1.08 to 0.47 lower)		176 (1 study)	⊕⊕⊕⊕ low ^{3,4,6,8}	Benefit
Job stress		The mean job stress in the intervention groups was 0.23 standard deviations lower (0.55 lower to 0.08 higher)		262 (4 studies)	⊕⊕⊕⊕ very low ^{3,7,9,10}	No difference
Job stress - Group		The mean job stress - group in the intervention groups was 0.06 standard deviations lower (0.35 lower to 0.23 higher)		187 (3 studies)	⊕⊕⊕⊕ very low ^{3,7,10,11}	No difference
Job stress - Individual written		The mean job stress - individual written in the intervention groups was 0.65 standard deviations lower (1.12 to 0.19 lower)		75 (1 study)	⊕⊕⊕⊕ low ^{3,4,6,8}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.62 standard deviations lower (1.63 lower to 0.39 higher)		98 (2 studies)	⊕⊕⊕⊕ very low ^{2,3,7,8}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.11 standard deviations lower (0.7 lower to 0.49 higher)		44 (1 study)	⊕⊕⊕⊕ low ^{3,6,7,12}	No difference
Mental health symptoms - Individual written		The mean mental health symptoms - individual written in the intervention groups was 1.13 standard deviations lower (1.71 to 0.56 lower)		54 (1 study)	⊕⊕⊕⊕ low ^{3,4,6,8}	Benefit
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.43 standard deviations lower (1.03 lower to 0.17 higher)		44 (1 study)	⊕⊕⊕⊕ low ^{3,6,7,12}	No difference
Quality of life - Group		The mean quality of life - group in the intervention groups was 0.15 standard deviations lower (0.38 lower to 0.08 higher)		298 (4 studies)	⊕⊕⊕⊕ very low ^{3,7,13,14}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to deviation from intended intervention, missing outcome data and self-reported outcomes

² Serious concerns as I-squared is greater than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to deviation from intended intervention and self-reported outcomes

⁶ Single study analysis

⁷ Serious concerns as 95% CIs cross the line of no effect

⁸ Very serious concerns due to missing outcome data and self-reported outcomes

⁹ Very serious concerns due to self-reported outcomes, missing outcome data and per-protocol analysis

¹⁰ No concerns as I-squared is less than 50%

¹¹ Very serious concerns due to self-reported outcomes and per-protocol analysis

¹² Serious concerns due to self-reported outcomes

¹³ Very serious concerns due to deviation from intended intervention, oper-protocol analysis and self-reported outcomes

Emotion-focussed – Wellbeing promotion

Emotion-focussed - Wellbeing promotion compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Wellbeing promotion

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Wellbeing promotion				
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.03 lower (0.21 lower to 0.15 higher)		479 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Job stress		The mean job stress in the intervention groups was 0.03 standard deviations lower (0.24 lower to 0.18 higher)		362 (2 studies)	⊕⊕⊕⊕ very low ^{1,3,4,5}	No difference
Job stress - Group		The mean job stress - group in the intervention groups was 0.01 standard deviations lower (0.51 lower to 0.49 higher)		80 (1 study)	⊕⊕⊕⊕ low ^{2,3,4,6}	No difference
Job stress - Online		The mean job stress - online in the intervention groups was 0.04 standard deviations lower (0.27 lower to 0.2 higher)		282 (1 study)	⊕⊕⊕⊕ low ^{3,4,7,8}	No difference
Mental health symptoms - Online	282 per 1000	262 per 1000 (180 to 386)	RR 0.93 (0.64 to 1.37)	279 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Job satisfaction		The mean job satisfaction in the intervention groups was 0.10 standard deviations lower (0.31 lower to 0.11 higher)		359 (2 studies)	⊕⊕⊕⊕ low ^{1,3,4,5}	No difference
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.06 standard deviations higher (0.44 lower to 0.55 higher)		80 (1 study)	⊕⊕⊕⊕ very low ^{2,3,4,6}	No difference
Job satisfaction - Online		The mean job satisfaction - online in the intervention groups was 0.13 standard deviations lower (0.37 lower to 0.1 higher)		279 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Quality of life - Individual		The mean quality of life - individual in the intervention groups was 0 standard deviations higher (0.23 lower to 0.23 higher)		279 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may

change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and control match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ No concerns as I-squared is less than 50%

⁶ Very serious concerns due to issues with randomisation, lack of clarity over analysis, missing outcome data, self-reported outcomes, and lack of reporting for key outcome

⁷ Serious concerns due to self-reported outcomes

⁸ Single study analysis

Emotion-focussed – Relaxation

Emotion-focussed - Relaxation compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Relaxation

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Relaxation				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.18 standard deviations lower (0.93 lower to 0.57 higher)		150 (3 studies)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.93 standard deviations lower (1.5 to 0.37 lower)		54 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,5,6}	Benefit
Mental wellbeing - Individual		The mean mental wellbeing - individual in the intervention groups was 0.2 standard deviations higher (0.2 lower to 0.61 higher)		96 (2 studies)	⊕⊕⊕⊕ low ^{1,3,4,6}	No difference
Job stress		The mean job stress in the intervention groups was 0.37 standard deviations lower (0.67 to 0.08 lower)		480 (7 studies)	⊕⊕⊕⊕ low ^{1,3,6,7}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 1.03 standard deviations lower (1.6 to 0.46 lower)		54 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,5,6}	Benefit
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.26 standard deviations lower (0.51 to 0.01 lower)		426 (6 studies)	⊕⊕⊕⊕ moderate ^{1,3,6,8}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.46 standard deviations lower (0.82 to 0.11 lower)		238 (4 studies)	⊕⊕⊕⊕ moderate ^{1,3,6,8}	Benefit
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.44 standard deviations lower (0.87 to 0.02 lower)		87 (1 study)	⊕⊕⊕⊕ moderate ^{1,3,5,6}	Benefit
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was 0.46 standard deviations lower (1.01 lower to 0.08 higher)		151 (3 studies)	⊕⊕⊕⊕ very low ^{1,3,6,7}	No difference
Job satisfaction - Individual		The mean job satisfaction - individual in the intervention groups was 0.01 standard deviations		159 (2 studies)	⊕⊕⊕⊕ very low ^{3,4,8,9}	No difference

higher
(0.38 lower to 0.39 higher)

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Serious concerns as I-squared is greater than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

⁶ No concerns as 95% CIs do not cross the line of no effect

⁷ No concerns as I-squared is less than 50%

⁸ Very serious concerns due to self-reported outcomes, per-protocol analysis, and lack of clarity around missing outcome data

Emotion-focussed – Positive psychology

Emotion-focussed - Positive psychology compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Positive psychology

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Positive psychology				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.56 standard deviations lower (0.89 to 0.24 lower)		358 (6 studies)	⊕⊖⊖⊖ very low ^{1,2,3,4}	Benefit
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.99 standard deviations lower (1.72 to 0.25 lower)		34 (1 study)	⊕⊕⊖⊖ low ^{3,4,5,6}	Benefit
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.55 standard deviations lower (1.31 lower to 0.22 higher)		166 (2 studies)	⊕⊖⊖⊖ very low ^{1,3,7,8}	No difference
Mental wellbeing - Individual		The mean mental wellbeing - individual in the intervention groups was 0.46 standard deviations lower (0.9 to 0.02 lower)		158 (3 studies)	⊕⊕⊖⊖ low ^{3,4,9,10}	Benefit
Job stress		The mean job stress in the intervention groups was 0.41 standard deviations lower (0.95 lower to 0.13 higher)		200 (3 studies)	⊕⊖⊖⊖ very low ^{2,3,7,10}	No difference
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.17 standard deviations lower (0.87 lower to 0.53 higher)		99 (3 studies)	⊕⊖⊖⊖ very low ^{2,3,8,9}	No difference
Job stress - Online		The mean job stress - online in the intervention groups was 0.83 standard deviations lower (1.24 to 0.42 lower)		101 (1 study)	⊕⊕⊖⊖ low ^{3,4,5,6}	Benefit
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was		108 (2 studies)	⊕⊖⊖⊖ very low ^{3,7,8,12}	No difference

	0.55 standard deviations lower (1.55 lower to 0.44 higher)			
Job satisfaction	The mean job satisfaction in the intervention groups was 0.2 standard deviations lower (0.48 lower to 0.07 higher)	215 (4 studies)	⊕⊕⊕⊕ low ^{3,8,10,12}	No difference
Job satisfaction - Group	The mean job satisfaction - group in the intervention groups was 0.05 standard deviations higher (0.64 lower to 0.74 higher)	34 (1 study)	⊕⊕⊕⊕ very low ^{3,5,6,8}	No difference
Job satisfaction - Online training	The mean job satisfaction - online training in the intervention groups was 0.09 standard deviations lower (0.6 lower to 0.42 higher)	65 (1 study)	⊕⊕⊕⊕ very low ^{1,3,6,8}	No difference
Job satisfaction - Individual	The mean job satisfaction - individual in the intervention groups was 0.33 standard deviations lower (0.7 lower to 0.04 higher)	116 (2 studies)	⊕⊕⊕⊕ very low ^{1,8,10,13}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to self-reported outcomes, missing outcome data and issues with randomisation

² Serious concerns as I-squared is between 50% and 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to missing outcome data and self-reported outcomes

⁶ Single-study analysis

⁷ Very serious concerns as I-squared is above 75%

⁸ Serious concerns as 95% CIs cross the line of no effect

⁹ Very serious concerns due to deviation from intended interventions and self-reported outcomes

¹⁰ No concerns as I-squared is less than 50%

¹¹ Very serious concerns due to deviation from intended interventions, missing outcome data, and self-reported outcomes

¹² Serious concerns due to self-reported outcomes

¹³ Very serious concerns due to issues with randomisation and self-reported outcomes

Emotion-focussed - Resilience

Emotion-focussed - Resilience compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Resilience

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Resilience				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.08 standard deviations lower (0.2 lower to 0.04 higher)		1136 (5 studies)	⊕⊕⊕⊕ low ^{1,2,3,4}	No difference
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.13 standard deviations lower (0.32 lower to 0.05 higher)		745 (3 studies)	⊕⊕⊕⊕ low ^{1,2,3,4}	No difference
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was		391 (2 studies)	⊕⊕⊕⊕ very low ^{2,3,4,5}	No difference

		0.01 standard deviations lower (0.21 lower to 0.2 higher)				
Job stress		The mean job stress in the intervention groups was 0.12 standard deviations lower (0.33 lower to 0.09 higher)	1634 (9 studies)	⊕⊕⊕⊕ very low ^{3,4,6,7}	No difference	
Job stress - Group		The mean job stress - group in the intervention groups was 0.12 standard deviations lower (0.31 lower to 0.07 higher)	952 (5 studies)	⊕⊕⊕⊕ very low ^{2,3,4,6}	No difference	
Job stress - Online		The mean job stress - online in the intervention groups was 0.20 standard deviations higher (0.54 lower to 0.93 higher)	389 (2 studies)	⊕⊕⊕⊕ very low ^{3,4,5,8}	No difference	
Job stress - Group - cRCT sample size not adjusted		The mean job stress - group - cRCT sample size not adjusted in the intervention groups was 0.29 standard deviations lower (1.08 lower to 0.5 higher)	293 (2 studies)	⊕⊕⊕⊕ very low ^{3,8,9,10}	No difference	
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.20 standard deviations lower (0.43 lower to 0.03 higher)	1146 (5 studies)	⊕⊕⊕⊕ very low ^{3,4,5,7}	No difference	
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.40 standard deviations lower (0.99 lower to 0.19 higher)	680 (2 studies)	⊕⊕⊕⊕ very low ^{1,3,4,8}	No difference	
Mental health symptoms - Online		The mean mental health symptoms - online in the intervention groups was 0.13 standard deviations lower (0.63 lower to 0.37 higher)	391 (2 studies)	⊕⊕⊕⊕ very low ^{3,4,5,7}	No difference	
Mental health symptoms - Group	122 per 1000	78 per 1000 (46 to 128)	RR 0.64 (0.38 to 1.05)	566 (1 study)	⊕⊕⊕⊕ low ^{1,3,4,11}	No difference
Mental health symptoms - cRCT sample size not adjusted		The mean mental health symptoms - cRCT sample size not adjusted in the intervention groups was 0.09 standard deviations higher (0.37 lower to 0.55 higher)	75 (1 study)	⊕⊕⊕⊕ very low ^{1,3,7,10}	No difference	
Absenteeism - Group		The mean absenteeism - group in the intervention groups was 0.08 standard deviations lower (0.4 lower to 0.25 higher)	145 (1 study)	⊕⊕⊕⊕ very low ^{3,4,9,11}	No difference	
Job satisfaction		The mean job satisfaction in the intervention groups was 0.23 standard deviations lower (0.56 lower to 0.1 higher)	508 (4 studies)	⊕⊕⊕⊕ very low ^{3,4,6,7}	No difference	
Job satisfaction - Group		The mean job satisfaction - group in the intervention groups was 0.09 standard deviations lower (0.32 lower to 0.14 higher)	290 (3 studies)	⊕⊕⊕⊕ very low ^{2,3,4,6}	No difference	
Job satisfaction - Group - cRCT sample size not adjusted		The mean job satisfaction - group - cRCT sample size not adjusted in the intervention groups was 0.63 standard deviations lower (0.91 to 0.34 lower)	218 (1 study)	⊕⊕⊕⊕ very low ^{3,4,9,11}	Benefit	
Productivity - Online		The mean productivity - online in the intervention groups was 0.43 standard deviations higher (0.12 lower to 0.98 higher)	53 (1 study)	⊕⊕⊕⊕ very low ^{3,4,9,11}	No difference	
Quality of life - Online		The mean quality of life - online in the intervention groups was 0.23 standard deviations higher (0.31 lower to 0.77 higher)	53 (1 study)	⊕⊕⊕⊕ very low ^{3,4,9,11}	No difference	

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to per-protocol analysis, missing outcome data, and self-reported outcomes

⁶ Very serious concerns due to missing outcome data, per-protocol analysis and self-reported outcomes

⁷ Serious concerns as I-squared is between 50% and 75%

⁷ Very serious concerns as I-squared is greater than 75%

⁸ Very serious concerns due to missing outcome data and self-reported outcomes

⁹ Very serious concerns as 95% CIs cross the line of no effect and ICC used to adjust sample size not reported

¹⁰ Single-study analysis

Emotion-focussed – Group support

Emotion-focussed - Group support compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Group support

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Group support				
Job stress	706 per 1000	621 per 1000 (395 to 974)	RR 0.88 (0.56 to 1.38)	38 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Job stress		The mean job stress in the intervention groups was 1.36 standard deviations lower (2.1 to 0.62 lower)		188 (2 studies)	⊕⊕⊕⊖ low ^{1,3,5,6}	Benefit
Job satisfaction		The mean job satisfaction in the intervention groups was 0.33 standard deviations lower (0.99 lower to 0.33 higher)		36 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome matched the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns as I-squared is between 50% and 75%

⁶ No concerns as 95% CIs do not cross the line of no effect

Emotion-focussed – Work-life balance

Emotion-focussed - Work-life balance compared to Control for Mental wellbeing

Patient or population: patients with Mental wellbeing
Settings: Workplace
Intervention: Emotion-focussed - Work-life balance
Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Work-life balance				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.55 standard deviations lower (0.98 to 0.13 lower)		88 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Job stress		The mean job stress in the intervention groups was 0.28 standard deviations lower (0.63 lower to 0.06 higher)		141 (2 studies)	⊕⊕⊕⊖ low ^{1,3,5,6}	No difference
Job stress - group		The mean job stress - group in the intervention groups was 0.17 standard deviations lower (0.72 lower to 0.38 higher)		58 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,6}	No difference
Job stress - group and individual		The mean job stress - group and individual in the intervention groups was 0.36 standard deviations lower (0.79 lower to 0.08 higher)		83 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,6}	No difference
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.57 standard deviations lower (0.91 to 0.23 lower)		147 (2 studies)	⊕⊕⊕⊖ moderate ^{1,3,4}	Benefit
Mental health symptoms - group		The mean mental health symptoms - group in the intervention groups was 0.45 standard deviations lower (1.01 lower to 0.1 higher)		58 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,6}	No difference
Mental health symptoms - group and individual		The mean mental health symptoms - group and individual in the intervention groups was 0.64 standard deviations lower (1.07 to 0.22 lower)		89 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Job satisfaction		The mean job satisfaction in the intervention groups was 0.17 standard deviations lower (0.58 lower to 0.25 higher)		89 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,6}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome matched the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ No concerns as I-squared in greater than 50%

⁶ Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Emotional skills training

Emotion-focussed - Emotional skills training compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Emotional skills training

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Emotion-focussed - Emotional skills training				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.31 standard deviations lower (0.51 to 0.1 lower)		379 (2 studies)	⊕⊕⊖⊖ low ^{1,2,3,4}	Benefit
Mental wellbeing - group		The mean mental wellbeing - group in the intervention groups was 0.28 standard deviations lower (0.5 to 0.06 lower)		340 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	Benefit
Mental wellbeing - group - cRCT sample size not adjusted		The mean mental wellbeing - group - cRCT sample size not adjusted in the intervention groups was 0.54 standard deviations lower (1.19 lower to 0.1 higher)		39 (1 study)	⊕⊖⊖⊖ very low ^{3,5,6,7}	No difference
Job stress		The mean job stress in the intervention groups was 0.53 standard deviations lower (0.93 to 0.12 lower)		496 (4 studies)	⊕⊖⊖⊖ very low ^{1,3,4,8}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 0.20 standard deviations lower (0.4 lower to 0 higher)		403 (2 studies)	⊕⊕⊖⊖ low ^{1,2,3,4}	No difference
Job stress - group - cRCT sample size not adjusted		The mean job stress - group - cRCT sample size not adjusted in the intervention groups was 0.90 standard deviations lower (1.33 to 0.46 lower)		93 (2 studies)	⊕⊕⊖⊖ low ^{2,3,6,9}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.16 standard deviations lower (0.54 lower to 0.23 higher)		379 (2 studies)	⊕⊖⊖⊖ very low ^{1,2,3,10}	No difference
Mental health symptoms - group		The mean mental health symptoms - group in the intervention groups was 0.04 standard deviations lower (0.26 lower to 0.18 higher)		340 (1 study)	⊕⊖⊖⊖ very low ^{1,3,5,10}	No difference
Mental health symptoms - group - cRCT sample size not adjusted		The mean mental health symptoms - group - cRCT sample size not adjusted in the intervention groups was 0.48 standard deviations lower (1.13 lower to 0.16 higher)		39 (1 study)	⊕⊖⊖⊖ very low ^{3,5,6,7}	No difference
Job satisfaction		The mean job satisfaction in the intervention groups was 0.33 standard deviations lower (0.82 lower to 0.16 higher)		117 (2 studies)	⊕⊕⊖⊖ low ^{2,3,6,10}	No difference
Job satisfaction - group		The mean job satisfaction - group in the intervention groups was 0.10 standard deviations lower (0.59 lower to 0.4 higher)		63 (1 study)	⊕⊕⊖⊖ low ^{3,5,6,10}	No difference
Job satisfaction - group - cRCT sample size not adjusted		The mean job satisfaction - group - cRCT sample size not adjusted in the intervention groups was 0.60 standard deviations lower (1.15 to 0.04 lower)		54 (1 study)	⊕⊕⊖⊖ low ^{3,5,6,9}	Benefit

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to issues with randomisation and self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Single-study analysis

⁶ Serious concerns due to self-reported outcomes

⁷ Very serious concerns as 95% CIs cross the line of no effect and ICC to adjust sample size was not reported

⁸ Serious concerns as I-squared is greater than 50%

⁹ Serious concerns as ICC to adjust sample size was not reported

¹⁰ Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Stress management and resilience training

Emotion-focussed - Stress management and resilience training compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Stress management and resilience training

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Stress management and resilience training				
Job stress - individual		The mean job stress - individual in the intervention groups was 0.70 standard deviations lower (1.24 to 0.16 lower)		58 (2 studies)	⊕⊕⊕⊖ low ^{1,2,3,4}	Benefit
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.47 standard deviations lower (0.87 to 0.08 lower)		108 (3 studies)	⊕⊕⊕⊖ low ^{1,3,4,5}	Benefit
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was 0.55 standard deviations lower (1.08 to 0.01 lower)		58 (2 studies)	⊕⊕⊕⊖ low ^{1,2,3,4}	Benefit
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.39 standard deviations lower (0.96 lower to 0.18 higher)		50 (1 study)	⊕⊕⊕⊖ low ^{2,3,6}	No difference
Quality of life - Individual		The mean quality of life - individual in the intervention groups was 0.32 standard deviations lower (0.92 lower to 0.28 higher)		58 (2 studies)	⊕⊖⊖⊖ very low ^{1,2,3,7}	No difference
Quality of life - Group	See comment	See comment	Not estimable	50 (1 study)	⊕⊕⊕⊖ moderate ^{2,3,7}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely

to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to issues with randomisation, missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ No concerns as I-squared is less than 50%

⁶ Very serious concerns as 95% CIs cross the line of no effect and ICC to adjust sample size was not reported

⁷ Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Motivational interviewing

Emotion-focussed - Motivational interviewing compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Motivational interviewing

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Motivational interviewing				
Job stress		The mean job stress in the intervention groups was 0.24 standard deviations lower (0.56 lower to 0.09 higher)		146 (2 studies)	⊕⊕⊖⊖ low ^{1,2,3,4}	No difference
Job stress - group		The mean job stress - group in the intervention groups was 0.22 standard deviations lower (0.57 lower to 0.13 higher)		127 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Job stress - individual		The mean job stress - individual in the intervention groups was 0.38 standard deviations lower (1.29 lower to 0.53 higher)		19 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Job satisfaction - group		The mean job satisfaction - group in the intervention groups was 0.22 standard deviations lower (0.58 lower to 0.14 higher)		151 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Absenteeism - group		The mean absenteeism - group in the intervention groups was 0.03 standard deviations higher (0.29 lower to 0.34 higher)		155 (1 study)	⊕⊕⊕⊖ moderate ^{3,4,5}	No difference
Presenteeism - group		The mean presenteeism - group in the intervention groups was 0.13 standard deviations lower (0.49 lower to 0.23 higher)		150 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Productivity - group		The mean productivity - group in the intervention groups was 0.14 standard deviations lower (0.5 lower to 0.21 higher)		121 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely

to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared < 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

Emotion-focussed – Prayer

Emotion-focussed - Prayer compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Prayer

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Prayer				
Job stress - group and individual		The mean job stress - group and individual in the intervention groups was 1.76 standard deviations lower (2.42 to 1.1 lower)		50 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Job satisfaction - group and individual		The mean job satisfaction - group and individual in the intervention groups was 3.88 standard deviations lower (4.85 to 2.91 lower)		50 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Quality of life - group and individual		The mean quality of life - group and individual in the intervention groups was 2.83 standard deviations lower (3.63 to 2.03 lower)		50 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

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Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

Emotion-focussed – Psychotherapy and yoga

Emotion-focussed - Psychotherapy and yoga compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Psychotherapy and yoga

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotion-focussed - Psychotherapy and yoga				

Job stress	846 per 1000	668 per 1000 (432 to 1000)	RR 0.79 (0.51 to 1.21)	28 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference
Quality of life	The mean quality of life in the intervention groups was 0.72 standard deviations lower (1.49 lower to 0.05 higher)			28 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

Emotion-focussed – Journaling

Emotion-focussed - Journaling compared to Usual practice for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotion-focussed - Journaling

Comparison: Usual practice

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Usual practice	Emotion-focussed - Journaling				
Job stress		The mean job stress in the intervention groups was 0.23 standard deviations lower (1.94 lower to 1.48 higher)		6 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

Task-focussed – Imagery, simulation and skills training

Task-focussed - Imagery, simulation and skills training compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Task-focussed - Imagery, simulation and skills training						
Comparison: Control						
Outcomes	Illustrative comparative risks* (95% CI)		Relative No of effect (95% CI)	Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Task-focussed - Imagery, simulation and skills training				
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.77 standard deviations lower (1.04 to 0.5 lower)	230 (3 studies)	⊕⊕⊕⊕	moderate ^{1,2,3,4}	Benefit
Job stress - Group		The mean job stress - group in the intervention groups was 2.18 standard deviations lower (4.89 lower to 0.53 higher)	143 (3 studies)	⊕⊕⊕⊕	very low ^{1,3,5,6}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.51 standard deviations lower (1.01 to 0.02 lower)	65 (1 study)	⊕⊕⊕⊕	moderate ^{1,3,4,7}	Benefit
Quality of life - Group		The mean quality of life - group in the intervention groups was 2.27 standard deviations lower (2.9 to 1.63 lower)	65 (1 study)	⊕⊕⊕⊕	moderate ^{1,3,4,7}	Benefit
Absenteeism	82 per 1000	10 per 1000 (2 to 78)	RR 0.12 198 (0.02 to 0.94)	1 (study)	⊕⊕⊕⊕	high ^{3,4,7} Benefit
Productivity - Group		The mean productivity - group in the intervention groups was 1.2 standard deviations lower (2.23 to 0.18 lower)	18 (1 study)	⊕⊕⊕⊕	high ^{3,4,7}	No difference
Employee turnover	124 per 1000	40 per 1000 (14 to 119)	RR 0.32 198 (0.11 to 0.96)	1 (study)	⊕⊕⊕⊕	high ^{3,4,7} Benefit

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval; **RR:** Risk ratio;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the study protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns as I-squared is greater than 75%

⁶ Serious concerns as 95% CIs cross the line of no effect

⁷ Single-study analysis

Task-focussed – SOC training

Task-focussed - SOC training compared to Wait list for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Task-focussed - SOC training

Comparison: Wait list

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				

	Wait list	Task-focussed - SOC training			
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.26 standard deviations lower (0.92 lower to 0.41 higher)	165 (2 studies)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference
Job stress - Group		The mean job stress - group in the intervention groups was 0.37 standard deviations lower (0.75 lower to 0.02 higher)	107 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.06 standard deviations higher (0.32 lower to 0.44 higher)	107 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference
Quality of life - Group		The mean quality of life - group in the intervention groups was 0.11 standard deviations lower (0.49 lower to 0.27 higher)	107 (1 study)	⊕⊕⊖⊖ low ^{1,3,4,5}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Very serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

Task-focussed – Professional development

Task-focussed - Professional development compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Task-focussed - Professional development

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Task-focussed - Professional development				
Mental wellbeing		The mean mental wellbeing in the intervention groups was 0.34 standard deviations lower (0.63 to 0.05 lower)		484 (4 studies)	⊕⊖⊖⊖ very low ^{1,2,3,4}	Benefit
Mental wellbeing - Group - cRCT sample size not adjusted		The mean mental wellbeing - group - crct sample size not adjusted in the intervention groups was 0.61 standard deviations lower (0.99 to 0.23 lower)		113 (1 study)	⊕⊕⊖⊖ low ^{3,5,6,7}	Benefit
Mental wellbeing - Online		The mean mental wellbeing - online in the intervention groups was 0.30 standard deviations lower (0.55 to 0.05 lower)		250 (1 study)	⊕⊕⊕⊕ moderate ^{3,4,5,6}	Benefit
Mental wellbeing - Individual		The mean mental wellbeing - individual in the intervention groups was 0.21 standard deviations lower (0.87 lower to 0.46 higher)		121 (2 studies)	⊕⊖⊖⊖ very low ^{1,2,3,8}	No difference

Job stress	The mean job stress in the intervention groups was 0.42 standard deviations lower (0.65 to 0.20 lower)	312 (5 studies)	⊕⊕⊕⊖ low ^{1,3,4,9}	Benefit
Job stress - Group	The mean job stress - group in the intervention groups was 0.21 standard deviations lower (0.82 lower to 0.4 higher)	42 (1 study)	⊕⊕⊕⊖ low ^{3,5,6,8}	No difference
Job stress - Group - cRCT sample size not adjusted	The mean job stress - group - crct sample size not adjusted in the intervention groups was 0.25 standard deviations lower (0.62 lower to 0.12 higher)	113 (1 study)	⊕⊕⊕⊖ very low ^{3,5,6,10}	No difference
Job stress - Individual	The mean job stress - individual in the intervention groups was 0.71 standard deviations lower (1.08 to 0.34 lower)	121 (2 studies)	⊕⊕⊕⊖ low ^{1,3,4,9}	Benefit
Job stress - Online	The mean job stress - online in the intervention groups was 0.29 standard deviations lower (0.95 lower to 0.37 higher)	36 (1 study)	⊕⊕⊕⊖ very low ^{3,6,8,11}	No difference
Mental health symptoms	The mean mental health symptoms in the intervention groups was 0.26 standard deviations lower (0.7 lower to 0.18 higher)	80 (2 studies)	⊕⊕⊕⊖ very low ^{3,8,9,12}	No difference
Mental health symptoms - Online	The mean mental health symptoms - online in the intervention groups was 0.14 standard deviations lower (0.80 lower to 0.52 higher)	36 (1 study)	⊕⊕⊕⊖ very low ^{3,6,8,13}	No difference
Mental health symptoms - Individual	The mean mental health symptoms - individual in the intervention groups was 0.35 standard deviations lower (0.95 lower to 0.25 higher)	44 (1 study)	⊕⊕⊕⊖ very low ^{1,3,6,8}	No difference
Job satisfaction - Online	The mean job satisfaction - online in the intervention groups was 0.59 standard deviations lower (1.26 lower to 0.08 higher)	36 (1 study)	⊕⊕⊕⊖ low ^{3,5,6,8}	No difference
Resilience - Individual	The mean resilience - individual in the intervention groups was 0.71 standard deviations lower (1.32 to 0.1 lower)	44 (1 study)	⊕⊕⊕⊖ low ^{1,3,4,6}	Benefit

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CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to self-reported outcomes, lack of clarity around missing outcome data and per-protocol analysis

² Serious concerns as I-squared is between 50% and 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns due to self-reported outcomes

⁶ Single-study analysis

⁷ Serious concerns as ICC was not reported to adjust sample size

⁸ Serious concerns as 95% CIs cross the line of no effect

⁹ No concerns as I-squared is less than 50%

¹⁰ Very serious concerns as 95% CIs cross the line of no effect and ICCs to adjust sample size were not reported

¹¹ Very serious concerns due to self-reported outcomes and missing outcome data

¹² Very serious concerns due to missing outcome data, self-reported outcomes, per-protocol analysis, and lack of clarity over randomisation and participant characteristics.

¹³ Very serious concerns due to missing outcome data, self-reported outcomes, and a lack information around randomisation and participant characteristics,

Physical-focussed – Massage therapy

Physical-focussed - Massage therapy compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Physical-focussed - Massage therapy

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Physical-focussed - Massage therapy				
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.18 standard deviations higher (0.56 lower to 0.93 higher)		28 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.6 standard deviations higher (0.01 lower to 1.21 higher)		45 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was 0.19 standard deviations lower (0.88 lower to 0.49 higher)		97 (3 studies)	⊕⊖⊖⊖ very low ^{3,4,5,6}	No difference
Job satisfaction - Individual		The mean job satisfaction - individual in the intervention groups was 0.93 standard deviations lower (1.89 lower to 0.03 higher)		19 (1 study)	⊕⊕⊕⊖ low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

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Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to issues with randomisation and self-reported outcomes

⁶ Serious concerns as I-squared is greater than 50%

Physical-focussed – Physical activity

Physical-focussed- Physical activity compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Physical-focussed- Physical activity

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Physical-focussed- Physical activity				
Mental wellbeing - Group		The mean mental wellbeing - group in the intervention groups was 0.15 standard deviations higher (0.51 lower to 0.8 higher)		37 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference

Job stress	The mean job stress in the intervention groups was 0.19 standard deviations lower (0.43 lower to 0.04 higher)	736 (5 studies)	⊕⊕⊕⊕ very low ^{3,4,5,6}	No difference
Job stress - Group	The mean job stress - group in the intervention groups was 0.21 standard deviations lower (0.52 lower to 0.09 higher)	686 (4 studies)	⊕⊕⊕⊕ very low ^{3,4,5,6}	No difference
Job stress - Online	The mean job stress - online in the intervention groups was 0.27 standard deviations lower (0.82 lower to 0.29 higher)	50 (1 study)	⊕⊕⊕⊕ very low ^{2,3,4,7}	No difference
Mental health symptoms - Group	The mean mental health symptoms - group in the intervention groups was 0.1 standard deviations lower (0.27 lower to 0.07 higher)	565 (2 studies)	⊕⊕⊕⊕ very low ^{1,3,4,6}	No difference
Job satisfaction - Group	The mean job satisfaction - group in the intervention groups was 0.3 standard deviations higher (0.08 lower to 0.68 higher)	107 (1 study)	⊕⊕⊕⊕ very low ^{2,3,4,5}	No difference
Quality of life - Group	The mean quality of life - group in the intervention groups was 0.05 standard deviations lower (0.61 lower to 0.5 higher)	51 (2 studies)	⊕⊕⊕⊕ very low ^{1,3,4,6}	No difference
Absenteeism - Group	The mean absenteeism - group in the intervention groups was 0.03 standard deviations higher (0.15 lower to 0.21 higher)	528 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to self-reported outcomes and missing outcome data

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes, missing or lack of detail around outcome data and per-protocol analysis

⁶ No concerns as I-squared is less than 50%

⁷ Very serious concerns due to self-reported outcomes and per-protocol analysis

Relaxation and massage

Relaxation and massage compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Relaxation and massage

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Relaxation and massage				
Job stress - Individual		The mean job stress - individual in the intervention groups was 0.01 standard deviations lower (0.61 lower to 0.58 higher)		45 (1 study)	⊕⊕⊕⊕ low ^{1,2,3,4}	No difference
Mental health symptoms - Individual		The mean mental health symptoms - individual in the intervention groups was		45 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference

0.41 standard deviations higher
(0.19 lower to 1.02 higher)

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

Sleep therapy

Sleep therapy compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Sleep therapy

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	Control	Sleep therapy				
Job stress - Online		The mean job stress - online in the intervention groups was 0.16 standard deviations lower (0.33 lower to 0.02 higher)		502 (1 study)	⊕⊕⊖⊖ low ^{1,2,3,4}	No difference
Mental health symptoms		The mean mental health symptoms in the intervention groups was 0.30 standard deviations lower (0.55 to 0.04 lower)		670 (3 studies)	⊕⊖⊖⊖ very low ^{3,5,6,7}	Benefit
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.43 standard deviations lower (0.7 to 0.16 lower)		218 (1 study)	⊕⊕⊖⊖ low ^{1,2,3,7}	Benefit
Mental health symptoms - Group and individual		The mean mental health symptoms - group and individual in the intervention groups was 0.45 standard deviations lower (0.81 to 0.09 lower)		121 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,7}	Benefit
Mental health symptoms - Group and individual - cRCT sample size not adjusted		The mean mental health symptoms - group and individual - crct sample size not adjusted in the intervention groups was 0.08 standard deviations lower (0.3 lower to 0.15 higher)		331 (1 study)	⊕⊖⊖⊖ very low ^{2,3,5,8}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to issues with randomisation and self-reported outcomes

⁶ Serious concerns as I-squared is between 50% and 75%

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ Very serious concerns as 95% CIs cross the line of no effect and ICC not reported to adjust sample size

Music therapy

Music therapy compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Music therapy

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Music therapy				
Job stress - Group		The mean job stress - group in the intervention groups was 0.35 standard deviations lower (0.97 lower to 0.28 higher)		40 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference
Mental health symptoms - Group		The mean mental health symptoms - group in the intervention groups was 0.15 standard deviations lower (0.61 lower to 0.31 higher)		88 (2 studies)	⊕⊕⊕⊕ very low ^{1,3,4,5}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Issues with randomisation and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ No concerns as I-squared is less than 50%

Outdoor breaks

Outdoor breaks compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Outdoor breaks

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Outdoor breaks				
Job stress		The mean job stress in the intervention groups was 0.35 standard deviations lower (2.01 lower to 1.32 higher)		7 (1 study)	⊕⊕⊕⊕ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single study

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

Emotional freedom technique

Emotional freedom technique compared to Control for Mental wellbeing

Patient or population: all employees

Settings: Workplace

Intervention: Emotional freedom technique

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk Control	Corresponding risk Emotional freedom technique				
Job stress - online		The mean job stress - online in the intervention groups was 1.02 standard deviations lower (1.52 to 0.53 lower)		72 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit
Mental health symptoms - online		The mean mental health symptoms - online in the intervention groups was 4.98 standard deviations lower (5.93 to 4.02 lower)		72 (1 study)	⊕⊕⊕⊖ moderate ^{1,2,3,4}	Benefit

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Serious concerns sue to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

Multi-component interventions

Multi-component intervention compared to Control for Mental wellbeing

Patient or population: patients with Mental wellbeing

Settings: Workplace

Intervention: Multi-component intervention

Comparison: Control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Direction of effect
	Assumed risk Control	Corresponding risk Multi-component intervention				
Job stress - Group - Eriksen 2002		The mean job stress in the intervention groups was 0.04 standard deviations higher (0.15 lower to 0.22 higher)		504 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference
Job stress - Group - cRCT sample size not adjusted - Das 2019		The mean job stress in the intervention groups was 0.34 standard deviations lower (0.63 to 0.04 lower)		203 (1 study)	⊕⊕⊖⊖ low ^{2,3,5,6}	Benefit
Mental health symptoms - Group Eriksen 2002		The mean mental health symptoms in the intervention groups was 0.01 standard deviations higher (0.17 lower to 0.20 higher)		504 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference
Mental health symptoms - Group - Strijk 2012		The mean mental health symptoms in the intervention groups was 0.01 standard deviations lower (0.17 lower to 0.16 higher)		575 (1 study)	⊕⊕⊖⊖ low ^{2,3,4,5}	No difference
Mental health symptoms - Group - cRCT sample size not adjusted - Das 2019		The mean mental health symptoms in the intervention groups was 0.30 standard deviations lower (0.59 to 0.01 lower)		203 (1 study)	⊕⊕⊖⊖ low ^{2,3,5,6}	Benefit
Job satisfaction - Group and individual - Oude Hengel 2012		The mean job satisfaction in the intervention groups was 0.12 standard deviations lower (0.35 lower to 0.11 higher)		293 (1 study)	⊕⊖⊖⊖ very low ^{2,3,5,7}	No difference
Quality of life - Group - Olson 2016		The mean quality of life in the intervention groups was 0.05 standard deviations higher (0.27 lower to 0.37 higher)		149 (1 study)	⊕⊖⊖⊖ very low ^{2,3,4,8}	No difference
Quality of life - Group - Oude Hengel 2012		The mean quality of life in the intervention groups was 0.30 standard deviations lower (0.61 lower to 0.01 higher)		165 (1 study)	⊕⊕⊖⊖ low ^{2,3,4,5}	No difference
Quality of life - Group - cRCT sample size not adjusted		The mean quality of life in the intervention groups was 0.33 standard deviations lower (0.62 to 0.05 lower)		220 (1 study)	⊕⊕⊖⊖ low ^{2,3,5,6}	Benefit
Absenteeism - Group - Eriksen 2002		The mean absenteeism in the intervention groups was 0.09 standard deviations lower (0.28 lower to 0.09 higher)		504 (1 study)	⊕⊖⊖⊖ very low ^{1,2,3,4}	No difference

*The basis for the **assumed risk** (e.g. the median control group risk across studies) is provided in footnotes. The **corresponding risk** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: Confidence interval;

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely

to change the estimate.

Very low quality: We are very uncertain about the estimate.

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns due to self-reported outcomes

⁶ Serious concerns as ICC not reported to adjust sample size

⁷ Very serious concerns as ICC to adjust sample sizes not reported and 95% CIs cross the line of no effect

⁸ Very serious concerns due to self-reported outcomes and lack of outcome reporting

See [Appendix F](#) for full GRADE.

Qualitative

Table 6: Summary of qualitative finding

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
Rationale and evidence-base				
Having a clear rationale for the intervention and underpinning evidence-base facilitated employee engagement in individual interventions. Perceiving the subject matter to be relevant and a sense of co-production lent credibility to intervention content. The absence of a clear rationale and an underpinning evidence-base raised concerns regarding the validity and effectiveness of the intervention.	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Wright 2016; Brook 2021	Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees)	<p><i>"it is very important for me to understand what I am doing and why. I guess if I didn't understand the logic clearly I would have given up"</i></p> <p><i>"I think I sort of had this attitude that it was all a little bit airy-fairy, hippy-dippy sort of nonsense, but to hear that there's you know sort of proper scientific evidence of how it does, you know, change your brain... I think, you know, for a lot of people you want to know that there's some concrete research rather than just sort of anecdotal evidence"</i></p>	High
Motivation and attitude				
Participants outlined that acknowledging stress as an issue and interest in managing stress motivated their engagement in	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Johnson 2020	Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from	<i>"My job is so stressful; I felt I needed to learn it (mindfulness) so I could reduce my stress"</i>	High

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
<p>interventions (mindfulness). Participant prior interest and awareness of interventions encouraged engagement (mindfulness).</p> <p>Participants in a tailored resilience coaching intervention outlined that having some experience of the health system and adverse events to draw upon allowed some to get the most out of the intervention</p>		<p>across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience coaching only impacting applicability to other workplace individual interventions.</p>	<p><i>"I related it to me, related it to real life you know as I said, all the case studies that we discussed, I've been through I've done it you know so I think the majority of the sort of midwives there would've been through one of, you know, one of the same adverse incidents"</i></p>	
Time				
<p>The length of sessions was outlined as facilitating engagement with shorter sessions preferred and longer sessions presenting challenges for engagement. Ongoing competing pressures impacted participants ability to attend interventions with some seeing the intervention as opportunity for respite or an additional pressure. Some participants incorporated 'mindfulness' into their daily routine or practiced opportunistically. There was an acknowledgement that you need to commit to the course to benefit from it with some participants outlining that the demands of the course and finding time to engage impacting commitment.</p>	<p>Bannerjee 2017; Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2021; Johnson 2020; Kinman 2020</p>	<p>Data from social workers, staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience training impacting applicability to other workplace individual interventions</p>	<p><i>"I struggle to make time for things at work, but the short practices I can do during lunch"</i></p> <p><i>The problem is when we're on placement we're doing full time hours plus extra study sessions and then a lot of people have to work on top of that and then that doesn't even include the people that have children and family ... I find managing my life and prioritising things so challenging.</i></p>	<p>High</p>
Convenience				

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
<p>The convenience of session location and sessions occurring within working hours were outlined as facilitating attendance</p>	<p>Todd 2019; Wright, 2016</p>	<p>Data from staff in NHS and education settings impacting applicability to other settings. Data derived from studies there were not all low risk of bias and these statements were unique to the studies they were identified in.</p>	<p><i>"it was convenient in one way because for me it was in a school I was working in so I didn't have to get in the car and go anywhere so I never missed any of the sessions...On the other hand it was in a school hall that's normally used for an after school club..., and you could sometimes hear the noise of the children which was a little distracting."</i></p>	<p>Moderate</p>
<p>Working environment</p>				
<p>Participants outlined that management support facilitated staff engagement and 'made it ok' to engage. Some participants outlined that the provision of complementary and alternative therapies was an indication of employer valuing employees. Participants also considered that their engagement in interventions was indulgent with engagement dependent on working arrangements with some participants highlighting a working culture</p>	<p>Hugh-Jones 2018; Hunter 2018; Wright et al 2016; Brook 2021; Kinman 2020</p>	<p>Data from staff in social work, NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions</p>	<p>'My last ward, they didn't really have very good breaks, you didn't get the time ... only had an hour and that wasn't really enough.' 'If they [the therapists] came on to the ward or something ... and be there for us to just drop in when we have got a free minute.'</p>	<p>High</p>

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
where breaks were not often taken.				
Behaviours				
Some participants began to apply mindfulness to their day-to-day influenced by self-care, awareness and choosing new ways to respond which facilitated engagement beyond the intervention period . Some participants found shifting their way of being difficult and changing pre-existing cognitive styles challenging. Other participants considered mindfulness as a mechanism to manage stress and not resolve root causes of stress .	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Brook 2021	Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions	<p><i>"I used to get really harsh on myself, especially with work-related stuff. I never realised this before participating (in the intervention). I am more kind to myself now, so it has helped me, I should probably practice more"</i></p> <p><i>"I know it (mindfulness) is supposed to be good for you, but I am a do-er. I like to think about my problems and sort them out. I found it difficult to sit through the practices, so I gave up"</i></p>	High
Experiencing benefits				
Participants experienced benefits from elements of the intervention such as present moment focus , which included changes in way of being, calmness, increased self-compassion, empathy, caring, increased agency over thoughts, heightened self-	Bannerjee 2017; Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2021; Kinman 2020	Data from staff in NHS, education and social work settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions	<p><i>"I used to get really harsh on myself, especially with work-related stuff. I never realised this before participating (in the intervention). I am more kind to myself now, so it has helped me, I</i></p>	High

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
<p>awareness; and having experienced these benefits post-session or practice encouraged engagement. Some participants expressed feelings of upward spiralling with positive feeling gained from just choosing to practicing mindfulness.</p> <p>Some participants highlighted that mindfulness had renewed enjoyment in work, increased work satisfaction and meaningfulness.</p> <p>Some participants found that mindfulness practice made more general negative thoughts emerge and found themselves being more critical which made them disengage from interventions.</p>			<p><i>should probably practice more"</i></p> <p><i>"I know it is supposed to work but I don't think it did for me. I used to get really worked up about not getting the point, I don't know if it is just me but I was demanding more and more from myself. So finally I gave up"</i></p>	
Group experience				
<p>Participants outlined that the shared experience of the intervention was a positive experience that encourage engagement. The interventions providing an opportunity to reconnect with colleagues and a safe space for discussion.</p> <p>Participants of a resilience intervention highlighted the value of a small group structure and benefits of stimulating</p>	<p>Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2020 Johnson 2020</p>	<p>Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience coaching only impacting applicability to other workplace individual interventions</p>	<p><i>"what was the most positive, and in a way, you know, not really linked to the mindfulness was just that we were a group of teachers coming with sort of common concerns and that was really, really good. I think we all got a lot out of that...it was a positive coming together of</i></p>	<p>High</p>

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
discussion and engagement of all attendees			<i>people from a, with a common sort of background of stress and anxiety linked to the work...because there was some dialogue and a chance to talk, I think that would make it more beneficial for teachers as a profession I think"</i>	
Facilitating longer-term change				
Participants outlined that the intervention had given them a toolkit with which to cope, survive and thrive going forward . Participants referred to lasting change in relation to mindfulness intervention, with participants identifying opportunities to practice mindfulness.	Hugh-Jones 2018; Hunter 2018; Brook 2021	Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions	<i>"like a coping strategy, it [mindfulness] is a tool that I've got, I know I can switch off [...] its giving my brain a break [...] it's how I can deal with my life actually"</i>	High
Legitimising and justification				
Participants highlighted that intervention was required to address an identified need to improve affective and cognitive regulation in the context of increased organisational demand . Participants highlighted that taking care of personal mental and physical health needed a justification and	Hugh-Jones 2018; Wright et al 2016; Kinman 2020	Methodological limitations of the included studies. Data from Social work, NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees).	<i>"I'm allowing myself that hour of paying attention to me completely"</i> <i>'They are quite expensive, they are about £30-£40 aren't they for half an hour ... if I went for a massage every time I was stressed I think I'd be spending thousands.'</i>	Moderate

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
<p>benefits incurred from early sessions reinforced this.</p> <p>Some participants highlighted that the perceived cost of complementary and alternative therapies could be a barrier to implementation but it may be justified if it reduced stress.</p>			<p><i>'If I thought it would benefit me then I would pay it, definitely.'</i></p>	
Follow-up, reminders and refreshers				
<p>Participants outlined that mindfulness refresher sessions would help continued engagement and practice. This was in the context of a busy and stressful working environment to continue practice</p> <p>Participants on a tailored resilience coaching intervention highlighted that a follow-up 'coaching phone call' consolidated knowledge facilitating understanding regarding the application of new skills in their personal context.</p> <p>The phone call component was identified in most interviews as a central and impactful aspect of the intervention. Some participants reported that they did not anticipate the impact the phone call would have on them and that this required careful planning to</p>	Hunter 2018	Data from NHS midwives only impacting applicability to other settings. Views expressed from NHS midwives only. Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions	<p><i>'I need reminders, so I probably need a monthly update or something like that, where I'd go to a class, and yea...a half an hour practice, or you know, even a 5 minute...'</i></p> <p><i>"I found the follow-up phone call personally very useful because I learnt things about myself that I hadn't even considered"</i></p>	Moderate

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
ensure they chose a suitable location and time for the discussion				
Intervention facilitator				
Participants emphasised the importance of the facilitator to intervention engagement; and highlighting that having a facilitator with awareness of the barriers they faced was useful . Participants reflected positively on the respectful approach by facilitators which enabled sharing difficult experiences possible.	Todd 2019; Brook 2021; Kinman 2020	Data from secondary school teachers, social workers and staff and students from a UK university and a large inner-city UK NHS healthcare organisation impacting applicability to other settings. Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions	<i>"As an ex-teacher herself, it felt like she really knew where we were coming from... yeah, for me just sort of relate to her more and you felt that she could relate to you and knew where you were coming from... I think it was particularly useful that she was an ex-teacher."</i>	High
Tension between mandatory and voluntary delivery				
Participants of a resilience coaching intervention acknowledged its benefits but differed in their opinions of the interventions impact under mandated conditions. Voluntary attendance was considered to have enhanced participants intervention experience. Some participants advocated for mandatory resilience training as part of health professionals basic training, but concerns were raised regarding the	Johnson 2020	Data from one study of health professionals and students only impacting applicability to other settings. Data derived from resilience coaching only impacting applicability to other workplace individual interventions	<i>"I do feel that erm it should be mandatory because, at least initially in the basic training it should be covered and then further training can be voluntary"</i> <i>"I think there's a danger of, if people were told they had to go on the course I think that would be unhelpful and they would be a bad influence in the room."</i>	Moderate

Review theme and subtheme	Studies contributing	Informants	Supporting statements	CERQual confidence in the evidence
implications of mandatory training.			<i>For those who wanted to do it"</i>	

Mixed methods

The quantitative evidence for individual universal-level interventions were grouped into interventions that aim to build emotional skills for example mindfulness; interventions that aim to build task-focused or situation-relevant skills for example imagery and skills training; and physical interventions that work on physiological processes for example physical activity; and massage therapy. Evidence was also presented for interventions that included aspects of more than one of the three categories outlined for example relaxation and massage. The quantitative evidence outlined an effect for some emotion focused interventions (mindfulness, yoga, meditation, CBT delivered in groups and online, problem solving delivered individually, psychoeducation, stress management intervention, and acceptance and commitment therapy) across a range of outcomes including mental wellbeing, job stress, mental health symptoms and job satisfaction resilience outcomes. The qualitative evidence highlighted that employees applied mindfulness to their day-to-day activities which facilitated engagement beyond the intervention period. However, the qualitative evidence highlighted challenges experienced by participants in changing their way of being and pre-existing cognitive styles. The qualitative evidence highlighted that participants' considered mindfulness as a mechanism to manage stress and not resolving the root cause of stress. There was evidence of effectiveness for some task-focussed interventions (imagery and skills training and professional development) across different outcomes including mental wellbeing, mental health symptoms, quality of life, absenteeism, productivity, job stress and resilience. The qualitative evidence did not provide any themes specific to task-focused interventions but themes regarding provision of a toolkit with which to cope, survive and thrive going forward and interventions initiating lasting change were identified which align with the underpinning rationale of interventions that aim to build task-focused or situation-relevant skills. There was evidence of effectiveness from other interventions (sleep therapy and emotional freedom technique) for outcomes including mental health symptoms, and job stress but no specific corresponding qualitative evidence

The results of the quantitative evidence aligned with qualitative evidence regarding the benefits experienced by participants which included increases in present moment focus

including changes in ways of being, calmness, increased empathy, caring, increased agency over thoughts and heightened self-awareness. The qualitative evidence indicated that some participants experienced upward spiralling with positive feeling gained from choosing to the practice mindfulness. Other benefits experienced by participants outlined in the qualitative evidence included a renewed enjoyment in work, increased work satisfaction and meaningfulness. The qualitative evidence did outline that some participants experienced general negative thoughts emerging and becoming more critical of themselves from practicing mindfulness.

The qualitative evidence highlighted that employee engagement in individual universal intervention is influenced by intervention acceptability, barriers, and facilitators. The presence of a clear rationale and underpinning evidence base was outlined as facilitating employee intervention engagement. The acknowledgment of stress as an issue and having an issue and interest in managing stress was considered to motivate participant engagement with having a prior interest and awareness of interventions encouraging engagement. The qualitative evidence highlighted that participants considered that interventions had provided them with a toolkit with which to cope, survive and thrive going forward with reference made to a lasting change regarding mindfulness.

The qualitative evidence highlighted that time was a barrier and facilitator to intervention engagement. The length of intervention sessions was a key factor with shorter sessions preferred and longer session posing a barrier to participant engagement, with an acknowledgment that there is a need to commit to the intervention to gain the benefits. Link to this was the convenience of session location and sessions occurring within working hours were seen to facilitate intervention attendance.

The presence of management support was seen in the qualitative evidence as facilitating staff engagement making attendance acceptable and considered an indication of employee value. However, the committee acknowledged that the evidence indicated that some employees considered attendance at interventions was indulgent and working arrangements and culture were barriers to participation.

The qualitative evidence highlighted that the shared experience of the intervention amongst participants encouraged intervention engagement and provided an opportunity to reconnect with colleagues and a safe space for discussion.

The qualitative evidence did not provide insight into the differences in the effects of the interventions on outcomes outlined in the quantitative evidence specifically. For example, differences between the statistically significant effectiveness of emotion-focussed mindfulness compared with control for mental health symptoms and job satisfaction and no difference identified for these outcomes for an emotion-focused mindfulness and E-coaching intervention compared with control. The differences between the effectiveness of different intervention types (emotion-focused, task-focused, physical interventions and multi-component interventions) for different outcomes outlined in the quantitative evidence is not explained in the qualitative evidence for example the statistically significant effects for mental wellbeing observed for task-focussed imagery and skills training compared to control and the no difference for this outcome in physical intervention – massage therapy.

The qualitative evidence does not explore several of the outcomes outlined in the quantitative evidence for example mental wellbeing, job stress, mental health symptoms, quality of life, absenteeism, and productivity. The qualitative evidence does provide some insights into some of the quantitative outcomes for example increased job satisfaction and meaningfulness, work climate, resilience outcomes with themes identified and explored regarding renewed enjoyment in work, increases in present moment focus including changes in ways of being, calmness, increased empathy, caring, increased agency over thoughts, heightened self-awareness.

The qualitative evidence focused on the views and experiences of what and why certain approaches may or may not work and how they could be improved. The quantitative evidence reports on several outcomes including job satisfaction and meaningfulness, work climate and resilience outcomes which were considered in the qualitative evidence, linking to themes regarding renewed enjoyment in work, increases in present moment focus including changes in ways of being, calmness, increased empathy, caring, increased agency over thoughts, heightened self-awareness. The quantitative evidence did not test a number of the qualitative themes identified in the data. For example, the effect of having a 'clear rationale and underpinning evidence base' outlined in the qualitative data on intervention uptake and engagement or other effectiveness metrics such as mental wellbeing or productivity was not tested. Other qualitative themes not tested in the quantitative evidence included the levels of participant motivation and acknowledgement of stress, having an experience of the health system and adverse events on intervention effectiveness on prespecified mental wellbeing at work outcomes. Themes such as time (length of session), convenience (location of session and when they occurred), working environment (for example management support) and the impact of experiencing benefits were not investigated in the quantitative evidence identified. The role of group interventions and refresher sessions were raised as qualitative themes, but their effectiveness has not been explored in the quantitative evidence. The characteristics of the intervention facilitator was highlighted as a theme that facilitated engagement but has not been explored in the quantitative evidence.

FINAL

Mental wellbeing at work: evidence reviews for universal individual-level interventions

Cost effectiveness

Barbosa (2015) found that the STAR network intervention (support, transform, achieve, results) to reduce work-family conflict had a positive return on investment. The analysis used cost and cost savings data directly from a study on the intervention. The analysis found that from an employer's perspective, the intervention had a return on investment of €1.68 per €1 spent versus no intervention (2011 prices). Eleven different scenarios were evaluated in the sensitivity analysis, including scenarios adjusting the discount rate, the costs of presenteeism, turnover and healthcare utilization. Only one scenario gave a <\$1 ROI. The majority of scenarios produced results that were within \$0.15 of the base case (1.68). When 'hours of paid time off' were included (an instrument for absenteeism), the ROI was \$1.24. The main limitations were the lack of probabilistic sensitivity analysis and the fact that some data inputs were self-reported. The analysis was assessed as partly applicable to the review question since it was set in the United States rather than the UK.

Bedell (2010) found that a six-week cognitive-behavioural stress reduction program had a positive return on investment. The analysis used cost and cost savings data directly from a cohort study on the intervention. The analysis found that from an employer perspective, the program had a return to investment of around €1.95 per €1 spent versus a comparator that seemed to be a combination of 'no intervention' and a phone-based lifestyle management program. Clinical results showed a decline in stress-related symptoms for the intervention arm and the same level of stress management skills. The main limitations were the lack of sensitivity analysis, the general unclear and confusing nature of the paper with no stated time horizon or discounting and the non-inclusion of costs like absenteeism and presenteeism. The analysis was assessed as partly applicable to the review question since it was set in the United States rather than the UK and it was not clear what the comparator was.

Noben (2014) found that visiting an occupational physician (OP) and an e-Mental health program, after screening-positive on a health questionnaire, were both cost-effective at improving work functioning compared with no intervention at the usual NICE threshold. The analysis used cost and cost savings data directly from a study on the intervention. From a societal perspective, the OP visit was dominant compared with the questionnaire and no intervention, and the e-Mental health intervention had an ICER of €4,054 (=£4,064 in 2020 GBP) compared with no intervention. Probabilistic sensitivity analysis (5000 bootstrap replications) found the intervention was dominant in 75% of scenarios for the OP intervention, and that 76% of scenarios for the e-Mental health intervention were in the south-west quadrant of the cost-effectiveness plane (less costly but less effective). The main limitations were the short time horizon (6-months), non-inclusion of impacts on staff turnover and lack of deterministic sensitivity analysis. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK.

Noben (2015) found that visiting an occupational physician (OP) after screening-positive on a health questionnaire had a positive return on investment compared with the health questionnaire and no further intervention. The analysis used cost and cost savings data directly from a study on the intervention. From an employer perspective, the questionnaire and OP had a return to investment of around €7 per €1 spent compared with 'doing nothing', and an incremental ROI of €11 per €1 compared with the control (no intervention after questionnaire). When productivity gains were lowered by 30% (i.e. potential cost savings) in the sensitivity analysis, an incremental ROI of €8 per €1 was found. The main limitations were the short time horizon (6-months) and non-inclusion of impacts on staff turnover and the spill-over effects of absenteeism which may have increased the ROI. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK.

Oude Hengel (2014) found that a combination of training sessions and instruments aiming to improve the health and work ability of workers had a positive return on investment and was

dominant for mental health. The intervention consisted of two individual training sessions with a physical therapist, a questionnaire about health, work style and lifestyle, an instrument to raise awareness of the important of rest breaks and two empowerment training sessions. The analysis used cost and effectiveness data directly from a study on the intervention. The analysis found that from an employer's perspective, the intervention had a return to investment of around €6.40 per €1 spent and was dominant for mental health, versus no intervention. Physical health and work ability had ICERs versus no intervention of €798 and €5,243, respectively (=£708 and £4,652 in 2020 GBP). Three other scenarios were analysed in the sensitivity analysis. When presenteeism costs were included, the intervention cost-effectiveness improved, and there were few differences in the other scenarios. The main limitations were the non-inclusion of outcomes like staff turnover, disability management and workers' compensation costs and low amount of deterministic sensitivity analysis. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK.

Van Dongen (2016) found that the 'Mindful VIP' mindfulness-based intervention, aimed at improving mental health, was not cost-effective compared with no intervention, nor did it give a positive return on investment. The intervention was made up of numerous elements including mindfulness training, e-coaching and supporting elements like a buddy system and lunchtime walking routes. The analysis used cost, effects and cost savings data directly from a study on the intervention, which compared it to 'no intervention'. From a societal perspective, 'Mindful VIP' had ICERs of -€7,321 and -€470 (= -£7,340 and -£471 in 2020 GBP) for work engagement and general vitality. From an employer's perspective, there was a ROI of -€2.51 per €1 invested, and ICERs of -€8593, -€81,295 and -€5,081 (= -£8,615, -£81,510 and -£5,094 in 2020 GBP) for work engagement, job satisfaction and work ability, respectively. The sensitivity analyses found that it was likely that all ICERs were in the north-west quadrant of the cost-effectiveness plane, indicating that 'Mindful VIP' was less costly, but less effective than no intervention. There were no limitations identified by the reviewer, and minor limitations identified by the author: complete data was missing from 32% of participants so multiple imputation was necessary to account for this. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK and did not use QALYs in its analysis.

Van Holland (2018) found that the POSE program, a comprehensive workers' health surveillance (WHS) program aimed at improving sustainable employability, had a negative return on investment. The analysis used cost and cost savings data directly from a study on the intervention. From an employer perspective, the POSE program had a return to investment of around -€3.90 per €1 spent. There was limited sensitivity analysis, but all other scenarios that were evaluated gave similar or worse figures for ROI. The main limitations were limited sensitivity analysis and non-inclusion of impacts on staff turnover. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK, the intervention did not focus solely on mental health.

Wijnen (2019) found that an online portal, Stress-Prevention@Work, that provided access to numerous employee and organisation level interventions aimed at reducing stress, had a positive return on investment. The analysis used cost and cost savings data directly from a study on the intervention. From an employer perspective, Stress-Prevention@Work had a return to investment of around €60 per €1 spent. The probabilistic sensitivity analysis found that there was a 96.7% likelihood that the program would at least break even after a year, a 92.9% likelihood of a net monetary benefit of at least €500 (=£444 in 2020 GBP) (ROI = €10 per €1) and an 88.2% likelihood of a net marginal benefit of at least €1000 (=£887 in 2020 GBP) (ROI = €20 per €1). There were no limitations identified by the reviewer, and minor limitations identified by the author: the employees were not randomised to groups, there was a high loss to follow up and there was no comparison between the intervention and standard care. The analysis was assessed as partly applicable to the review question since it was set in the Netherlands rather than the UK.

De novo economic modelling was undertaken for this guideline. The cost-consequences analysis demonstrated scenarios in which mental health interventions are cost saving and scenarios in which they are not. The results depended on a myriad of factors and, as such, the analysis could not produce generalisable results. The model is intended to be used by decision makers to generate bespoke results, specific to their workplace. The analysis was assessed as directly applicable and with minor limitations

1.1.11 The committee's discussion and interpretation of the evidence

1.1.11.1 The outcomes that matter most

Overall, the committee considered employee outcomes to be of greater importance compared with employer outcomes. The committee were concerned that improvements in employer outcomes may be achieved at a cost to employee outcomes, for example, improvements in productivity may also result in increased work stress if workloads are increased. Therefore, the committee recommended that employers should not use individual-level interventions for the sole use of increasing productivity [rec 1.6.1]. However, the committee noted that improvements in employee outcomes are often positively correlated with improved employer outcomes. Additionally, the committee noted that interventions showing improvements in employer outcomes will be more attractive to organisations and therefore are more likely to be implemented.

The proportion of evidence relating to employee outcomes was higher than employer outcomes. Employee outcomes identified in the evidence base included mental wellbeing, job stress, mental health symptoms, job satisfaction, quality of life, mental health literacy, uptake of support services, and the post hoc outcome of work climate. Employee outcomes of mental wellbeing, job stress, and mental health symptoms were most frequently reported, with other employee outcomes sparsely reported. The committee noted that the outcome of mental health symptoms may be of less relevance to universal interventions, as most study participants would not have a mental illness, and therefore outcome measures would be less likely to change in response to the intervention. The committee did discuss that mental wellbeing and job stress outcomes are more relevant to the general working population, as mental wellbeing and job stress can be affected by interventions in individuals with good and poor mental health.

The committee recognised that employee engagement in individual universal intervention is influenced to a degree by intervention acceptability, barriers, and facilitators. They acknowledged that study participants experienced positive benefits from the interventions and that experiencing these benefits encouraged intervention engagement and post intervention practice. The committee noted that some study participants highlighted that mindfulness interventions had renewed their enjoyment in work, increased work satisfaction and meaningfulness. The committee discussed the role of management support in facilitating participant intervention engagement, and agreed that a positive and inclusive organisation-wide climate and culture towards mental well-being would encourage employee engagement. The committee acknowledged that factors such as convenience and time were key considerations in employee intervention engagement and that considering elements such as intervention duration and location may facilitate engagement. The committee discussed the evidence regarding intervention characteristics such as the use of group work, the role of the intervention facilitator and their experience of the employee's experience when delivering interventions as important for intervention engagement. The committee agreed that ensuring a supportive and positive workplace culture that encourages all employees to access interventions to support mental wellbeing at work is key with an acknowledgement of the evidence which outlined the need to account for factors such as workplace culture, workload, job control and intervention timing.

The committee discussed the implications of study follow-up times, which ranged from immediately following the intervention to 18 months. The committee expected that

effectiveness would decrease with longer follow-up, as tools and techniques developed during training would diminish over time.

The committee also discussed drafting a research recommendation in relation to the way that outcomes are measured in workplace mental wellbeing research (see evidence review A). Currently, the COMET database does not contain a core outcome set for research into workplace mental wellbeing, and development of this would be of great benefit to both researchers and practitioners in this field.

1.1.11.2 The quality of the evidence

Quantitative

142 RCTs were identified as being relevant to the review question. GRADE profiling showed that the evidence ranged from very low to medium in quality, with the main reasons for downgrading being concerns over risk of bias (mainly due to self-reported outcomes, missing outcome data and inappropriate analysis methods), inconsistency (percentage of heterogeneity $\geq 50\%$), and imprecision (where 95% confidence intervals around the point estimate crossed the line of no effect). Where studies reported intracluster correlation coefficients (ICCs) for cRCTs, sample sizes were adjusted when pooled with individually-RCTs. However, not all studies reported ICCs and therefore sample sizes could not be adjusted, and analyses were presented as a separate subgroup. Where sample sizes could not be adjusted, evidence was downgraded for imprecision, as 95% CIs would likely have been wider if findings had had been adjusted with an appropriate ICC. This was also considered by the committee when evaluating the findings of subgroup analyses of cRCTs that had not been adjusted.

Twelve studies were conducted in the UK, although most of the evidence came from the US, and additionally there was evidence from Australia, Canada, China, Denmark, Finland, France, Germany, Greece, Israel, Italy, Japan, Spain, Sweden, and the Netherlands. Many of the studies failed to report the organisation sector, industry, number of employees, and especially the seniority, and income levels of employees.

Most of the studies were conducted in large organisations, and evidence from SMEs was limited. This limitation was of concern to the committee, as they concluded that the evidence is unlikely to be generalisable to SMEs, and especially microbusinesses. The committee considered that it may be more challenging for SMEs to implement interventions compared with larger organisations, as SMEs are less likely to employ occupational health or wellbeing specialists. This is particularly important considering that SMEs employ [61%](#) of all private sector employees in the UK. The committee also discussed that medium-sized organisations can have more in common with larger organisations compared with micro and small businesses. The committee highlighted that SMEs were not adequately represented in the evidence, and SMEs are rarely offered the opportunity to participate in studies. Therefore the committee drafted a research recommendation around the long-term effectiveness of universal individual-level interventions in SMEs to address this gap in the literature. The committee also discussed that trialled interventions may not be feasible or affordable for smaller employees, meaning that they are unable to facilitate these interventions as part of a study. It was discussed that expert testimony, as well as the experience of the committee, would be vital in providing evidence to fill this gap.

Where the sector was reported, there was a good amount of evidence from both private and public sectors. Evidence from the private sector was mostly from large organisations, which were from industries including manufacturing, financial services, media, information technology, and financial services. There were two examples of studies that had been conducted in the manufacturing industry where only white-collar workers were recruited. Many of these studies did not report the socioeconomic statuses of the participants. The committee assumed that employees from industries such as financial services, may on

average have higher incomes, and they were concerned that evidence from the private sector could not be generalised to all private sector organisations. Due to the lack of reporting around sector, industry, and socioeconomic statuses of the participants, as well as the fact that much of the evidence came from larger organisations, the committee were concerned that the evidence did not reflect all organisations, and therefore drafted a research recommendation around assessing the long-term effectiveness of interventions in different types of organisations. Additionally, the committee drafted a research recommendation around identifying the key characteristics of organisations and employees that should be reported in any research into mental wellbeing in the workplace (see evidence review A).

Qualitative

8 qualitative studies were relevant to individual universal interventions. GRADE-CERQual profiling showed that the themes derived from the evidence ranged from high to moderate confidence. All 8 studies were conducted in the UK, with employees in healthcare (NHS) and educational settings (secondary school and university). The committee noted that there was no evidence from the private sector and only large organisations were represented. A wide range of roles was represented in the included studies though there were little details on seniority and income levels provided. The committee noted that the qualitative evidence only considered 4 interventions, mindfulness (n=5), resilience coaching (n=1), an educational intervention (n=1) and complementary and alternative therapies (CATs) (n=1) interventions and few details were provided regarding participant demographics such as age and gender. The committee discussed how the impact of interventions in SMEs was not reflected in the evidence, and that there was the potential to address the additional needs of SMEs through research recommendations. The committee highlighted research conducted at the University of York into [Mental health in small businesses](#) that is soon to be reported. The committee were also aware of research that is underway at Aston University that is looking into the [Impact of COVID-19 on Staff Mental Health and Well-Being in SMEs](#). Additionally, the committee referred to Dame Carol Black's Review of the [health of Britain's working age population](#) as a resource that provides guidance for smaller organisations. The committee also highlighted that many large organisations also have poor records regarding the mental wellbeing of employees, and that it is important that the guideline addresses this, and signposts users to specific guidance and resources from [What Works Centre for Wellbeing](#), [Mental Health at Work](#), [MIND](#) and [BITC](#).

The committee discussed the additional needs of employees who may face language barriers, such as migrants; or employees who would need other forms of adaptation, for example, individuals who are hard of hearing. The committee also discussed the importance of considering evidence around the particular needs of minority ethnic groups, so that interventions are suitable for different cultures and communities. Therefore, they drafted a research recommendation around understanding the needs of specific employee groups and how to facilitate access to individual-level interventions.

1.1.11.3 Benefits and harms

The committee discussed that organisational interventions and a positive work culture were paramount to improving mental wellbeing at work and reducing psychosocial work stressors, and should be the foundation of a strategic approach to mental wellbeing in the workplace [rec 1.1.1]. The committee confirmed that organisational-level approaches that put the onus of employee wellbeing on the employer, were of greatest importance to the guideline. The committee were concerned that certain individual-level interventions, such as mindfulness, do not address core societal issues such as economic uncertainty, and that provision of these services may be viewed as tokenistic. Therefore, the committee recommended that organisations do not use individual-level approaches to replace organisational strategies for reducing work stressors [rec 1.6.1]. The committee also discussed that many organisations with good work culture would want to know which individual-level interventions could be

provided to supplement good working conditions and positive work environment. The committee discussed that employees may have poor mental wellbeing due to factors outside of work, and that good individual-level opportunities are an opportunity to help employees cope with these challenges in addition to challenges within the workplace. Therefore, the committee decided that where evidence around individual-level interventions showed a benefit for several employee outcomes, these interventions should be recommended. The committee discussed that they were less likely to recommend interventions where evidence across multiple outcomes was mixed, as there was a risk that positive effects were due to chance when multiple outcomes are measured.

The committee concluded that individual universal-level interventions generally fall into one of three categories: interventions that aim to build emotional skills; interventions that aim to build task-focused or situation-relevant skills; and physical interventions that work on physiological processes. Evidence was presented for emotion-focussed interventions with a single modality that included: mindfulness; yoga; meditation; acceptance and commitment therapy (ACT); cognitive behavioural therapy (CBT); positive psychology; problem solving; motivational interviewing; group support and relaxation. Evidence was presented for emotion-focussed interventions where either multiple modalities were used, or the modality was not clear, which included: mindfulness with e-coaching; stress management; resilience training; stress management and resilience training; wellbeing promotion; emotional skills training; psychoeducation; work-life balance interventions; and complementary and alternative therapies (CAT). Evidence was presented for task-focussed interventions that included: imagery and skills training; selection, optimisation and compensation training (SOC); and professional development. Evidence was presented for physical interventions that included: physical activity; and massage therapy. Evidence was also presented for interventions that included aspects of more than one of the three categories outlined, which included: relaxation and massage; sleep therapy; music therapy; and multi-component interventions. Subgroup analyses were performed in relation to intervention delivery, and whether this was in a group, individual, or online format. Subgroup point estimates were presented in addition to overall point estimates for each intervention type.

There was no quantitative evidence that any of the interventions had a negative effect on the employee outcomes of interest that were measured. However, the committee commented that there may have been harms that were not captured by the outcomes measured in the studies. The committee highlighted that in these studies it is hard to determine whether any positive effects were due to the specific interventions themselves, or whether they occurred because employers have invested in the wellbeing of their employees.

Evidence relating to interventions that aimed to improve emotional skills

Studies looking at mindfulness interventions were conducted in both the public (healthcare, education, and emergency services) and private (manufacturing, financial services, and pharmaceutical industries) sectors. Organisation size and socioeconomic characteristics of participants were sparsely reported, however, in cases where they were reported, organisations were large, and participants had professional jobs. Low quality evidence (as assessed by GRADE) showed that mindfulness interventions may have a positive effect on the employee outcomes of mental wellbeing, job stress and mental health symptoms, and moderate quality evidence showed that mindfulness interventions are likely to have a positive effect on job satisfaction. However, the evidence did not show that mindfulness had any effect on the outcomes of absenteeism, quality of life, work climate, and productivity.

The committee noted that qualitative evidence outlined that participants experienced a number of benefits from mindfulness interventions such as present moment focus, which included changes in way of being, calmness, increased self-compassion, empathy, caring, increased agency over thoughts, heightened self-awareness; and having experienced these benefits post-session or practice encouraged intervention engagement. Some participants

expressed feelings of upward spiralling with positive feelings gain from just choosing to practice mindfulness.

The committee discussed the importance of prior interest and employee motivation to engage. The committee identified that study participants outlined that acknowledging stress as an issue and having an interest in managing stress motivated participant engagement in interventions. The committee noted that some participants began to apply mindfulness to their day-to-day, influenced by self-care, awareness and choosing new ways to respond which facilitated engagement beyond the intervention period. The committee recognised that some participants found shifting their way of being difficult and that changing pre-existing cognitive styles was challenging.

The committee acknowledged that the evidence highlighted that study participants considered mindfulness as a mechanism to manage stress and not resolve root causes of stress. The committee did note that some participants outlined that the intervention had given them a toolkit with which to cope, survive and thrive going forward, with some participants referring to a lasting change in relation to mindfulness intervention and identifying opportunities to practice mindfulness.

The qualitative evidence identified one theme 'experiencing benefits' which was based on 4 studies and a GRADE-CERQual confidence in the evidence rating as high. This theme highlighted that some participants found that mindfulness practice made more general negative thoughts emerge and found themselves being more critical which made them disengage from interventions. Overall, the committee decided that quantitative and qualitative evidence shows that mindfulness may improve key employee outcomes and can provide individuals with tools to cope with stress, and therefore recommended that employers offer or help people to access mindfulness interventions [rec 1.6.4]. One study, conducted at a large research organisation in the Netherlands, found that a mindfulness and e-coaching intervention was not effective in improving job stress, mental health symptoms or job satisfaction. Based on this study, the committee concluded that they would not recommend the combination of mindfulness and e-coaching interventions.

Where studies were conducted to examine the effects of yoga, these studies were performed in healthcare, education, and local government, and where organisation size was reported, these were large. The included yoga interventions were all conducted in a group format. Low quality evidence from these studies showed that yoga may improve mental wellbeing, job stress and mental health symptoms, and moderate quality evidence from a study that reported dichotomous outcomes showed that it was likely that yoga had a positive effect on the outcome of job stress. The committee highlighted the small sample sizes of the studies presented. The committee highlighted that the type of yoga was important for the effectiveness to improve relevant outcomes. The evidence presented was mostly in relation to yoga practices with a strong mindfulness or breathing-focused element, and the committee highlighted that this may be responsible for the positive outcomes. Conversely, the committee questioned whether the positive effects associated with yoga may be due to the physical element of yoga, and whether these benefits could be gained through other physical interventions. The committee discussed that there may be a gender divide related to yoga participation and that this should be considered as a barrier to wider participation. Overall, due to the positive effects shown over multiple outcomes, the committee chose to recommend yoga alongside mindfulness [rec 1.6.4].

For meditation, moderate quality quantitative evidence showed that meditation is likely to improve job stress and mental health symptoms. Therefore, the committee recommended that employers offer or help people to access meditation interventions [rec 1.6.4]

Relaxation interventions comprised of breathing exercises, muscular relaxation, and guided imagery. Low and moderate quality quantitative evidence around relaxation interventions showed improvements in job stress and mental health symptoms respectively. However, very low quality evidence around mental wellbeing and job stress outcomes showed no effect. As

the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around relaxation techniques.

Moderate quality evidence indicated that CBT is likely to lead to an improvement in job satisfaction. However, very low quality evidence around mental wellbeing and mental health symptoms; low quality evidence around quality of life; and moderate quality evidence around job stress and employee turnover showed no effect in relation to CBT interventions. These studies were conducted in large private sector organisations (financial services and manufacturing industries). The committee highlighted that consideration should be given to the intervention provider and that for interventions such as CBT, effectiveness will be greater when delivered by a trained psychologist or psychotherapist. As the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around CBT in a universal population.

Very low and moderate quality evidence indicated that stress management had a positive effect on job stress. However, low and very low quality evidence indicated that stress management had no effect on mental wellbeing, mental health symptoms, job satisfaction, absenteeism, and productivity. As the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around stress management in a universal population.

Evidence relating to acceptance and commitment therapy (ACT) was from studies conducted in the media, education, government, and social care industries. Very low quality evidence indicated that ACT may have a positive effect on mental wellbeing. However, very low quality evidence indicated no effect on job stress, mental health symptoms, and quality of life; and low quality evidence indicated no effect on the outcome of job satisfaction. However, low quality evidence from a single study of ACT delivered via written materials, indicated that job stress and mental health symptoms were significantly improved. The committee speculated that this could be due to the nature of the intervention requiring more vulnerability from participants thus making it less suitable for a group environment. The committee noted that ACT may not be the most appropriate intervention for addressing workplace mental wellbeing in an untargeted population, as it is a modality that is most commonly offered to people with terminal illness and disabilities, or to people with anxiety and depression. Additionally, as the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around ACT.

From quantitative evidence around positive psychology interventions, very low quality evidence indicated that positive psychology may lead to an improvement in mental wellbeing. However, very low quality evidence around job stress and mental health symptoms, and low quality evidence around job satisfaction, showed no difference in effect for positive psychology interventions. The committee commented that analyses of group positive psychology interventions showed greater improvements in mental wellbeing compared with online or individual interventions. However, the committee also noted that this group delivery was not directly compared with online or individual versions therefore limiting the committee's certainty on this point. As the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around positive psychology.

Emotional skills training interventions were based on either the ability model of emotional intelligence, or the theoretical model of the four branches of emotional intelligence. Low quality evidence indicated that these interventions may have improved mental wellbeing. However, low and very low quality evidence indicated that emotional skills training had no effect on job stress, mental health symptoms, or job satisfaction. As the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make a recommendation around emotional skills training.

Low quality evidence showed that combined stress management and resilience training may have a positive effect on job stress in physicians. Low quality evidence also indicated that

that combined stress management and resilience training interventions in physicians and trainee chefs were effective in reducing mental health symptoms. However, moderate and very low quality evidence indicated that these interventions had no effect on quality of life. Although evidence around combined stress management and resilience training did indicate positive effects for two out of the three outcomes, the committee felt that the evidence was not as strong as for mindfulness, yoga and meditation interventions, and therefore they did not make a recommendation around combined stress management and resilience training.

Low and very low quality evidence around psychoeducation interventions that were studied in healthcare employees were found to have no effect on job stress, mental health symptoms, or quality of life, however, they were found to improve mental health literacy and uptake of support services in government employees, and job satisfaction in employees working in a private residential care setting. As the evidence showed a lack of effect across the majority of primary outcomes measured, the committee chose not to make a recommendation around psychoeducation interventions.

Moderate quality evidence indicated that work-life balance interventions that aimed to help teachers and resident physicians improve work and family stress, were likely to improve mental wellbeing and mental health symptoms. However, low quality evidence indicated that work-life balance interventions did not affect job stress or job satisfaction outcomes. As the evidence showed a lack of effect across the majority of outcomes measured, the committee chose not to make any recommendations around work-life balance interventions.

Very low to moderate evidence indicated no difference in any relevant employee outcome in relation to the following interventions: problem solving; motivational interviewing; group support; resilience training; and wellbeing promotion. Therefore, the committee chose not to make any recommendations around any of these interventions.

Evidence relating to interventions that aimed to improve task-focussed skills

Imagery and skills training delivered to police officers to help them prepare for stressful events was shown to improve mental wellbeing, job stress, mental health symptoms, quality of life, and productivity. The committee highlighted that imagery and skills interventions were similar to the nursing theory and simulation intervention, which involved nursing theory recap and situational role play. This intervention also improved mental wellbeing, and additionally improved absenteeism. These two interventions were subsequently combined. Moderate quality evidence showed that imagery, simulation and skills training were likely to increase mental wellbeing mental health symptoms, and quality of life, and high quality evidence showed that imagery, simulation and skills training improve the employer outcomes of absenteeism and employee turnover. However, very low quality, and high quality evidence indicated that imagery, simulation, and skills training did not have an effect on job stress and productivity respectively. The committee discussed that it was clearly beneficial to provide training and skills to help employees deal with specific, predictable occupational events, and recommended that employers offer task-focussed skills training for employees in high-risk occupations to ensure that they have the skills needed to deal with predictable and stressful occupational events [rec 1.8.3].

Low and very low quality evidence indicated that professional development may improve mental wellbeing, job stress, and resilience outcomes in participants; however, low and very low evidence indicates that these interventions did not have a significant effect on mental health symptoms, and job satisfaction. As the evidence showed a lack of effect across the majority of primary outcomes measured, the committee chose not to make a recommendation around professional development.

Low and very low quality evidence indicated that SOC training did not have an effect on mental wellbeing, job stress, mental health symptoms, or quality of life. Therefore the committee chose not to make a recommendation around SOC training.

Evidence relating to interventions that aimed to improve mental wellbeing through physical mechanisms

Very low quality evidence relating to physical activity interventions (including park walking, qigong, tai chi, physical exercise, and computerised exercise) showed no effect on outcomes of mental wellbeing, job stress, mental health symptoms, job satisfaction, quality of life, and absenteeism. Low and very low quality evidence showed that massage therapy (chair massage, foot massage and mechanical massage) was not effective in improving outcomes of mental wellbeing, job stress, mental health symptoms, or job satisfaction. As evidence relating to physical interventions showed no positive effects, the committee chose not to recommend these interventions.

Evidence relating to interventions that work through more than one mechanism of action

The following interventions showed no difference in employee outcomes of job stress and mental health symptoms; relaxation and massage; music therapy; and outdoor breaks. Due to the evidence showing no improvement in outcomes, the committee chose not to recommend any of these interventions.

Very low quality evidence showed that sleep therapy may improve mental health symptoms, however, low quality evidence indicated that sleep therapy had no effect on the outcome of job stress. Although evidence around sleep therapy did indicate positive effects in one out of the two outcomes measured, the committee felt that the evidence was not as strong as for mindfulness, yoga, meditation, or task-focussed training for specific events, and therefore they did not make a recommendation around sleep therapy.

Moderate quality evidence from a single study found that emotional freedom technique improved job stress and mental health symptoms in nurses. However, the committee chose not to make a recommendation around emotional freedom technique, as evidence was only from a single study. Outcomes were not pooled for multi-component interventions, as these interventions were not comparable. Low to very low quality evidence from these studies (Eriksen 2002, Strijk 2012, Oude Hengel 2012, and Olson 2016) did not indicate any improvements in job stress, mental health symptoms, job satisfaction, quality of life, and absenteeism, with the exception of an energy management training course (Das 2019) where there was an improvement in job stress, mental health symptoms and quality of life. However, Das 2019 was a cRCT where ICCs were not reported, and therefore the committee could not be certain in the findings of this study (low quality as determined by GRADE). Therefore, the committee did not make any recommendations around multi-component interventions.

1.1.11.4 Further considerations

The committee also discussed that many small businesses would not have the resources to provide individual-level interventions, and that in these cases employers could signpost employees to free options [rec 1.6.4]

The committee outlined that the evidence indicated that the convenience of intervention session location facilitated employee attendance. They acknowledged that the evidence highlighted that time was a facilitating factor for employee attendance at interventions with sessions occurring within working hours and shorter intervention sessions associated with engagement. There was committee discussion around whether employers should be recommended to provide interventions within working hours. The committee commented that working-day access to interventions would provide employees with a beneficial break from work and would also send a clear cultural message by their employer of the importance of mental wellbeing. There were concerns from the committee that lower-paid workers would be

disproportionately affected if employees were expected to complete interventions outside of work hours without appropriate remuneration. Conversely, consideration was also given to employers who could not afford to provide interventions within work hours, and that in these cases, employees may be excluded from interventions if they were not given the option to complete them outside of work hours. The committee also discussed that some employees may wish to access interventions during work hours, whereas other employees may prefer to access interventions outside of work hours. The committee agreed and discussed the need to engage with employees about how, when and where interventions could be delivered [rec 1.2.3, 1.2.4 1.9.1, 1.9.2 and 1.9.3].

The committee commented on the evidence that employees acknowledged that commitment to an intervention was required to benefit from it but finding time to engage impacted that commitment. The committee discussed the need for participants engaging in individual universal interventions that a lifestyle change is required with a transfer of intervention practice to outside of work. The committee discussed the evidence which outlined that having a clear rationale for the intervention and underpinning evidence-base facilitated employee engagement in individual interventions; with the absence of a clear rationale and an underpinning evidence-base raising concerns with intervention participants regarding the intervention validity. The committee suggested that employers should consult with employees on which interventions are offered, and how interventions are implemented; this method of co-production would enable interventions to be tailored to employee needs and would likely reduce implementation failure. The committee added that by consulting employees, employers would have the opportunity to raise awareness about why the interventions are being implemented, which could reduce potential concerns from employees about why interventions are being implemented and could provide employees with more ownership and motivation [rec 1.9.1].

The committee highlighted that, based on the evidence, employees appeared to consider management support as facilitating employee engagement in interventions, making it 'ok' to engage. However, engagement was considered by some as indulgent and dependent on working arrangements in a working culture where breaks were not often taken. The committee agreed that fostering a positive and inclusive organisation-wide climate and culture towards mental well-being through activities such as ensuring active leadership support and engagement, and being aware of context would provide a supportive and encouraging work environment that encouraged employees to access and engage with workplace mental health interventions [rec 1.2.1].

The committee recognised that the evidence outlined the importance of an intervention facilitator with an awareness of employee experiences, barriers and facilitators which was highlighted as facilitating engagement. The committee agreed and discussed the need to account for factors such as workplace culture, workload, job control and intervention timing when engaging employees regarding intervention attendance [rec 1.9.2]. The committee agreed that an organisation/employer should ensure a supportive and positive culture that encourages all employees to access interventions to support mental wellbeing at work including accounting for confidentiality, private space, and time in which to engage in interventions [rec 1.2.3 and 1.2.4]. The committee discussed that the use of lunches and breaks to undertake interventions may mean that the ability to make time is diminished for certain employees in certain occupations for example fire officers or midwives [rec 1.2.3 and 1.2.4].

The committee discussed that the evidence highlighted that intervention participants felt that being busy and working in a stressful environment prevented them practicing the intervention. The committee acknowledged that the evidence outlined that intervention participants would benefit from refresher sessions to help continued engagement and practice, and that interventions should be offered on an ongoing basis [rec 1.6.4]. The committee also discussed implications for industries with high staff turnover, and that new starters may be disadvantaged if they are unable to access interventions. The committee

noted that employees with access to employee assistance programmes will have access to CBT on a rolling basis, and that this is a good solution in cases where new employees have not accessed previous interventions [rec 1.4.6]. The committee also discussed the possibility of interventions being offered on a rolling basis to support new employees and boost the skills of previous participants [rec 1.4.6].

The committee were conscious that employers should not provide interventions that widen inequalities, and that employers should offer interventions that are available to all employees, regardless of contract type, income level, and job role. In addition to co-production, the committee discussed the role of monitoring intervention uptake in relation to participant characteristics [1.9.3]. However, the committee also considered that monitoring may pose issues in relation to confidentiality and may hinder uptake of services. The committee suggested that employers should actively identify groups that may not be able to access interventions and then develop strategies to ensure that these employees are not disadvantaged [1.9.3]. The committee highlighted the role of consultation and staff surveys in informing the suitability and practicality of interventions offered. The committee also raised the suggestion that employers could consider giving an individual within the organisation the responsibility to ensure that all employees are able to access the provided interventions. However, there were concerns that this may not be feasible in smaller businesses, and therefore this was not made into a recommendation. The committee agreed that equality should also be an important consideration, and noted the lack of evidence around the effectiveness of interventions in difference population subgroups. Therefore, the committee agreed to draft a research recommendation to take account the needs of different groups, and the effectiveness of interventions in different groups, including people with disabilities and also according to socio-economic factors, such as those on low incomes.

Subgroup analyses were conducted to look at the effects of interventions delivered either in a group, online or individual setting. Evidence relating to yoga, and imagery, simulation and skills training was only available for interventions conducted in a group setting. However, the evidence showed that mindfulness and meditation interventions were delivered in multiple formats. Very low to moderate quality evidence indicated that mindfulness was effective when delivered in a group setting or online for mental wellbeing, job stress, and mental health symptoms outcomes. However, there were differences in effectiveness for the outcome of job satisfaction where moderate quality evidence indicated that mindfulness interventions were effective in improving job satisfaction when delivered in a group format, whereas no difference in job satisfaction was observed in low quality evidence relating to mindfulness interventions delivered online. When subgroup analyses were conducted for meditation interventions, low quality evidence indicated that meditation interventions delivered online did not have a significant effect on the outcomes of job stress and mental health symptoms, whereas for meditation interventions delivered in a group setting, moderate quality evidence indicated that there is likely to be a positive effect on the outcomes of job stress and mental health symptoms.

The committee highlighted that the qualitative evidence outlined employees positive experience of participating in an intervention as a group with the shared experience, the opportunity to reconnect with colleagues and the safe space the intervention provided outlined as encouraging engagement. The committee agreed that a group approach to the delivery of mental health training should be considered. The committee discussed the mechanisms that make group interventions effective, and whether this is due to aspects of peer support or team building. The committee determined that group training may be less suited to certain workplaces, including those with public-facing roles, where intervention scheduling may be an issue. The committee also considered that many workforces do not have the physical space to provide some interventions, which could pose additional challenges to group activities. This would be particularly relevant for occupations who do not have a fixed base. Certain interventions, such as group yoga have a large space requirement and there were concerns that where space is limited, interventions could become limited to

certain employees, or limited on a first-come-first-serve basis, which may disproportionately impact certain groups.

The committee discussed that individuals have preferred learning styles, and while some individuals would benefit from interventions delivered in a group format, others would prefer to engage with digital interventions. The committee commented that apps are increasing in popularity and may be especially acceptable and accessible to those who prefer to engage with digital interventions, or who's personal or workplace circumstances would make in-person interventions more difficult or unfeasible. The committee discussed that some apps are publicly available, and would only require signposting by employers, such as PHE's Every Mind Matters website and Thrive app, as well as an app soon to be released by DWP for SMEs.

The committee discussed that access to online interventions would be affected by digital exclusion, and that this would disproportionately affect individuals from lower socioeconomic groups. Apps used via a mobile phone may be more accessible, as a large proportion of the population have access to a smartphone. However, mobile data costs or phone memory requirements may disproportionately affect employees with lower incomes and may prevent lower paid individuals from accessing mobile phone apps. This is particularly relevant where employees do not work from an office base or would otherwise not have access to Wi-Fi. Individuals who do not have data connectivity on their smartphone would also be unable to access mobile phone apps. The committee also highlighted that employees with reduced digital literacy, for example some older workers or individuals with cognitive impairments, may require additional support. The committee referred to local authority digital inclusion schemes that may enable access to resources. The committee were also concerned that some individuals who do have digital access may be less likely to engage in features that they are not familiar with.

Confidentiality in group interventions may also be an issue. The committee discussed that this would be particularly relevant in smaller organisations, where employees tend to have closer connections with a greater proportion of colleagues, meaning that reduced anonymity and stigma around mental illness could negatively affect individuals. The committee also noted that confidentiality and anonymity would be less relevant to group activities such as yoga, were issues relating to mental health are not discussed, and therefore stigma around mental illness would unlikely be an issue.

Overall, following discussion on how interventions should be delivered, the committee concluded that delivery should be tailored to the needs of the employees and the organisation, and that employers should engage with employees about how, when and where interventions are delivered [rec 1.9.1, 1.9.2, 1.9.3].

Expert testimony highlighted the important role that line managers play in promoting mental wellbeing at work. Expert testimony also highlighted the role that good communication between employees and managers can play in preventing poor mental wellbeing. Therefore, the committee recommended that employers encourage managers to foster good relationships with employees [rec 1.6.2] and encourage employees to discuss concerns around mental wellbeing with managers so that additional support can be agreed, and work-related stressors can be minimised [rec 1.6.3]. The committee also discussed that in some cases, the manager may be a source of stress for employees, and in this situation, it is important that employees can discuss concerns with another person such as a 'grandparent' manager [rec 1.6.3].

1.1.11.5 Cost effectiveness and resource use

The committee discussed evidence from 8 published studies on the cost effectiveness of universal, individual-level interventions or programmes for preventing poor mental wellbeing, promoting positive mental wellbeing or improving mental wellbeing.

The committee noted that 6 of the studies were carried out in the Netherlands and 2 in the United States. The committee discussed whether the studies in the Netherlands came from the same research group, as they thought this might over represent the body of evidence available for these types of interventions. They were also concerned by the possibility that the same underlying data might be being reported in different publications. The committee were advised that Van Dongen was a co-author on two other studies (Geraerts and Oude Hengel) but there was no other suggestion that the authors were from the same research group. Given the (relatively) large number of studies from the Netherlands the committee queried whether there was a legal requirement or incentives for providing or researching workplace interventions to improve wellbeing. They believed this was important because the culture and context might impact the effectiveness of the interventions which in turn would affect the generalisability of the findings. The committee also noted that in general, the Dutch have a shorter working week compared to the UK context and this might limit generalisability. In the absence of UK studies, the committee agreed the results from the Netherlands are broadly applicable to other European countries including the UK.

The committee also noted the studies covered a range of interventions (STAR, cognitive behaviour stress reduction programme, occupational health visits, e-Mental health programme, training sessions, mindfulness, POSE and stress prevention programme) and targeted different populations which they also considered, limited the generalisability of the findings. The committee questioned whether interventions that included a screening questionnaire and only intervened with employees who screened positive were truly universal.

The committee observed that studies measured multiple outcomes and were mindful that these did not always move in the same direction: some outcomes showed a positive change whereas others showed a negative change. As a result, the committee were cautious about interpreting this evidence, particularly when outcomes for the employers and employees moved in opposite directions. For example, Noben et al. (2014) found an e-Mental health intervention to be less costly but less effective than the control (online screening for mental health problems without feedback about the screening results). Thus, from an employer's perspective the intervention is cost saving and would be considered cost-effective. However, because the outcomes for employees became worse in the intervention group, the committee did not consider the intervention cost effective and agreed that employers always have a duty of care to their employees. The committee were concerned that interventions which showed a positive outcome from an employer perspective might be adopted even though they result in worse outcomes for their employees.

Overall, the committee considered the evidence on cost effectiveness difficult to interpret. Several reasons have already been noted including the perspective of the analysis, the duration of effect and differences in the populations and settings studied. In addition, the committee observed that effect sizes differed for different outcomes even though they ostensibly measured the "same thing". They were also mindful of substantial gaps in the evidence and the absence of a decision-making framework (such as a cost per QALY threshold) for determining whether workplace interventions are indeed cost effective. With the above caveats in mind, the committee agreed that the evidence suggests that some interventions work for some people in some settings and that it would need to be determined at a local level whether the intervention was deemed cost effective.

1.1.11.6 Other factors the committee took into account

By consulting with employees, and introducing a participatory element to the way that individual-level interventions are implemented, the guidance would echo recommendations from the committee regarding organisational-level participatory interventions, and the need for clear communication to promote a positive work culture. The committee also noted links with NICE's guidance on Behaviour change: individual approaches [PH49].

The committee discussed the importance of employers having clear definitions of mental wellbeing, mental health, and mental illness, and the importance of employers being able to distinguish between these concepts. However, there were concerns from the committee that smaller organisations may not have enough resources to define these concepts. Furthermore, the committee discussed how employers need to recognise that there is likely to be more stigma around mental illness, than mental wellbeing or mental health.

The committee discussed the impact of COVID-19 on any potential recommendations and recognised that considerations must be made to ensure that recommendations are as “future-proof” as possible. The committee discussed how the definitions of group interventions has changed during the pandemic, and that many people are taking part in activities such as yoga and meditation via video calls/conferencing or other apps. The committee considered that timely evidence is unlikely to be available for the effect of group interventions delivered online, however, they suggested that this format is unlikely to create the same social environment as in-person group training.

COVID-19 has changed the workplace for many. This is especially relevant for office workers who now work from home and do not have access to previous physical office space, which may cause additional stress due to limited social contact, loneliness, stress around IT or other equipment, and musculoskeletal issues due to working in spaces not intended for home working. Employees may also face additional family stresses due to home schooling and sharing equipment and space with other family members. Additionally, employees on furlough do not have access to any previous physical workspace and may also face uncertainty and financial difficulties. COVID-19 has also heightened health inequalities, as many lower paid employees are unable to work from home, such as drivers, those in retail, and those who work in security, and as such, face additional stressors due to the risk of COVID-19 infection. This is particularly relevant for some healthcare workers, who are also at increased risk of moral trauma and post-traumatic stress. The committee considered that any barriers and facilitators to implementation that have changed due to COVID-19 may not be reflected in the evidence base, and that expert testimony may be beneficial in addressing this.

1.1.12 Recommendations supported by this evidence review

This evidence review supports recommendations 1.1.1, 1.2.1, 1.2.3 – 1.2.4, 1.4.6, 1.6.1 – 1.6.4, 1.8.3, 1.9.1, and the research recommendation on Individual-level interventions; Approaches for micro, small and medium enterprises; Supportive work environment; needs of different employee groups; and Approaches for all employees. Other evidence supporting these recommendations can be found in the evidence reviews on [organisational universal approaches: Review A](#); [universal approaches for managers: Review B](#); [targeted organisational level approaches: Review C](#); and [barriers and facilitators to the implementation and delivery of interventions to improve and protect mental wellbeing at work: Review F](#).

1.1.13 References

1.1.13.1 Effectiveness

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Noben C, Smit F, Nieuwenhuijsen K, et al. Comparative cost-effectiveness of two interventions to promote work functioning by targeting mental health complaints among nurses: pragmatic cluster randomised trial. *International journal of nursing studies*. 2014;51(10):1321-31.

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van Dongen JM, van Berkel J, Boot CRL, et al. Long-Term Cost-Effectiveness and Return-on-Investment of a Mindfulness-Based Worksite Intervention: Results of a Randomized Controlled Trial. *Journal of occupational and environmental medicine*. 2016;58(6):550-60.

van Holland BJ, Reneman MF, Soer R, et al. Effectiveness and Cost-benefit Evaluation of a Comprehensive Workers' Health Surveillance Program for Sustainable Employability of Meat Processing Workers. *Journal of occupational rehabilitation*. 2018;28(1):107-20.

Wijnen BFM, Lokkerbol J, Boot C, et al. Implementing interventions to reduce work-related stress among health-care workers: an investment appraisal from the employer's perspective. *International archives of occupational and environmental health*. 2019

1.1.13.4 Other

[List any other references]

Appendices

Appendix A – Review protocol

Review protocol for universal individual-level approaches

Field	Content
PROSPERO registration number	CRD42020179142
Review title (50 Words)	Universal individual-level interventions for all employees to improve and promote mental wellbeing, and prevent poor mental wellbeing
Review question (250 words)	<p>Quantitative</p> <p>4.1 What universal, individual-level interventions, programmes, policies or strategies are effective and cost effective at:</p> <ul style="list-style-type: none"> • promoting positive mental wellbeing? • improving mental wellbeing? • preventing poor mental wellbeing? <p>Qualitative</p> <p>4.2 For the following groups in relation to universal individual-level interventions, what are their views and experiences of what and why certain approaches may or may not work, and how it could be improved:</p> <ul style="list-style-type: none"> • those receiving them • employers • those delivering them?
Objective	<p>Quantitative</p> <p>To identify what interventions made available to all employees and delivered at an individual level are effective in:</p> <ul style="list-style-type: none"> • promoting positive mental wellbeing • improving mental wellbeing • preventing poor mental wellbeing.

Field	Content
	<p>Qualitative To understand the views and experiences (including acceptability of and barriers & facilitators to) towards interventions made available to all employees and delivered at an individual level of employees, employers and of those delivering the intervention</p> <p>Quantitative and qualitative To examine whether effectiveness and cost-effectiveness of interventions varies according to a range of factors including how the intervention is delivered and by whom, the study population, and the nature of the organisation.</p>
Searches (300 words)	<p>The following databases will be searched:</p> <ul style="list-style-type: none"> • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE • Psycinfo • Econlit • Epistemonikos • ASSIA • HealthEvidence.org <p>Search strategies will be adapted to take account of the limitations of each database.</p> <p>The same search strategy will be used for questions 1-5 for this guideline, with all retrieved studies potentially being includable in each review.</p> <p>Searches will be limited by the use of</p> <ul style="list-style-type: none"> • validated filters as follows: <ul style="list-style-type: none"> ○ Date : Studies published from 2007 to present (though included studies from the previous NICE guideline, PH22, will also be considered for inclusion) ○ Language : English language

Field	Content
	<ul style="list-style-type: none"> ○ Study design : RCT filter ● Search strategies <ul style="list-style-type: none"> ○ OECD countries plus Brazil, China, Russia, India and South Africa ○ Non-randomised controlled studies <p>Searches will exclude the following publication types:</p> <ul style="list-style-type: none"> ● Editorials ● news articles ● Letters ● Conference abstracts ● “Notes” ● Other non-research publications <p>Other searches: Forwards and backwards citation searching will be carried out in Web of Science using any included studies or relevant systematic reviews as a starting point.</p> <p>The What Works Wellbeing and Department for Work and Pensions research reports websites will also be browsed for relevant evidence</p> <p>The searches will be re-run 6 weeks before final submission of the review and further studies retrieved for inclusion. The full search strategies for MEDLINE database will be published in the final review.</p>
Condition or domain being studied (200 words)	Mental wellbeing in the workplace
Population (200 words)	<p>Inclusion: Quantitative and Qualitative</p> <p>Everyone aged 16 years or older in full or part time employment, including:</p>

Field	Content
	<ul style="list-style-type: none"> • those on permanent, training, temporary or zero hours contracts • those who are self-employed • those who are volunteers <p>Qualitative only</p> <ul style="list-style-type: none"> • employers • those delivering the interventions <p>Quantitative and Qualitative</p> <p>Exclusion:</p> <ul style="list-style-type: none"> • People who are not in any full or part time employment (as defined above) • Prisoners who engage in work activities • Inpatients in mental health institutions who engage in work activities • Military personnel
Intervention (200 words)	<p>Inclusion:</p> <p>Quantitative and Qualitative</p> <p>Individual-level health promotion and risk reduction programmes made available to an unselected population in addition to usual practice that aim to (one or more of):</p> <ul style="list-style-type: none"> • prevent poor mental wellbeing • promote positive mental wellbeing • improve mental wellbeing <p>Interventions may include approaches such as:</p> <ul style="list-style-type: none"> • mindfulness training • physical activity interventions with mental wellbeing as a primary outcome • positive psychology sessions • stress management • burnout prevention • training in resilience, self-help interventions, coping skills and mental health literacy • meditation and yoga

Field	Content
	<ul style="list-style-type: none"> • creative arts therapies. <p>Interventions are eligible that are delivered in a workplace setting, or outside of a workplace where there is employer involvement in the intervention.</p> <p>Employer involvement in the intervention may include the initiation, design, delivery, management, funding of, or signposting to, an intervention, including those delivered online or digitally.</p> <p>Exclusion:</p> <p>Quantitative and qualitative</p> <ul style="list-style-type: none"> • Interventions targeted towards individuals or groups of individuals who are identified as experiencing, or being at risk of, poor mental wellbeing • Policies and strategies implemented to improve the mental wellbeing of employees universally • Physical activity interventions that do not include mental wellbeing as a primary outcome • Interventions delivered outside of work without workplace involvement or collaboration.
Comparator (200 words)	<p>Quantitative Inclusion Usual practice (this may be called a control group or waiting list control group or other terms in the individual studies)</p> <p>Qualitative Not applicable</p>
Types of study to be included (150 words)	<p>Inclusion:</p> <p>Quantitative Effectiveness studies that include one or more intervention and comparison groups including:</p> <ul style="list-style-type: none"> • Systematic reviews (published in 2019 or 2020 to ensure currency) • Randomised controlled trials <p>Qualitative</p> <ul style="list-style-type: none"> • Studies with a qualitative component including focus groups and interview-based studies. • Mixed-methods studies will also be included provided they contain relevant qualitative data

Field	Content
	<p>Exclusion:</p> <ul style="list-style-type: none"> • Non-randomised controlled study designs including quasi-randomised, case-control, cohort, interrupted time-series and controlled before and after studies. • Correlation studies • Cross-sectional studies • Case studies • Single- arm studies
Other exclusion criteria	<p>Quantitative and Qualitative</p> <ul style="list-style-type: none"> • Papers published in languages other than English • Studies not published in full (e.g. study protocols where no results are published, summary articles) • Studies published before 2007 will be excluded, except studies that were included in the previous NICE guideline PH22 <p>Quantitative only</p> <ul style="list-style-type: none"> • Studies carried out in non- OECD and non- BRICS countries <p>Qualitative only</p> <ul style="list-style-type: none"> • Studies conducted outside the UK
Context (250 words)	<p>Since NICE guideline PH22 Mental wellbeing at work was published in 2009, the nature of the workforce has changed in the UK. Increasing amounts of employees are on part-time, temporary or zero-hours contracts. The variations between workplaces and differences in the nature of employment are important to consider when looking at approaches to improve and protect employee mental wellbeing.</p> <p>Since 2009 there has been increasing recognition of mental wellbeing and how it is associated with the workplace and work outcomes. Experiences in the workplace can affect mental wellbeing positively and negatively.</p> <p>Good employee mental wellbeing is positive for employees and their employers. For example, better mental wellbeing and job satisfaction are associated with increased workplace performance and productivity.</p>

Field	Content
	<p>Poorer mental wellbeing however is associated with increased absenteeism and presenteeism and lost output costs the economy upwards of £74 billion annually.</p> <p>It is therefore important to implement interventions in the workplace to promote and improve mental wellbeing, and to prevent poor mental wellbeing amongst the workforce.</p>
Primary outcomes (critical outcomes) (200 words)	<p>Quantitative</p> <p>Employee outcomes</p> <ul style="list-style-type: none"> • Any measure of mental wellbeing (using objective measures and/ or validated self-report measures) • Job stress, burnout or fatigue (using objective measures and/ or validated self-report measures) • Symptoms of mental health conditions such as depression, anxiety, insomnia (using validated self-report measures) • Absenteeism • Presenteeism • Productivity • Job satisfaction, engagement or motivation • Uptake of support services • Quality of life <p>Employer outcomes</p> <ul style="list-style-type: none"> • Productivity • Absenteeism • Presenteeism <p>Qualitative</p> <p>Eligible studies will include as outcomes the views and experiences with the interventions of:</p> <ul style="list-style-type: none"> • employees receiving the interventions • employers • Those delivering the interventions
Timing	<p>Timing and measures:</p> <p>Quantitative</p>

Field	Content
	<p>We will consider outcomes at any follow up. Priority will be given to the longest follow up time for an outcome.</p> <p>For interventions with a defined period of delivery (for example a training programme), the follow up period refers to the length of time since the delivery of the intervention was completed.</p> <p>For ongoing interventions with no specific completion point (for example the implementation of a new policy), the follow up period refers to the length of time since the intervention was implemented.</p> <p>Qualitative We will consider outcomes at any time point following implementation</p>
Secondary outcomes (important outcomes) (200 words)	<p>Quantitative</p> <ul style="list-style-type: none"> • Public or patient safety • Employee retention • Uptake of support services • Emotional resilience • Mental health literacy • Adverse effects or unintended consequences • Policy implementation (presence or absence of a universal policy) <p>Qualitative Not applicable</p>
Data extraction (selection and coding) (300 words)	<p>All references identified by the searches and from other sources will be uploaded into EPPI-R5 and de-duplicated.</p> <p>This review will use the EPPI-R5 priority screening functionality. At least 60%-70% of the identified abstracts will be screened. After this point, screening will only be terminated if a pre-specified threshold is met for a number of abstracts being screened without a single new include being identified. This threshold is set according to the expected proportion of includes in the review (with reviews with a lower proportion of includes needing a higher number of papers without an identified study to justify termination) and is always a minimum of 250.</p>

Field	Content
	<p>A random 10% sample of the studies remaining in the database when the threshold is met will be additionally screened, to check if a substantial number of relevant studies are not being correctly classified by the algorithm, with the full database being screened if concerns are identified.</p> <p>10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer.</p> <p>The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above.</p> <p>A standardised EPPI-R5 template will be used when extracting data from studies (this is consistent with the Developing NICE guidelines: the manual section 6.4). Details of the intervention will be extracted using the TIDieR checklist in EPPI-R5.</p> <p>Outcome data will be extracted into EPPI-R5 as reported in the full text. Where appropriate, outcomes will be transformed from “as reported” into data we can use in the meta-analysis</p> <p>Study investigators may be contacted for missing data where time and resources allow.</p>
Risk of bias (quality) assessment (200 words)	<p>Risk of bias will be assessed using the appropriate checklist as described in Developing NICE guidelines: the manual.</p> <p>Quantitative For systematic reviews, we will use the ROBIS tool For randomised controlled trials, we will use Cochrane Risk of Bias Tool 2.0.</p> <p>Qualitative For qualitative studies we will use the CASP qualitative checklist</p>
Strategy for data synthesis (300 words)	<p>Quantitative</p> <p>Studies will be grouped according to the type of intervention as appropriate.</p>

Field	Content
	<p>Where appropriate meta-analysis will be used, and data will be pooled within the categories above using a random effects model to allow for the anticipated heterogeneity.</p> <ul style="list-style-type: none"> • Dichotomous data will be pooled where appropriate and the effect size will be reported using risk ratios in a standard pair-wise meta-analysis. • Continuous outcomes reported on the same scale will be pooled in a standard pair-wise meta-analysis using mean difference where possible. • Continuous outcomes not reported on the same scale will be pooled using a standardised mean difference in a standard pair-wise meta-analysis. <p>Methods for pooling cluster randomised controlled trials will be considered where appropriate. Unit of analysis issues will be dealt with according to the methods outlined in the Cochrane Handbook.</p> <p>Unexplained heterogeneity will be examined where appropriate with a sensitivity analysis based on risk of bias.</p> <p>Where appropriate, the quality or certainty across all available evidence will be evaluated for each outcome using an the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group http://www.gradeworkinggroup.org/</p> <p>Qualitative</p> <p>The key findings from the studies will be categorised into themes relevant to the review across all studies using a thematic analysis. Supporting quotations and summaries of data will be included.</p> <p>Where possible we will categorise groups views and experiences relating to acceptability into the following categories:</p> <ul style="list-style-type: none"> • affective attitude (how the participant feels about the intervention) • burden (perceptions about the amount effort required to participate) • perceived effectiveness • ethicality (whether the intervention fits within the participant's value system) • intervention coherence (whether the participant understands the intervention)

Field	Content
	<ul style="list-style-type: none"> • opportunity costs for engaging • self-efficacy to participate <p>The quality or certainty across all available evidence will be evaluated for each outcome using the GRADE CERQual approach.</p> <p>Integration of data As we have included different types of data from different sources as follows:</p> <ul style="list-style-type: none"> • Quantitative <ul style="list-style-type: none"> ○ effectiveness data from intervention studies • Qualitative <ul style="list-style-type: none"> ○ View and experiences data related to interventions <p>An inductive convergent segregated approach will be undertaken to combine findings from each review. Where possible qualitative and quantitative data will be integrated using tables.</p> <p>Where quantitative and qualitative data comes from</p> <ul style="list-style-type: none"> • the same study, the technical team will present the qualitative analytical themes next to quantitative effectiveness data for the committee to discuss. • different studies, the committee will be asked to interpret both sets of finding using a matrix approach for the committee discussion section.
Analysis of sub-groups (250 words)	<p>Quantitative</p> <p>Where evidence allows, subgroup analyses will be conducted. Some or all of the following subgroups will be explored, including:</p> <ul style="list-style-type: none"> • Gender • Age • Disability or other long-term physical or mental health condition status • Socioeconomic status (e.g. type of industry: manual, semi-skilled, skilled). • Occupational groups or roles at increased risk of poor mental wellbeing • Work sector (voluntary, public, private)

Field	Content
	<ul style="list-style-type: none">• Organisation size (micro, small, medium and large)• Type of employment contract (part-time, temporary, full-time, voluntary, training, zero- hours contracts)• Other groups for consideration listed in the EIA <p>Qualitative Not applicable</p>

Appendix B – Literature search strategies

Database strategies

Searches were run and re-run in Applied Social Science Index and Abstracts (ASSIA), Cochrane Central Register of Controlled Trials (CENTRAL) / Cochrane Database or Systematic Reviews (CDSR), Econlit, Embase, Epistemonikos, HealthEvidence.org, MEDLINE ALL and PsycINFO. Additional website browsing was undertaken (Department for Work & Pensions Research Reports, What Works Wellbeing Centre) with additional Reference harvesting (backwards citation searching) & forward citation searching undertaken. The ASSIA search undertaken is outlined as an example.

Database name: Applied Social Science Index and Abstracts (ASSIA)

Original searches

Set#	Searched for	Results
S3	<p>(((MAINSUBJECT.EXACT.EXPLODE("Employment") OR MAINSUBJECT.EXACT("Occupational stress" OR "Occupational stress management" OR "Job satisfaction" OR "Job involvement" OR "Workaholism") OR TI,AB("job satisfaction" OR ((satisfaction OR satisfied OR engaged OR engagement OR motivation OR motivated) NEAR/3 (work OR worker OR workers OR job OR jobs OR workforce OR workplace)))) OR ((MAINSUBJECT.EXACT("Absenteeism" OR "Work behaviour" OR "Job Performance") OR MAINSUBJECT.EXACT.EXPLODE("Wellbeing" OR "Adaptation") OR TI,AB(absenteeism OR presenteeism OR (work NEAR/3 performance) OR (job NEAR/3 performance))) AND (MAINSUBJECT.EXACT("Resilience") OR MAINSUBJECT("Mental Health" OR "Psychological") OR TI,AB("well-being" OR mental OR mentally OR psychology OR psychological OR psychologically OR psychiatry OR psychiatric OR psychiatrically))) OR (TI(wellbeing OR "well-being" OR stress OR burnout OR fatigue OR fatigued OR tired OR tiredness OR depression OR depressed OR anxiety OR insomnia OR sleep OR productivity OR (confidence NOT ("confidence interval" OR "confidence intervals")) OR "self esteem" OR (mental NEAR/9 (literacy OR knowledge OR attitude OR attitudes OR awareness OR communication OR communications OR communicative OR communicativeness OR skill OR skills OR competent OR competency OR competence OR competencies OR competently OR uptake OR "take-up")) OR ("quality of life" OR "quality adjusted life" OR qaly OR qalys OR qald OR qalds OR qale OR qales OR qtime OR qtimes)) AND (MAINSUBJECT.EXACT.EXPLODE("Employment" OR "Employees" OR "Employees" OR "Work" OR "Working Hours" OR "Work commitment" OR "Work values" OR "Occupational health" OR "Jobs" OR "Corporate culture" OR "Work organization" OR "Professionals" OR "Personnel management" OR "Human</p>	9926

<p>resources management" OR "Staffing") OR MAINSUBJECT.EXACT("Labour force" OR "Workplace control" OR "Workplace learning" OR "Workplaces" OR "Working style" OR "Work status" OR "Work-family conflict" OR "Work-leisure conflict" OR "Work-leisure attitudes" OR "Work-school conflict" OR "Work site programmes" OR "Organizational policy" OR "Organizational factors" OR "Organizational environment" OR "Work environment" OR "Organizational models" OR "Organizational structure" OR "Organizational support" OR "Personnel" OR "Manpower planning" OR "Staffing levels" OR "Occupational diseases") OR MAINSUBJECT("Occupational" OR "Employment" OR "Colleagues" OR "Staff") OR TI,AB,PUB(employee OR employees OR employment OR employed OR work OR worker OR workers OR workload OR workloads OR workplace OR workplaces OR worksite OR worksites OR occupational OR job OR jobs OR organisation OR organization OR organisations OR organizations OR organisational OR organizational OR company OR companies OR corporation OR corporations OR personnel OR staff OR staffing OR colleague OR colleagues OR coworker OR coworkers) OR TI,PUB (profession OR professions OR professional OR professionals))) OR ((MAINSUBJECT.EXACT.EXPLODE("Wellbeing" OR "Depression" OR "Anxiety" OR "Sleep" OR "Productivity" OR "Selfesteem") OR MAINSUBJECT.EXACT("Stress" OR "Daily Stress" OR "Critical incident stress" OR "Life Stress" OR "Nervous breakdown" OR "Role stress" OR "Social stress" OR "Traumatic stress" OR "Burnout" OR "Fatigue" OR "Mental fatigue" OR "Anxiety-Depression" OR "Anxiety disorders" OR "Acute Stress disorder" OR "Generalized anxiety disorders" OR "Panic disorders" OR "Sleep problems" OR "Sleep deprivation" OR "Selfconfidence" OR "Selfacceptance" OR "Selfactualization" OR "Selfcongruence" OR "Selfefficacy" OR "Mental health perspectives" OR "Quality adjusted life years" OR "Quality of life") OR TI,AB(wellbeing OR "well-being" OR stress OR burnout OR fatigue OR fatigued OR tired OR tiredness OR depression OR depressed OR anxiety OR insomnia OR sleep OR productivity OR (confidence NOT ("confidence interval" OR "confidence intervals"))) OR "self esteem" OR (mental NEAR/9 (literacy OR knowledge OR attitude OR attitudes OR awareness OR communication OR communications OR communicative OR communicativeness OR skill OR skills OR competent OR competency OR competence OR competencies OR competently OR uptake OR "take-up")) OR ("quality of life" OR "quality adjusted life" OR qaly OR qalys OR qald OR qalds OR qale OR qales OR qtime OR qtimes))) AND (TI,PUB(employee OR employees OR employment OR employed OR work OR worker OR workers OR workload OR workloads OR workplace OR workplaces OR worksite OR worksites OR occupational OR job OR jobs OR organisation OR organization OR organisations OR</p>
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	organizations OR organisational OR organizational OR company OR companies OR corporation OR corporations OR personnel OR staff OR staffing OR colleague OR colleagues OR coworker OR coworkers) OR TI,PUB(profession OR professions OR professional OR professionals)))) AND (MAINSUBJECT.EXACT.EXPLODE("Randomized controlled trials") OR MAINSUBJECT.EXACT("Prospective controlled trials" OR "Case controlled studies") OR TI,AB(randomised OR randomized OR intervention OR interventions OR program OR programme OR trial))) AND pd(20070101-20191128)) AND la.exact("ENG")	
S4	(MAINSUBJECT.EXACT.EXPLODE("Personnel management" OR "Human resources management")) OR (TI,AB(manager OR managers OR management OR supervisor OR supervisors OR "team leader" OR "team leaders" OR "team leadership" OR "line leader" OR "line leaders" OR "line leadership"))	80131
S5	S3 AND S4	1537
S6	S3 NOT S4	8389

Notes

1. ProQuest runs together search lines into a single block once they're OR-ed together but the main cluster above (S3) is the equivalent of line 130 in Medline with a publication date limited added.
2. There is a discrepancy between the number of hits returned in ASSIA (line S5 for question 2 and line S6 for the rest of questions 1-5) and the number of references downloaded. The totals in the tables on pages 7 and 8 reflect the number of references downloaded and included in the review. We have had a persistent problem with ProQuest databases whereby we are unable to download entire reference sets and therefore take the pragmatic decision to download what we can and report both totals. The same problem did not reoccur for the rerun searches.

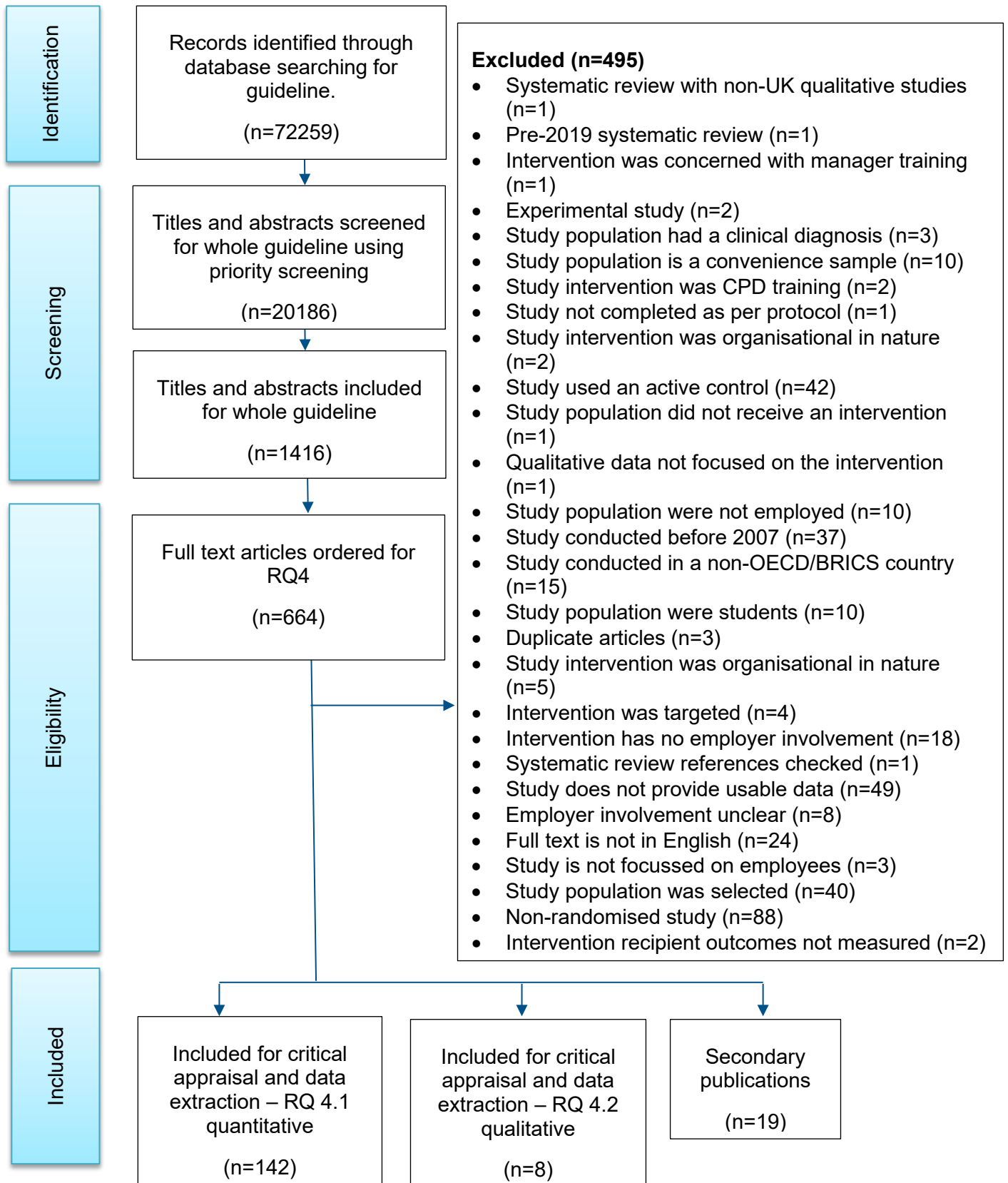
Rerun searches

Set#	Searched for	Results
S1	(((((MAINSUBJECT.EXACT.EXPLODE("Employment") OR MAINSUBJECT.EXACT("Occupational stress" OR "Occupational stress management" OR "Job satisfaction" OR "Job involvement" OR "Workaholism") OR TI,AB("job satisfaction" OR ((satisfaction OR satisfied OR engaged OR engagement OR motivation OR motivated) NEAR/3 (work OR worker OR workers OR job OR	3905

<p>jobs OR workforce OR workplace)))) OR ((MAINSUBJECT.EXACT("Absenteeism" OR "Work behaviour" OR "Job Performance") OR MAINSUBJECT.EXACT.EXPLODE("Wellbeing" OR "Adaptation") OR TI,AB(absenteeism OR presenteeism OR (work NEAR/3 performance) OR (job NEAR/3 performance))) AND (MAINSUBJECT.EXACT("Resilience") OR MAINSUBJECT("Mental Health" OR "Psychological") OR TI,AB("well-being" OR mental OR mentally OR psychology OR psychological OR psychologically OR psychiatry OR psychiatric OR psychiatrically))) OR (TI(wellbeing OR "well-being" OR stress OR burnout OR fatigue OR fatigued OR tired OR tiredness OR depression OR depressed OR anxiety OR insomnia OR sleep OR productivity OR (confidence NOT ("confidence interval" OR "confidence intervals")) OR "self esteem" OR (mental NEAR/9 (literacy OR knowledge OR attitude OR attitudes OR awareness OR communication OR communications OR communicative OR communicativeness OR skill OR skills OR competent OR competency OR competence OR competencies OR competently OR uptake OR "take-up")) OR ("quality of life" OR "quality adjusted life" OR qaly OR qalys OR qald OR qalds OR qale OR qales OR qtime OR qtimes)) AND (MAINSUBJECT.EXACT.EXPLODE("Employment" OR "Employees" OR "Employees" OR "Work" OR "Working Hours" OR "Work commitment" OR "Work values" OR "Occupational health" OR "Jobs" OR "Corporate culture" OR "Work organization" OR "Professionals" OR "Personnel management" OR "Human resources management" OR "Staffing") OR MAINSUBJECT.EXACT("Labour force" OR "Workplace control" OR "Workplace learning" OR "Workplaces" OR "Working style" OR "Work status" OR "Work-family conflict" OR "Work-leisure conflict" OR "Work-leisure attitudes" OR "Work-school conflict" OR "Work site programmes" OR "Organizational policy" OR "Organizational factors" OR "Organizational environment" OR "Work environment" OR "Organizational models" OR "Organizational structure" OR "Organizational support" OR "Personnel" OR "Manpower planning" OR "Staffing levels" OR "Occupational diseases") OR MAINSUBJECT("Occupational" OR "Employment" OR "Colleagues" OR "Staff") OR TI,AB,PUB(employee OR employees OR employment OR employed OR work OR worker OR workers OR workload OR workloads OR workplace OR workplaces OR worksite OR worksites OR occupational OR job OR jobs OR organisation OR organization OR organisations OR organizations OR organisational OR organizational OR company OR companies OR corporation OR corporations OR personnel OR staff OR staffing OR colleague OR colleagues OR coworker OR coworkers) OR TI,PUB (profession OR professions OR professional OR professionals))) OR ((MAINSUBJECT.EXACT.EXPLODE("Wellbeing" OR "Depression" OR "Anxiety" OR "Sleep" OR "Productivity" OR "Selfesteem") OR MAINSUBJECT.EXACT("Stress" OR "Daily Stress" OR "Critical incident stress" OR "Life Stress" OR</p>

	"Nervous breakdown" OR "Role stress" OR "Social stress" OR "Traumatic stress" OR "Burnout" OR "Fatigue" OR "Mental fatigue" OR "Anxiety-Depression" OR "Anxiety disorders" OR "Acute Stress disorder" OR "Generalized anxiety disorders" OR "Panic disorders" OR "Sleep problems" OR "Sleep deprivation" OR "Selfconfidence" OR "Selfacceptance" OR "Selfactualization" OR "Selfcongruence" OR "Selfefficacy" OR "Mental health perspectives" OR "Quality adjusted life years" OR "Quality of life") OR TI,AB(wellbeing OR "well-being" OR stress OR burnout OR fatigue OR fatigued OR tired OR tiredness OR depression OR depressed OR anxiety OR insomnia OR sleep OR productivity OR (confidence NOT ("confidence interval" OR "confidence intervals"))) OR "self esteem" OR (mental NEAR/9 (literacy OR knowledge OR attitude OR attitudes OR awareness OR communication OR communications OR communicative OR communicativeness OR skill OR skills OR competent OR competency OR competence OR competencies OR competently OR uptake OR "take-up")) OR ("quality of life" OR "quality adjusted life" OR qaly OR qalys OR qald OR qalds OR qale OR qales OR qtime OR qtimes))) AND (TI,PUB(employee OR employees OR employment OR employed OR work OR worker OR workers OR workload OR workloads OR workplace OR workplaces OR worksite OR worksites OR occupational OR job OR jobs OR organisation OR organization OR organisations OR organizations OR organisational OR organizational OR company OR companies OR corporation OR corporations OR personnel OR staff OR staffing OR colleague OR colleagues OR coworker OR coworkers) OR TI,PUB(profession OR professions OR professional OR professionals)))) AND (MAINSUBJECT.EXACT.EXPLODE("Randomized controlled trials") OR MAINSUBJECT.EXACT("Prospective controlled trials" OR "Case controlled studies") OR TI,AB(randomised OR randomized OR intervention OR interventions OR program OR programme OR trial))) AND ud(20191128-20210201)) AND la.exact("ENG")	
S2	(MAINSUBJECT.EXACT.EXPLODE("Personnel management" OR "Human resources management")) OR (TI,AB(manager OR managers OR management OR supervisor OR supervisors OR "team leader" OR "team leaders" OR "team leadership" OR "line leader" OR "line leaders" OR "line leadership"))	84384
S3	S1 AND S2	631
S4	S1 NOT S2	3274

Appendix C – PRISMA diagram



Appendix D – Evidence tables

D.1 Abbott, 2009

Bibliographic Reference Abbott, Jo-Anne; Klein, Britt; Hamilton, Catherine; Rosenthal, Andrew; The impact of online resilience training for sales managers on wellbeing and performance.; E-Journal of Applied Psychology; 2009; vol. 5 (no. 1); 89-95

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jun-2008
Study end date	Oct-2008
Aim	To determine whether online resilience training would improve the psychological health, wellbeing, and work performance of sales managers from an Australian industrial organisation.
Country/geographical location	Australia
Setting	Workplace (largely home-based): <ul style="list-style-type: none"> • Sector: private • Industry: not reported • Organisation size: not reported • Contract type: not reported • Seniority: managers

	<ul style="list-style-type: none"> Income: mixed (varying educational levels)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Participants were randomised following completion of baseline measures. Participants were randomly allocated by a staff member of Reflective Learning (the owners of ROL) to the intervention or waitlist control group sequentially (i.e., AB, AB) using a block design.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> ITT analysis Dependent variables that were non-normally distributed were transformed (i.e., all 3 scales on the DASS at pre and post-intervention required a square root transformation). Means and standard deviations for each dependent variable at each assessment phase. At pre intervention there were no significant differences between the groups in terms of the gender, age, or educational level of participants. There were no differences between the groups on any of the pre-intervention measures. Two repeated measures MANOVAs (DASS-21 subscales, WHOQOL-BREF domains) and three repeated measures ANOVAs (AHI, gross margin, volume of product) were conducted, using intention-to-treat analyses.
Attrition	<p>7/26 (27%) in the intervention group completed the whole 7 skills of the intervention</p> <p>4/26 (15%) completed the first skill</p> <p>3/26 (12%) completed either the second, third or fourth skills[p92]</p>

	<p>Post-intervention questionnaire completion:</p> <ul style="list-style-type: none"> • 46% (12/26) intervention group • 70% (19/27) control group [p91]
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • high attrition rate • Possible confounding factors i.e., it is possible that participants in the control group heard about the program content from colleagues who were undertaking the intervention
Study limitations (reviewer)	<ul style="list-style-type: none"> • Study population was mostly men • Article reports that data were collected at pre- and post-intervention, as well as follow-up 10 weeks after the intervention, however, no follow-up data were reported • Conflict of interest: Author is Vice President: Business Development and Marketing for Reflective Learning, the company that owns Resilience Online and was involved with designing the evaluation
Source of funding	Not reported

Study arms

Online resilience programme (N = 26)

26 participants were randomised to receive an online resilience programme. Participants self-selected following emails from the organisation's medical advisor.

Wait list (N = 27)

27 participants were randomised to a wait list. Participants self-selected following emails from the organisation's medical advisor.

Characteristics**Arm-level characteristics**

Characteristic	Online resilience programme (N = 26)	Wait list (N = 27)
Age		
Mean (SD)	40.5 (9.45)	46 (9.99)
Gender		
Men - n calculated by reviewer from percentage	n = 22 ; % = 84.6	n = 24 ; % = 88.9
No of events		
Some high school or less		
n	n = 5 ; % = 19.2	n = 2 ; % = 7.4
No of events		
High school		
n	n = 6 ; % = 23.1	n = 9 ; % = 33.3
No of events		
Some university		
n	n = 4 ; % = 15.4	n = 5 ; % = 18.5
No of events		
Associates degree		
n	n = 1 ; % = 3.8	n = 4 ; % = 14.8
No of events		
Bachelor's degree		
n	n = 7 ; % = 26.9	n = 5 ; % = 18.5
No of events		
Post-graduate degree		
n	n = 3 ; % = 11.5	n = 2 ; % = 7.4
No of events		

Outcomes

Study timepoints

- Baseline
- 0 week (Follow-up at the end of the 10-week intervention)

Employee outcomes

Outcome	Online resilience programme, Baseline, N = 26	Online resilience programme, 0 week, N = 26	Wait list, Baseline, N = 27	Wait list, 0 week, N = 27
Mental wellbeing (1-5) Self-reported- Authentic Happiness Inventory Mean (SD)	3.36 (0.48)	3.44 (0.48)	3.35 (0.47)	3.46 (0.49)
Job stress Self-reported- Stress subscale of Depression Anxiety and Stress Scales (DASS- 21) Mean (SD)	10.77 (7.44)	9.69 (5.95)	7.63 (6.89)	6.3 (4.89)
Mental health symptoms Self-reported- Depression subscale of Depression Anxiety and Stress Scales (DASS- 21) Mean (SD)	5.31 (5.09)	4.69 (4.93)	3.78 (5.39)	3.7 (5.28)
Quality of life Self-reported- Psychological subscale of The World Health Organization Quality of Life – BREF (WHOQOL-BREF)	69.55 (11.17)	70.51 (10.6)	71.45 (14.05)	73.46 (14.59)

Outcome	Online resilience programme, Baseline, N = 26	Online resilience programme, 0 week, N = 26	Wait list, Baseline, N = 27	Wait list, 0 week, N = 27
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Employer outcomes

Outcome	Online resilience programme, Baseline, N = 26	Online resilience programme, 0 week, N = 26	Wait list, Baseline, N = 27	Wait list, 0 week, N = 27
productivity Data supplied by organisation - Gross margin (% of target met)	93.85 (30.34)	97.1 (23.5)	91.96 (28.26)	107.26 (21.87)
Mean (SD)				

productivity - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Online resilience programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes - Job stress - Online resilience programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Online resilience programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes - Quality of life - Online resilience programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition in intervention group)</i>

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Attrition and self-reported outcomes</i>)

Employer outcomes - productivity - Online resilience programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>High attrition in intervention group</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Low

Study arms

Online resilience programme (N = 26)

Brief name	Online resilience programme- Resilience Online [page 89]
Rationale/theory/Goal	The programme aims to enhance seven components of resilience (emotion regulation, impulse control, optimism, causal analysis, empathy, self-efficacy and reaching out) and is based on cognitive therapy. [page 90]
Materials used	Videos and slides [page 90]
Procedures used	<ul style="list-style-type: none"> • The user is guided through the skills by a video of a psychologist and accompanying slides. The program enables users to interact at any time during the program with several Virtual Partners that help users understand the key learning components from multiple perspectives. • Participants were offered an individual call from a staff member in the second and tenth week to answer questions about accessing the programme of applying skills • Participants participated in a group conference call with two staff members. This provided a platform for participants to share their experiences and interact with staff. • Participants also received emails from the Project Manager, encouraging them to complete the program and questionnaires. <p>[pages 90 and 91]</p>
Provider	<ul style="list-style-type: none"> • Psychologist guided participants through skills video • Staff members of Reflective Learning conducted calls and facilitated group video conference <p>[pages 90 and 91]</p>
Method of delivery	<ul style="list-style-type: none"> • Online • Individual phone calls

	<ul style="list-style-type: none"> Group video conferencing
	[page 90 and 91]
Setting/location of intervention	Workers were largely home-based [page 90]
Intensity/duration of the intervention	10-week programme [page 91]
Tailoring/adaptation	not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 27)

Brief name	Wait list [page 91]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable

Procedures used	Participants allocated to the waitlist control group were informed that they would be contacted in 10-weeks' time with details of how they could undertake the ROL program. [page 91]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.2 Ahola, 2012

Bibliographic Reference

Ahola, Kirsi; Vuori, Jukka; Toppinen-Tanner, Salla; Mutanen, Pertti; Honkonen, Teija; Resource-enhancing group intervention against depression at workplace: who benefits? A randomised controlled study with a 7-month follow-up.; Occupational and environmental medicine; 2012; vol. 69 (no. 12); 870-6

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2006
Study end date	2008
Aim	To investigate whether participation in a structured resource-enhancing group intervention at work would act as primary prevention against depression.
Country/geographical location	Finland
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private and public • Industry: mixed (five were governmental organisations [two city departments, a research institute, an employment office, and an insurance office], three were private enterprises [a banking company, a multiservice company and an occupational health service organisation]) • Organisation size: medium and large • Contract type: not reported • Seniority: mixed supervisors and employees • Income: mixed (blue collar and white collar)
Inclusion criteria	Participants agreed to a randomisation procedure and to hand in the baseline questionnaire.
Exclusion criteria	Not reported

Method of randomisation	Two researchers shuffled the received sealed questionnaire envelopes and dealt them into two piles.
Method of allocation concealment	Questionnaires were sealed and sent to an independent company to be saved as data.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Modified ITT analysis- participants with missing values in some of the relevant variables were excluded • Cross-tabulations were used to describe the prevalence of depression at T2 among all participants and according to job strain and depressive symptoms at T1. • The likelihood of depression at T2 was analysed using logistic regression. Models were also adjusted for depressive symptoms at T1 and socio-economic factors.
Attrition	Follow-up measures were received for 32/369 participants in the intervention group (88%) and 292/349 participants in the control group (84%). Participants with missing values were excluded, meaning that the final sample sizes were 296 (80%) for the intervention and 270 (77%) for the control group.
Study limitations (author)	<ul style="list-style-type: none"> • Organisations self-selected- Participating organisations were large-sized and medium-sized, situated in urban areas, operated predominantly in the public sector, and were dominated by female workers (75%). Therefore, the results can be carefully generalised to similar settings in which the participation is voluntary. • Participants self-selected- The participants were mainly women (89%), reflecting the overall proportion of women in the participating organisations, and white-collar workers (74%). • The final study sample comprised 79% of those who originally took part in the intervention. During the intervention, there was no statistically significant difference between the dropouts and the respondents. • The number of participants in our sample was quite high (n=566). However, the stratified analyses may have suffered from diminished statistical power. • A detailed cost and benefit analysis could not be performed in the present study. • Study assessed depressive symptoms using the short form of the BDI-36 A high number of depressive symptoms (over 9 points) were used as a proxy for depression. However, depression can never be reliably defined with a questionnaire.

Study limitations (reviewer)	None
Source of funding	Finnish Work Environment Fund, the Finnish Ministry of Finance, and the Academy of Finland

Study arms

Resource-enhancing intervention (N = 369)

369 participants were randomised to receive a resource-enhancing intervention. Participants were recruited from 17 organisations that were interested in participating in the study through personnel magazines and other forms of daily communication.

Control (N = 349)

349 participants were randomised to receive a control group. Participants were recruited from 17 organisations that were interested in participating in the study through personnel magazines and other forms of daily communication.

Characteristics

Arm-level characteristics

Characteristic	Resource-enhancing intervention (N = 369)	Control (N = 349)
30 to 34	n = 2 ; % = 1	n = 4 ; % = 1
No of events		
35 to 39	n = 15 ; % = 5	n = 15 ; % = 6
No of events		

Characteristic	Resource-enhancing intervention (N = 369)	Control (N = 349)
40 to 44	n = 52 ; % = 18	n = 35 ; % = 13
No of events		
45 to 49	n = 52 ; % = 18	n = 69 ; % = 26
No of events		
50 to 54	n = 77 ; % = 26	n = 77 ; % = 29
No of events		
55 to 59	n = 84 ; % = 28	n = 58 ; % = 21
No of events		
60 to 64	n = 14 ; % = 5	n = 12 ; % = 4
No of events		
Men	n = 38 ; % = 13	n = 27 ; % = 10
No of events		
Women	n = 258 ; % = 87	n = 243 ; % = 90
No of events		
White collar	n = 220 ; % = 74	n = 197 ; % = 73
No of events		
Blue collar	n = 76 ; % = 26	n = 69 ; % = 26
No of events		

Outcomes

Study timepoints

- Baseline
- 7 month (Outcomes measured 7 months after the intervention)

Employee outcomes

Outcome	Resource-enhancing intervention, Baseline, N = 369	Resource-enhancing intervention, 7 month, N = 369	Control, Baseline, N = 349	Control, 7 month, N = 349
Mental health symptoms (0-39) Self-reported- depression (scored as 0-9) in the Beck Depression Inventory (BDI)	n = 32 ; % = 11	n = 23 ; % = 8	n = 25 ; % = 9	n = 33 ; % = 12
No of events				
Mental health symptoms (0-39) Self-reported- depression (scored as 0-9) in the Beck Depression Inventory (BDI)	n = 296 ; % = 80	n = 296 ; % = 80	n = 270 ; % = 77	n = 270 ; % = 77
Sample size				

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Resource-enhancing intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Resource-enhancing intervention (N = 369)

Brief name	Resource-enhancing intervention [page 870]
Rationale/theory/Goal	Increase in career management preparedness might strengthen employees' personal resources and help them to mould their psychosocial factors at work in such a way that the risk for depression would decrease. [page 871]
Materials used	information leaflets regarding the programme. [page 871]

Procedures used	<ul style="list-style-type: none"> • Two employees from each organisation were trained as trainers for four full days at the Finnish Institute of Occupational Health, one from occupational health services and the other from human resources. • A total of 34 workshops were conducted. • The groups, comprising 8 to 15 employees and supervisors, assembled in the participating organisations with two trained trainers from the • The skills training element included defining one's own strengths and career interests, introducing the principles of lifelong learning, practising organisational change management, obtaining career-related resources from social networks, solving social conflicts, and managing one's career. • The trainers relied on active learning methods by making use of participants' own career knowledge and career choice skills in discussions and role-plays. • The skilled trainers worked together in pairs to build trust and facilitate group processes, which promote learning, and social support was provided by facilitating modelling and strengthening supportive behaviour in the groups. Preparation against setbacks was accomplished through inoculation training. <p>[pages 871 and 872]</p>
Provider	Two employees from each organisation were trained as trainers for four full days at the Finnish Institute of Occupational Health, one from occupational health services and the other from human resources. [page 871]
Method of delivery	Group workshops [page 871]
Setting/location of intervention	Organisation [page 871]
Intensity/duration of the intervention	The intervention consisted of four half-day sessions, which were delivered over 1 or 2 weeks. [page 872]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Structured programme from published manual- Vuori 2008 [page 872]

Actual treatment fidelity	Not reported
Other details	All material and training of the trainers were free of charge to the organisations. [page 871]

Control (N = 349)

Brief name	Control [page 871]
Rationale/theory/Goal	Not applicable
Materials used	literature package on career management and health-related information [page 871]
Procedures used	Participants received a literature package [page 871]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.3 Aikens, 2014

Bibliographic Reference Aikens, Kimberly A; Astin, John; Pelletier, Kenneth R; Levanovich, Kristin; Baase, Catherine M; Park, Yeo Yung; Bodnar, Catherine M; Mindfulness goes to work: impact of an online workplace intervention.; Journal of occupational and environmental medicine; 2014; vol. 56 (no. 7); 721-31

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Mar-2012
Aim	To determine whether a mindfulness programme, that has been created for the workplace, is practical and effective in decreasing employee stress, enhancing resiliency, and enhancing wellbeing.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing

	<ul style="list-style-type: none"> • Organisational size: large • Contract type: salaried employees • Seniority: not reported • Income: not reported
Inclusion criteria	<ul style="list-style-type: none"> • Participants who have taken a health risk assessment in the last 6 months • Salaried employees • Employees aged over 18 years
Exclusion criteria	<ul style="list-style-type: none"> • Hourly workers
Method of randomisation	Computer algorithm
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis was conducted • The treatment effect was assessed through (1) comparison of all scores between intervention and wait-list control in the ITT sample at postintervention, adjusting for baseline scores, and (2) within-group comparisons of pre- and postintervention scores using baseline to postintervention for the intervention group, and from postintervention to program completion (PIWL) for the wait-list control group. • Analysis of covariance was used • Discussion stated that there was adequate statistical power, however, no power calculations were reported
Attrition	<ul style="list-style-type: none"> • The total completed program sample comprised all participants who had participated in at least 50% of the allocated intervention and provided data at baseline and postintervention (n = 34; dropout rate = 10.5%).

	<ul style="list-style-type: none"> • Intervention: Out of 44 participants, 34 completed. Six participants (14%) did not start the program, citing work obligations and busy schedules, and 2 (5%) terminated prematurely because of either scheduling problems or work commitments within the first 2 weeks of the intervention. • Of the 34 program completers in the intervention group, six participants (17.6%) reported completing approximately 50% of course material and attending an average of 6.33 of eight class meetings. The remaining 28 participants (82.4%) reported completing 75% to 100% of the program material and attended an average of 7.4 class meetings. Participants reported practicing mindfulness exercises 4.5 days per week in week 1. By week 7, the average days practiced was 3.8. Overall, practice time averaged 13 minutes per day or 1.5 hours per week.
Study limitations (author)	<ul style="list-style-type: none"> • Company layoff announcements occurred 2 weeks before baseline assessments and 2nd announcement occurred whilst follow-up outcome measures were being conducted - these events may have impacted on perceived stress and resilience measures. • Relatively small number of participants (n=79) • Mediation analysis- improvements in resiliency, as well as the emotional liveness element of the Shirom Vigor Scale, were only partially mediated by mindfulness therefore it is possible that non mediating factors may have partially contributed to some of the outcomes (e.g. social or group-related factors) • Self-reported outcome measures • The generalisability of the study may be low, as employees were only from one petrochemical company
Study limitations (reviewer)	<ul style="list-style-type: none"> • Participant characteristics were not reported
Source of funding	American Health Association

Study arms

Mindfulness programme (N = 44)

44 individuals were randomised to receive a mindfulness intervention from one company.

Wait list (N = 45)

45 participants were allocated to a wait list from one company.

Outcomes**Study timepoints**

- Baseline
- 0 week (Follow up at post-intervention endpoint)

Employee outcomes

Outcome	Mindfulness programme, Baseline, N = 44	Mindfulness programme, 0 week, N = 44	Wait list, Baseline, N = 45	Wait list, 0 week, N = 45
Job stress (0-46) Self-reported - Perceived stress scale (PSS-14) Mean (SD)	24.46 (6.29)	18 (7.01)	24.76 (8.16)	23.32 (8.45)
job satisfaction (1-7) Self-reported - Cognitive liveliness Shirom vigor scale Mean (SD)	4.53 (0.96)	5.11 (0.99)	4.75 (0.99)	4.69 (1.03)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress -Mindfulness programme vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job satisfaction - Mindfulness programme vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness programme (N = 44)

Brief name	Dow mindful resilience programme - a modified version of the MBSR programme [page 722]
Rationale/theory/Goal	The researchers hypothesised that a shortened, web-based workplace mindfulness program would increase measures of mindfulness, decrease stress, enhance resiliency, and improve employee vigor and work engagement, thereby resulting in an increase in positive organizational behaviour and enhanced employee well-being. They also hypothesised that the online applied training portion of the program, which included personalized progress tracking and lifestyle coaching, could affect employee lifestyle choices such as (1) diet, (2) exercise time, and (3) hours slept per night, over the course of the program. [page 722]
Materials used	<ul style="list-style-type: none"> • Website • Workbook containing a practice guide • Audio exercises

	<ul style="list-style-type: none"> • Text message service (opt-in) <p>[pages 723 and 724]</p>
Procedures used	<ul style="list-style-type: none"> • The first and fifth class meetings were in-person, followed by completion of workbook section and assigned online training. • Subsequent class meetings were conducted via webinar, followed by workbook and online training tasks. • Online applied training consisted of assigned experiential audio exercises, which became longer and more complex as the course progressed. • Exercises included training in mindfulness techniques. • Additional exercises included performance-oriented skills such as successful handling of stressful situations, recognition of autopilot and automatic mind scripts, mindful communication, presentation preparedness, and mindful problem solving. • The second part of the program's online applied training consisted of a weekly progress tracking survey, to assess participants' understanding of the concepts inherent in each week's mindfulness material and track healthy lifestyle habits and program usage. • Participants received pre-programmed e-mail coaching and specific feedback. • There was also an opt-in customised text messaging system to provide daily practice reminders and encouragement. <p>[pages 73</p>
Provider	A board-certified internal medicine physician, with training in integrative medicine and MBSR [page 724]
Method of delivery	Online, in-person classes and text messages [pages 723 and 724]
Setting/location of intervention	Conference room at workplace or remotely via Internet/phone [p723]
Intensity/duration of the intervention	7-week online program combining live, weekly 1-hour virtual class meetings with home practice varying between 2 and 5 times per week with lengths of between 17 and 37 minutes/ The total time commitment was 17.8 hours. [pages 722 and 723]
Tailoring/adaptation	Compared to MBSR, the intervention had reduced class lengths (1 hour vs 2.5 hour for the intervention and MBSR respectively), fewer at-home practices per week (between 2 and 5 practices vs 6 practices), shorter daily practices

	(between 17 and 37 minutes vs 45 minutes), and no day retreat. The total time commitment for the intervention was 17.8 hours vs 72.5 to 75 hours for MBSR. [page 722]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Of the 34 program completers in the intervention group, six participants (17.6%) reported completing approximately 50% of course material and attending an average of 6.33 of eight class meetings. The remaining 28 participants (82.4%) reported completing 75% to 100% of the program material and attended an average of 7.4 class meetings. Participants reported practicing mindfulness exercises 4.5 days per week in week 1. By week 7, the average days practiced was 3.8. Overall, practice time averaged 13 minutes per day or 1.5 hours per week. [pages 726 and 727]
Other details	None

Wait list (N = 45)

Brief name	Wait list [page 724]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> Intervention was offered to control group at the conclusion of the post-intervention period by the same instructor as the intervention group Wait-list control participants completed a third set of measures immediately after they received the mindfulness intervention <p>[page 723]</p>
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.4 Alexander, 2015

Bibliographic Reference

Alexander, Gina K; Rollins, Kari; Walker, Danielle; Wong, Lily; Pennings, Jacquelyn; Yoga for Self-Care and Burnout Prevention Among Nurses.; Workplace health & safety; 2015; vol. 63 (no. 10); 462-471

Study details

Trial registration number	Not reported
Aim	To examine the efficacy of yoga to improve self-care and reduce burnout among nurses practicing at an urban, tax-supported health care network.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: mixed (full-time, part-time, and pro re nata) • Seniority: not reported • Income: mixed (mixed education level)
Inclusion criteria	<ul style="list-style-type: none"> • Nurses only • No prior experience with yoga practice • Willingness to complete eight weekly sessions and homework exercises • Willingness to be randomly assigned to the research or control group
Exclusion criteria	<ul style="list-style-type: none"> • No serious illness or major orthopaedic diagnoses of the neck, back, pelvis, or lower extremities that could interfere with completion of the yoga intervention protocol
Method of randomisation	Method not reported
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Based on the preliminary analyses, a repeated measures multivariate analysis of variance (MANOVA) was conducted. In addition, univariate ANOVAs were used as post hoc tests to interpret significant interactions. • Preliminary analyses were conducted to test for significant relationships among demographic variables and for demographic differences between participants in the control and experimental groups. A series of cross-tabulations with chi-square, Pearson's correlation, and independent samples t-test revealed no significant relationships among the demographic variables. No significant differences in demographics were found between the control and experimental groups. • Target recruitment and enrolment was 50 participants, with 25 in each group. This recruitment goal allowed for 10% attrition, with the expectation that 40 participants would complete the study. This assumption was based on a power analysis in g*Power 3.1.7 indicating that for a repeated measures analysis of variance (ANOVA) with interaction effects, a minimum sample of 40 was needed to find significance with a moderate effect size (Cohen's $f = .25$), $\alpha = .05$, power = .80, and an estimated correlation among repeated measures of .40. • ITT analysis not reported
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • Lack of an active control group • Self-report measures
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow up • Participants were mostly women, meaning that the results cannot be generalised to all workplaces
Source of funding	Research and Creative Activities Fund of Texas Christian University

Study arms

Yoga (N = 20)

20 participants were randomised to receive a yoga intervention. Participants self-selected following recruitment through HR and nurse representatives.

Usual practice (N = 20)

20 participants were randomised to receive usual practice. Participants self-selected following recruitment through HR and nurse representatives.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 40)
Age	46.38 (10.32)
Mean (SD)	
Men	n = 1 ; % = 2.5
No of events	
Women	n = 39 ; % = 97.5
No of events	
Not Hispanic or Latino	n = 37 ; % = 92.5
No of events	
Hispanic or Latino	n = 3 ; % = 7.5
No of events	

Characteristic	Study (N = 40)
Some college credit, but less than 1 year	n = 1 ; % = 2.5
No of events	
One or more years of college, no degree	n = 3 ; % = 7.5
No of events	
Associate degree	n = 12 ; % = 30
No of events	
Bachelor's degree	n = 20 ; % = 50
No of events	
Master's degree	n = 2 ; % = 5
No of events	
Professional degree	n = 1 ; % = 2.5
No of events	
Doctorate degree	n = 1 ; % = 2.5
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Follow-up at the end of the 8-week intervention)

Employee outcomes

Outcome	Yoga, Baseline, N = 20	Yoga, 0 week, N = 20	Usual practice , Baseline, N = 20	Usual practice , 0 week, N = 20
Job stress Self reported - Emotional exhaustion subscale of the Maslach Burnout Inventory (MBI) Mean (SD)	17.6 (10.36)	12.95 (8.76)	20.4 (13.9)	20.6 (12.09)

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Yoga vs Usual practice**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Yoga (N = 20)

Brief name	Supervised yoga instruction [page 463]
Rationale/theory/Goal	Mind-body intervention to promote self-care and prevent burnout in nurses [page 462]
Materials used	Each participant received handouts for each session to provide further information and a visual reminder of the exercises, the basis for cultivating a home practice. [page 464]
Procedures used	<ul style="list-style-type: none"> • Support from nursing staff, HR department, Environmental services obtained before intervention • In early yoga sessions, participants learned to become conscious of their breathing. • Throughout the intervention, the instructor taught participants the basics of postural alignment, deep breathing, and monitoring the mind with simple meditations. <p>[pages 463 and 464]</p>
Provider	Experienced yoga instructor, who is an osteopathic physician in the local community. For more than 27 years, the instructor has provided health promotion services and yoga instruction in the Kundalini tradition through a wellness-based community practice. [page 464]
Method of delivery	Face-to-face yoga class [page 464]
Setting/location of intervention	Workplace [page 463]

Intensity/duration of the intervention	8 weeks of supervised yoga instruction [page 463]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 20)

Brief name	Control [page 462]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.5 Alexopoulos, 2014

Bibliographic Reference Alexopoulos, Evangelos C; Zisi, Marilena; Manola, Georgia; Darviri, Christina; Short-term effects of a randomized controlled worksite relaxation intervention in Greece.; Annals of agricultural and environmental medicine : AAEM; 2014; vol. 21 (no. 2); 382-7

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	Oct-2010
Study end date	Mar-2010
Aim	To evaluate the short-term benefits of simple relaxation techniques in white-collar employees.
Country/geographical location	Greece
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: not reported • Organisation size: small to medium • Contract type: not reported • Seniority: not reported • Income: office workers
Inclusion criteria	Employees (office workers) in various workplaces
Exclusion criteria	Use of psychotropic drug use (e.g., antidepressants, benzodiazepines, antipsychotic) and practice of other relaxation techniques (e.g. yoga or mindfulness).
Method of randomisation	Random numbers generated by an online generator
Method of allocation concealment	Not reported
Unit of allocation	Individual

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Statistical comparisons of the various qualitative and quantitative with study group were performed using the Pearson's chi-squared test and the non-parametric Mann-Whitney test respectively. • The analysis of longitudinal cortisol levels was performed using linear mixed-effects models • Power calculation not reported • No ITT reported
Attrition	<ul style="list-style-type: none"> • 68/80 (85%) in the intervention group completed the study • 59/72 (82%) in the control group completed the intervention
Study limitations (author)	<ul style="list-style-type: none"> • Reporting bias since most of the outcomes and the diary on implementation of the techniques were based on self-reports • Generalizations of the study results are limited mostly to highly educated office workers
Study limitations (reviewer)	<ul style="list-style-type: none"> • Mean change scores were not presented for outcomes of job satisfaction
Source of funding	Not reported

Study arms

Relaxation techniques (N = 80)

80 participants were assigned to the intervention group. Participants in various workplaces were invited to participate.

Wait list (N = 72)

72 participants were assigned to a wait list. Participants in various workplaces were invited to participate.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 127)
Age	33 to 46
Range	
Age	40 (<i>empty data to empty data</i>)
Median (IQR)	

Arm-level characteristics

Characteristic	Relaxation techniques (N = 80)	Wait list (N = 72)
Women	n = 43 ; % = 63.2	n = 35 ; % = 59.3
No of events		
Men	n = 25 ; % = 36.8	n = 24 ; % = 40.7
No of events		
12 to 15 years	n = 27 ; % = 39.8	n = 22 ; % = 37.2
No of events		
Over 15 years	n = 41 ; % = 60.2	n = 37 ; % = 62.8
No of events		

Outcomes

Study timepoints

- Baseline
- 8 week (Outcomes measures at 8 weeks)

Employee outcomes

Outcome	Relaxation techniques, 8 week vs Baseline, N = 80	Wait list, 8 week vs Baseline, N = 72
Job stress (0-56) Self-reported- Perceived Stress Scale - SD calculated from SE by reviewer	n = 68 ; % = 85	n = 59 ; % = 82
Sample size		
Job stress (0-56) Self-reported- Perceived Stress Scale - SD calculated from SE by reviewer	-1.59 (1.06)	-0.65 (1.41)
Mean (SE)		
Job stress (0-56) Self-reported- Perceived Stress Scale - SD calculated from SE by reviewer	-1.59 (8.74)	-0.65 (10.83)
Mean (SD)		

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Relaxation techniques - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Study arms

Relaxation techniques (N = 80)

Brief name	Relaxation techniques [page 383]
Rationale/theory/Goal	It was assumed that the implementation of the techniques (muscle relaxation combined with diaphragmatic breathing) would lead to stress reduction and daily life parameters. The relaxation techniques focus on conscious and controlled

	release of the muscular tension. More specifically, diaphragmatic breathing focuses on increasing the oxygen during breathing and releasing carbon dioxide. [pages 382 and 383].
Materials used	<ul style="list-style-type: none"> • Brochure- benefits of healthy daily routine, diet, exercise [page 383] • Diary to note how often they practiced relaxation techniques [page 383] • CD containing educational material on stress reduction exercises for intervention group [page 383]
Procedures used	<ul style="list-style-type: none"> • Participants attended an informative session on stress in order to understand stress physiology and pathophysiology, its clinical manifestations and the mechanisms to cope with it. They were also given recommendations (by seminar and brochures) on the benefits of healthy daily routine (regularity of sleep, diet and exercise), diet including the essentials of the Mediterranean diet and exercise [p383] • Participants were instructed on implementing the specific relaxation techniques (diaphragmatic breathing combined with muscle relaxation exercises) twice a day for 20 minutes at a time, for 8 weeks, with the help of a CD containing educational material on stress reduction exercises. • During the intervention program, the research group was in regular contact (once a week) with the participants in order to clarify any questions concerning the relaxation techniques and possible side effects. <p>[page 383]</p>
Provider	Researchers [page 383]
Method of delivery	Audio recordings [page 383]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Two 20-minute sessions daily for 8 weeks [page 383]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Adherence was checked not reported [page 383]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 72)

Brief name	Wait list [page 383]
Rationale/theory/Goal	Not applicable
Materials used	Brochure- benefits of healthy daily routine, diet, exercise [page 383]
Procedures used	Participants attended an informative session on stress in order to understand stress physiology and pathophysiology, its clinical manifestations and the mechanisms to cope with it. They were also given recommendations (by seminar and brochures) on the benefits of healthy daily routine (regularity of sleep, diet and exercise), diet including the essentials of the Mediterranean diet and exercise [page 383]
Provider	Researchers [page 383]
Method of delivery	Not reported
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.6 Alexandre, 2016

Bibliographic Reference Alexandre, D; Bernstein, AM; Walker, E; Hunter, J; Roizen, MF; Morledge, TJ; A Web-Based Mindfulness Stress Management Program in a Corporate Call Center: A Randomized Clinical Trial to Evaluate the Added Benefit of Onsite Group Support.; Journal of occupational and environmental medicine; 2016; vol. 58 (no. 3); 254-264

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT0208789
Study start date	Apr-2011
Study end date	2012
Aim	To determine whether a web-based mindfulness stress management programme is effective in reducing stress in a corporate call centre, and whether group support improves engagement, retention and effectiveness.

Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: financial services (corporate call centre) • Organisation size: large • Contract type: mixed (full time and part time) • Seniority: general workforce (not management or supervisors) • Income: not reported
Inclusion criteria	<ul style="list-style-type: none"> • Employees needed regular Internet access • Participants needed to complete a baseline questionnaire
Exclusion criteria	Managers and supervisors were excluded so that participants would be able to freely share their experience should they be randomly allocated to the group support arms of the study
Method of randomisation	A randomization table was generated using a block randomization design
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Power: This sample size would provide 80% power to detect a large effect size ($d \geq 0.8$) at 0.05 alpha level for comparing WSM, WSMg1, and WSMg2 to control • The primary analysis was by intention-to-treat using a mixed-effects model with a repeated measure approach to include all available data for all randomized participants

Attrition	<ul style="list-style-type: none"> • WSM intervention: Out of 54 randomised participants, 22 (41%) completed 4 out of the 8 weekly activity logs, 30 (56%) completed endpoint follow up (8 weeks from baseline) and 27 (50%) completed follow up at 8 weeks after the intervention (16 weeks from baseline). • WSMg1: Out of 37 randomised participants, 23 (62%) completed 4 out of the 8 weekly activity logs, 26 (70%) complete endpoint follow up, and 20 (54%) completed follow up at 8 weeks after the intervention. • WSMg2: Out of 33 randomised participants, 18 (55%) completed 4 out of the 8 weekly activity logs. 21 (64%) completed endpoint follow up, and 14 (42%) completed follow up at 8 weeks after the intervention. • Control: Out of 37 randomised participants: 24 (65%) completed 4 out of the 8 weekly logs, 25 (68%) completed endpoint follow up, and 20 (54%) completed follow up at 8 weeks after the intervention.
Study limitations (author)	<ul style="list-style-type: none"> • Population under study was primarily female and white and from one call centre • There was interaction with the research and clinical staff, and staff were present at the orientation session and the first group support session. It is unclear how much this interaction contributed to the observed effect of the intervention. • Initial access issues to the program may have affected participation to the online program • Small sample size • Selective attrition at 1 year
Study limitations (reviewer)	<ul style="list-style-type: none"> • Employee outcomes were self-reported • There was no control group for 1-year outcomes
Source of funding	Not reported

Study arms**WSM (N = 54)**

54 participants were randomised to receive a web-based mindfulness stress management intervention from a single call centre.

WSM + Group (N = 37)

37 participants were randomised to receive a web-based mindfulness stress management + group support (WSMg1) from a single call centre.

WSM + Group + Expert (N = 33)

33 participants were randomised to receive a web-based mindfulness stress management with group support and expert support (WSMg2) from a single call centre.

Wait list (N = 37)

23 participants were randomised to a wait list from a single call centre.

Characteristics

Arm-level characteristics

Characteristic	WSM (N = 54)	WSM + Group (N = 37)	WSM + Group + Expert (N = 33)	Wait list (N = 37)
Age				
Mean (SD)	40.5 (13.8)	40.1 (11.8)	40.8 (12.7)	38.4 (11.6)
Men				
No of events	n = 8 ; % = 14.8	n = 6 ; % = 16.2	n = 7 ; % = 21.2	n = 6 ; % = 16.2
Women				
No of events	n = 46 ; % = 85.2	n = 31 ; % = 83.8	n = 26 ; % = 78.8	n = 31 ; % = 83.8
White				
No of events	n = 45 ; % = 82.7	n = 33 ; % = 90.3	n = 26 ; % = 78.8	n = 27 ; % = 73

Characteristic	WSM (N = 54)	WSM + Group (N = 37)	WSM + Group + Expert (N = 33)	Wait list (N = 37)
Black	n = 6 ; % = 11.5	n = 7 ; % = 19.4	n = 2 ; % = 6.1	n = 4 ; % = 10.8
No of events				
Asian	n = 1 ; % = 1.9	n = 0 ; % = 0	n = 2 ; % = 6.1	n = 1 ; % = 2.7
No of events				
Hispanic	n = 1 ; % = 1.9	n = 1 ; % = 3.2	n = 1 ; % = 3	n = 2 ; % = 5.4
No of events				
Other	n = 0 ; % = 0	n = 2 ; % = 6.5	n = 1 ; % = 3	n = 2 ; % = 5.4
No of events				
Not reported	n = 1 ; % = 1.9	n = 0 ; % = 0	n = 1 ; % = 3	n = 1 ; % = 2.7
No of events				

Outcomes

Study timepoints

- Baseline
- 8 week (Follow up 8 weeks after intervention end (16 weeks from start of intervention))

Employee outcomes

Outcome	WSM, Baseline, N = 54	WSM, 8 week, N = 54	WSM + Group, Baseline, N = 37	WSM + Group, 8 week, N = 37	WSM + Group + Expert, Baseline, N = 33	WSM + Group + Expert, 8 week, N = 33	Wait list, Baseline, N = 37	Wait list, 8 week, N = 37
Mental wellbeing (0 - 100) Self reported- Emotional wellbeing subscale of SF-36 (RAND Corporation's Medical Outcomes Study Short Form)	n = 54 ; % = 100	n = 25 ; % = 46.3	n = 37 ; % = 100	n = 20 ; % = 54.1	n = 33 ; % = 100	n = 13 ; % = 39.4	n = 37 ; % = 100	n = 18 ; % = 48.6
Sample size								
Mental wellbeing (0 - 100) Self reported- Emotional wellbeing subscale of SF-36 (RAND Corporation's Medical Outcomes Study Short Form)	44.7 (20)	54.1 (24.3)	53 (15.9)	74.2 (12.6)	49.5 (17.4)	65.8 (17.9)	48.4 (18.1)	45.1 (20.5)
Mean (SD)								
Job stress (0-40) Self-reported - Perceived stress scale (PSS) - used in meta analysis	n = 54 ; % = 100	n = 27 ; % = 50	n = 37 ; % = 100	n = 20 ; % = 54.1	n = 33 ; % = 100	n = 14 ; % = 42.4	n = 37 ; % = 100	n = 20 ; % = 54.1
Sample size								
Job stress (0-40) Self-reported - Perceived stress scale (PSS) - used in meta analysis	25.6 (5.4)	19.4 (7.7)	24.5 (5.8)	14.4 (5.1)	24.5 (5.1)	16.3 (5.6)	25.4 (5.7)	22.5 (7.2)
Mean (SD)								

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Employer outcomes

Outcome	WSM, Baseline, N = 26	WSM, 8 week, N = 26	WSM + Group, Baseline, N = 21	WSM + Group, 8 week, N = 21	WSM + Group + Expert, Baseline, N = 23	WSM + Group + Expert, 8 week, N = 23	Wait list, Baseline, N = 26	Wait list, 8 week, N = 26
productivity (1-5) Based on company metrics and adjusted for changes in ways that productivity was assessed. Data only collected for debt collectors that were absent fewer than 20% of workdays.	n = 26 ; % = 100	n = 22 ; % = 84.6	n = 21 ; % = 100	n = 21 ; % = 100	n = 23 ; % = 100	n = 21 ; % = 91.3	n = 26 ; % = 100	n = 24 ; % = 92.3
Sample size								
productivity (1-5) Based on company metrics and adjusted for changes in ways that productivity was assessed. Data only collected for debt collectors that were absent fewer than 20% of workdays.	2.55 (0.49)	2.28 (0.58)	2.56 (0.44)	2.47 (0.76)	2.67 (0.48)	2.57 (0.65)	2.62 (0.64)	2.66 (0.61)
Mean (SD)								

productivity - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Web-based mindfulness stress management (WSM) -Web-based mindfulness stress management + group support (WSMg1)-Web-based mindfulness stress management + group and expert support (WSMg2) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Web-based mindfulness stress management (WSM) -Web-based mindfulness stress management + group support (WSMg1)-Web-based mindfulness stress management + group and expert support (WSMg2) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Web-based mindfulness stress management (WMS) (N = 54)

Brief name	8-week online, interactive, educational program based on mindfulness meditation [page 255]
Rationale/theory/Goal	Deploying a web-based mindfulness program in the workplace offers the opportunity to use a self-directed group practice and support as a cost-effective and scalable solution to improve adherence.[page 255]
Materials used	<ul style="list-style-type: none"> • Website • Material in written and audio formats • Daily articles • Email reminders • Introductory talks and mediation exercises were provided on CDs in mp3 format for participants without internet access at home <p>[page 255]</p>

Procedures used	<ul style="list-style-type: none"> • Participants were introduced to a new mindfulness theme and meditation technique each week • Mindfulness meditation techniques were provided in audio format • Daily articles provided an overview of the science underlying the benefits of meditation • Participants receive twice a week e-mail reminders to access the website and practice meditation. • Participants could access the program from any computer with Internet access, either at work or home. <p>[page 255]</p>
Provider	Online [page 255]
Method of delivery	Online or through CDs for participants without internet access at home [page 255]
Setting/location of intervention	Work or home [page 255]
Intensity/duration of the intervention	8 weeks, the intensity of the programme was not clear [page 255]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Web-based mindfulness stress management + group support (WSMg1) (N = 37)

Brief name	8-week online, interactive, educational program based on mindfulness meditation and group meetings [page 255]
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Rationale/theory/Goal	A web-based mindfulness program in the workplace offers the opportunity to use a self-directed group practice and support as a cost-effective and scalable solution to improve adherence. Group support may also improve engagement, retention, and effectiveness. [page 255]
Materials used	<ul style="list-style-type: none"> • Website • Material in written and audio formats • Daily articles • Email reminders • Introductory talks and mediation exercises were provided on CDs in mp3 format for participants without internet access at home <p>[page 255]</p>
Procedures used	<ul style="list-style-type: none"> • Groups of 11 to 12 people met for 1 hour during the 8-week programme once a week. • Participants were introduced to a new mindfulness theme and meditation technique each week • Mindfulness meditation techniques were provided in audio format • Daily articles provided an overview of the science underlying the benefits of meditation • Participants receive twice a week e-mail reminders to access the website and practice meditation. • Participants could access the program from any computer with Internet access, either at work or home. <p>[page 255]</p>
Provider	<ul style="list-style-type: none"> • Online • Group meetings were facilitated by selected company employees who participated in the WSM program before the start of the study. <p>[page 255]</p>
Method of delivery	Online and group sessions [page 255]
Setting/location of intervention	Work and home [page 255]
Intensity/duration of the intervention	8-week intervention with group meetings taking place weekly for 1 hour [page 255]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Web-based mindfulness stress management + group and expert support (WSMg2) (N = 33)

Brief name	Web-based mindfulness stress management with group support and expert support in stress management and CBT [page 255]
Rationale/theory/Goal	A web-based mindfulness program in the workplace offers the opportunity to use a self-directed group practice and support as a cost-effective and scalable solution to improve adherence. Group support may also improve engagement, retention, and effectiveness, and prior findings have suggested that clinical support may have a greater effect on adherence than peer support. [page 255]
Materials used	<ul style="list-style-type: none"> • Website • Material in written and audio formats • Daily articles • Email reminders • Introductory talks and mediation exercises were provided on CDs in mp3 format for participants without internet access at home <p>[page 255]</p>
Procedures used	<ul style="list-style-type: none"> • Groups of 15 to 18 people met for 1 hour during the 8-week programme once a week. • Group meetings on weeks 3, 6 and 8 were facilitated by a licensed clinical counsellor or licensed social worker. The role of the clinical expert was to lead the group practice and discussion and respond to any questions about the programme. They also spent 15 to 20-minute highlighting some of the CBT concepts and techniques presented throughout the online program.

	<ul style="list-style-type: none"> • Participants were introduced to a new mindfulness theme and meditation technique each week • Mindfulness meditation techniques were provided in audio format • Daily articles provided an overview of the science underlying the benefits of meditation • Participants receive twice a week e-mail reminders to access the website and practice meditation. • Participants could access the program from any computer with Internet access, either at work or home. <p>[page 255 and 256]</p>
Provider	Online and licensed clinical counsellor or licensed social worker in area of stress management and CBT [pages 255 and 256]
Method of delivery	Online and group sessions [page 255]
Setting/location of intervention	Workplace and home [page 255]
Intensity/duration of the intervention	8-week intervention with group meetings taking place weekly for 1 hour [page 255]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 37)

Brief name	Wait list control [page 256]
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Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were asked to only fill out outcome questionnaires throughout the study. Those who completed at least one questionnaire were offered free access to the online program at the end of the study. [page 256]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.7 Ameli, 2020

Bibliographic Reference Ameli, Rezvan; Sinaii, Ninet; West, Colin P; Luna, Maria Jose; Panahi, Samin; Zoosman, Michael; Rusch, Heather L; Berger, Ann; Effect of a Brief Mindfulness-Based Program on Stress in Health Care Professionals at a US Biomedical Research Hospital: A Randomized Clinical Trial.; JAMA network open; 2020; vol. 3 (no. 8); e2013424

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT03781336
Study start date	Sep-2017
Study end date	May-2018
Aim	To determine the efficacy and feasibility of a brief mindfulness-based program to reduce stress during work hours among health care professionals.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: not reported

Inclusion criteria	NIH employees, contractors, and trainees
Exclusion criteria	Persons with medical and psychiatric conditions were advised to consult with their health care practitioners prior to enrolment.
Method of randomisation	Block randomisation with 15 participants per block
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intent-to-treat analysis • Sample size was determined using a test for 2 means in a repeated measures design (PASS 12; NCSS) between MBSC and control groups from baseline to the end of the intervention to detect a 1.0-point difference in the primary outcome measure, PSS-10 scores. Estimates assumed a moderate-to-strong correlation ($\rho = 0.5$) in the repeated measures, equal group allocation, 2-sided $\alpha = .05$, $\beta = 0.90$, and a 10% to 15% dropout rate, which yielded 33 participants in each group. • Data were assessed for distributional assumptions, and either approximate normality was confirmed, or non-parametric tests were used. • Categorical data (demographic and clinical characteristics) were compared between MBSC and control group using chi-square or Fisher exact tests • Continuous data were compared between groups using 2-sample t-tests or nonparametric Wilcoxon rank sum tests • Generalized linear mixed modelling for repeated measures compared postintervention and follow-up measures between and within MBSC and control groups, as applicable. • Mixed models account for correlation between repeated measurements on the same participant and accommodate missing data. • Post hoc pairwise comparisons were adjusted for multiple comparisons using the Bonferroni method, and reported P values were corrected for multiplicity.

	<ul style="list-style-type: none"> Data are reported as frequency(percentage) and mean (SD) or median (interquartile range [IQR]). Changes between intervals and effect sizes are reported with corresponding 95% CIs. Effect size was bias-corrected Cohen d (Hedges g).
Attrition	<ul style="list-style-type: none"> Intervention group: 38 out of 45 participants were completed post-intervention measures Control group: 35 out of 37 participants completed post-intervention measures
Study limitations (author)	<ul style="list-style-type: none"> There are no established minimal important difference scores for the PSS-10 or other measures used, which limited conclusions related to clinical significance. The study was conducted in a research hospital with predominantly women participants with a high level of education. The generalizability of these results to other types of organizations, lower educational levels, and men may be limited. The use of a life-as-usual vs an active control group. Self-report measures were used, which are prone to social desirability bias.
Study limitations (reviewer)	Week 13 follow-up measures were not presented for the control group, therefore we do not know the long-term effects
Source of funding	National Institutes of Health Clinical Center (CC)

Study arms

Mindfulness-based self care (N = 45)

45 participants were randomised to a mindfulness-based self care intervention group. Participants were recruited through group emails and flyers posted at the workplace.

Control (N = 37)

37 participants were randomised to the life as usual control group. Participants were recruited through group emails and flyers posted at the workplace.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness-based self care (N = 45)	Control (N = 37)
Age Details for participants who agreed to participate following randomisation (intervention n=43, control n=35) Median (IQR)	28 (23 to 49)	34 (24 to 48)
Gender Details for participants who agreed to participate following randomisation (intervention n=43, control n=35) No of events	n = 37 ; % = 86.1	n = 28 ; % = 80
American Indian or Alaska Native No of events	n = 1 ; % = 2.3	n = 0 ; % = 0
Asian No of events	n = 9 ; % = 16.3	n = 6 ; % = 17.1
Black No of events	n = 3 ; % = 7	n = 2 ; % = 5.7
White	n = 27 ; % = 62.8	n = 21 ; % = 60

Characteristic	Mindfulness-based self care (N = 45)	Control (N = 37)
No of events		
Mixed or other		
No of events	n = 5 ; % = 11.6	n = 6 ; % = 17.1
Hispanic/Latinx		
No of events	n = 5 ; % = 11.9	n = 5 ; % = 14.3

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes measured post intervention)

Employee outcomes

Outcome	Mindfulness-based self care, Baseline, N = 45	Mindfulness-based self care, 0 week, N = 45	Control, Baseline, N = 37	Control, 0 week, N = 37
Mental wellbeing Self-reported - positive subscale of the Positive and Negative Affect Schedule	n = 43 ; % = 95.6	n = 43 ; % = 95.6	n = 35 ; % = 94.6	n = 35 ; % = 94.6
Sample size				
Mental wellbeing Self-reported - positive subscale of the Positive and Negative Affect Schedule	32.85 (7.73)	35.69 (7.12)	33.67 (5.95)	31.42 (7.27)
Mean (SD)				

Outcome	Mindfulness-based self care, Baseline, N = 45	Mindfulness-based self care, 0 week, N = 45	Control, Baseline, N = 37	Control, 0 week, N = 37
Job stress Self-reported - Perceived stress scale	n = 43 ; % = 95.6	n = 43 ; % = 95.6	n = 35 ; % = 94.6	n = 35 ; % = 94.6
Sample size				
Job stress Self-reported - Perceived stress scale	19.63 (6.26)	17.29 (5.84)	18.8 (6.36)	18.54 (6.3)
Mean (SD)				
Mental health symptoms Self-reported - Visual analogue scale - anxiety	n = 43 ; % = 95.6	n = 43 ; % = 95.6	n = 35 ; % = 94.6	n = 35 ; % = 94.6
Sample size				
Mental health symptoms Self-reported - Visual analogue scale - anxiety	4.72 (1.62)	2.58 (1.52)	4.57 (1.69)	4.23 (1.73)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Mindfulness-based self care - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Mindfulness-based self care - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Mindfulness-based self care - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based self care (N = 45)

Brief name	Mindfulness-based self care [page 3 - abstract]
Rationale/theory/Goal	Mindfulness is defined as paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of moment-by-moment experiences. [page 4]
Materials used	<ul style="list-style-type: none"> • A course binder with mindfulness practice descriptions • Weekly at-home practice plans • A list of mindfulness resources <p>[page 5]</p>
Procedures used	<ul style="list-style-type: none"> • Mindfulness exercises included mindful breathing, body scan, mindful walking, mindful movements, mindful eating, and loving-kindness meditation. • Participants engaged in 60 to 70 minutes of mindful practice in each class. • Daily at-home mindfulness practice was strongly encouraged. • A buddy system was established to enhance a sense of community and encourage at-home practice. <p>[page 6]</p>

Provider	A professionally trained teacher with more than 15 years of mindfulness and yoga practice experience [page 5]
Method of delivery	Didactic material and facilitated inquiry and group discussions [page 6]
Setting/location of intervention	At the NIH main campus during work hours [page 5]
Intensity/duration of the intervention	5-session, 7.5-hour program [page 5]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 37)

Brief name	Life as usual [page 6]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable

Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.8 Amutio, 2015

Bibliographic Reference

Amutio, Alberto; Martinez-Taboada, Cristina; Hermosilla, Daniel; Delgado, Luis Carlos; Enhancing relaxation states and positive emotions in physicians through a mindfulness training program: A one-year study.; Psychology, health & medicine; 2015; vol. 20 (no. 6); 720-31

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine the effectiveness of a mindfulness-based program (MBSR) on physicians' positive emotions (i.e. relaxation states) and to explore whether the results were sustained over time.
Country/geographical location	Spain
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector Mixed (public and private) • Industry: Healthcare • Size of organisation: not reported • Contract type: not reported • Seniority: not reported • Income: professional (physicians)
Inclusion criteria	<ul style="list-style-type: none"> • Willing to complete the questionnaires • Commitment to adhering to the programme's attendance and homework requirements
Exclusion criteria	<ul style="list-style-type: none"> • Being in psychiatric or psychological treatment • Not being actively employed at the time of the study
Method of randomisation	Participants in the intervention group were randomly selected by the statistical program SPSS 20.0

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ANOVAs conducted to check for initial differences between the experimental and control groups (no significant differences were found) • Between-group ANOVAs were performed to test whether there were statistically significant differences between the average scores of the experimental and control groups after the first eight-week phase of our training program. • Cohen's <i>d</i> to evaluate the magnitude of change (effect size) exhibited by the experimental group through the entire MBSR intervention program • ITT not reported • Power calculation not reported
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Sample size did not allow more robust statistics • Heart rate measures were not registered in the control group due to logistical reasons and practical constraints • Lack of control group during the second phase of the study
Study limitations (reviewer)	<ul style="list-style-type: none"> • Lack of clarity around the number of participants who completed intervention and provided outcomes • Self-reported outcome measures
Source of funding	The University of Basque Country and the Official Medical College of Biscay

Study arms

Mindfulness-based stress reduction (N = 21)

21 participants were randomised to receive mindfulness-based stress reduction. Participants were recruited through the Official Medical College of Biscay.

Wait list (N = 21)

21 participants were randomised to a wait list. Participants were recruited through the Official Medical College of Biscay.

Characteristics

Study-level characteristics

Characteristic	Study (N = 42)
Age	47.31 (9.42)
Mean (SD)	
Women	n = 24 ; % = 57.1
No of events	
Men	n = 18 ; % = 42.9
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Follow up after intervention)

Employee outcomes

Outcome	Mindfulness-based stress reduction, Baseline, N = 21	Mindfulness-based stress reduction, 0 week, N = 21	Wait list, Baseline, N = 21	Wait list, 0 week, N = 21
Mental wellbeing Self-reported - positive energy category of the Smith Relaxation States Inventory (SRSI-3)	3.09 (0.64)	3.8 (0.82)	3.01 (0.62)	3.01 (0.6)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Mindfulness-based stress reduction vs Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based stress reduction (N = 21)

Brief name	Mindfulness-based stress reduction programme (MBSR) [page 720]
Rationale/theory/Goal	The intervention followed the MBSR program (Kabat-Zinn, 2003) and was based on the psycho-educational model of Krasner et al. (2009). [page 723]
Materials used	<ul style="list-style-type: none"> • Set of mindfulness CDs distributed to them and containing the same exercises as the ones practiced in the class sessions, in order to practice mindfulness everyday at home • A record sheet <p>[page 723]</p>
Procedures used	<ul style="list-style-type: none"> • Participants engaged in an intensive group training session • Participants were asked to practice mindfulness exercises every day for a period of 45 min by means of a set of CDs distributed to them and containing the same exercises as the ones practiced in the class sessions (i.e. body-scan, yoga postures, and mindfulness exercises). • Each of the participants had to register the number of days practiced per week and the length of each of the sessions by means of a record sheet specially designed for that purpose. <p>[page 723]</p>
Provider	MBSR instructor who was trained by Kabat-Zinn at the Stress Reduction Clinic in the University of Massachusetts, following the standardized protocol [page 723]

Method of delivery	Group training and individual at-home practice [page 723]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8-week programme made up of weekly sessions of 2.5 h each, plus one additional eight-hour retreat session (total of 28 hours) in addition to 45 minutes of daily practice [page 723]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Standardized protocol (Kabat-Zinn, 2003). [page 723]
Actual treatment fidelity	Not reported
Other details	No economical or professional compensation was given for participating in the course. [page 723]

Wait list (N = 21)

Brief name	Wait list [page 723]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable

Provider	Not applicable
Method of delivery	The waitlist control group was told that a similar course would be offered again [page 723]
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Lack of control group at the maintenance phase due to logistical reasons. [page 723] Therefore outcomes were only extracted at 0 weeks post intervention for both intervention group and the control, and the maintenance phase was not reported.
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.9 Ancona, 2014

Bibliographic Reference

Ancona, Matthew R; Mendelson, Tamar; Feasibility and preliminary outcomes of a yoga and mindfulness intervention for school teachers.; *Advances in School Mental Health Promotion*; 2014; vol. 7 (no. 3); 156-170

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Aim	To explore the feasibility and preliminary outcomes of a 6-session yoga and mindfulness intervention for teachers.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Method of randomisation not reported
Method of allocation concealment	Not reported
Unit of allocation	School (7 schools were randomised, but study did not report the number of schools randomised to each arm)
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • A power analysis based on a level of 0.05 and power of 0.80 indicated that a total sample size of 128 would be sufficient to detect an effect size of 0.50 (G*Power 3; Faul, Erdfelder, Lang, & Buchner, 2007). • t-tests of group differences in pre–post test changes in self-reported stress and emotional exhaustion were calculated • Effect sizes were calculated as Cohen’s d. • Chi-square was reported for baseline measures (no differences were found between intervention and control groups) • No ICC was reported • Outcomes reported for teachers that completed both pre- and post-intervention questionnaires
Attrition	Five teachers dropped out of the study before randomization and completion of the baseline assessment and an additional four teachers dropped out after completing the baseline assessment and attending one intervention session. Thus, the overall study retention rate was 82.7%.
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • Use of volunteer sample size • Lack of active control • Self-reported outcomes • Did not control for sociodemographic variables • Unable to statistically account for the clustering of teachers within different schools • Fidelity of implementation also was not evaluated
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms**Yoga and mindfulness (N = 21)**

21 participants were assigned to the yoga and mindfulness intervention. Participants self-selected following advertisement.

Usual practice (N = 22)

22 participants were assigned to usual care. Participants self-selected following advertisement.

Characteristics**Arm-level characteristics**

Characteristic	Yoga and mindfulness (N = 21)	Usual practice (N = 22)
20 to 29 years	n = 3 ; % = 14	n = 7 ; % = 32
No of events		
30 to 39 years	n = 8 ; % = 38	n = 7 ; % = 32
No of events		
40 to 49 years	n = 6 ; % = 28	n = 5 ; % = 22
No of events		
50 years and older	n = 4 ; % = 19	n = 3 ; % = 14
No of events		
Women	n = 18 ; % = 86	n = 17 ; % = 77
No of events		
Men	n = 3 ; % = 14	n = 5 ; % = 23
No of events		
White	n = 12 ; % = 57	n = 6 ; % = 27

Characteristic	Yoga and mindfulness (N = 21)	Usual practice (N = 22)
No of events		
Black		
n = 8 ; % = 38		n = 10 ; % = 46
No of events		
Other		
n = 1 ; % = 5		n = 6 ; % = 23
No of events		

Outcomes

Study timepoints

- Baseline
- 0 day (Outcomes measured on the last day of the intervention)

Employee outcomes

Outcome	Yoga and mindfulness, Baseline, N = 21	Yoga and mindfulness, 0 day, N = 21	Usual practice, Baseline, N = 22	Usual practice, 0 day, N = 22
Job stress (0-54) Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory - n was not adjusted as ICC was not available	31.48 (10.04)	29.81 (8.5)	30.05 (12.51)	30.68 (10.81)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - cRCT RoB**Employee outcomes - Job stress - Yoga and mindfulness vs Usual practice**

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(No ICC reported and self-reported outcomes)</i>

Study arms**Yoga and mindfulness (N = 21)**

Rationale/theory/Goal	The program's aim is to provide stress management skills for teachers working in under-resourced areas with high levels of occupational stress. [page 161]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Core intervention components present in each session included yogic breathing techniques, yoga postures, and guided mindful reflection practices. • Each session began with a focus on the breath • Breathing was followed by yoga poses done while seated in a chair to accommodate varying levels of physical fitness and ability and to facilitate potential for teachers to practice the poses during the school day. • The instructors discussed how to recognize activation of the stress response, how to calm oneself mentally and physically, and how to relax and strengthen the body. • Each session focused on a different theme. • Participant were encouraged to practice breathing exercises and poses between classes. <p>[page 161]</p>
Provider	Holistic Life Foundation intervention developer page 161]
Method of delivery	Class sessions [page 162]
Setting/location of intervention	Workplace (schools) [page 162]
Intensity/duration of the intervention	Six sessions (45 minutes duration) delivered over three weeks [pages 161 and 162]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	A mark of programme completion was attendance of 4 out of 6 sessions [page 163]

Actual treatment fidelity	72% of participants completed 4 out of 6 sessions [page 163]
Other details	None

Usual practice (N = 22)

Brief name	Control [page 160]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.10 Ansley, 2021

Bibliographic Reference

Ansley, Brandis M. Houchins, David E. Varjas, Kris Roach, Andrew Patterson, DaShaunda Hendrick, Robert; The impact of an online stress intervention on burnout and teacher efficacy; TEACHING AND TEACHER EDUCATION; 2021; vol. 98

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To examine the impact of an online stress intervention on teacher burnout and teacher efficacy.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: professional (teachers)
Inclusion criteria	Teachers, paraeducators, and pre-service teachers enrolled in teacher certification programs
Exclusion criteria	Not reported
Method of randomisation	Random number generator
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Means and standard deviations were calculated for all dependent variables and their dimensions for pre-intervention, postintervention, and pre-to-post intervention change scores. Change scores for each outcome were analysed to detect significance in group differences and effect sizes based on the treatment condition. A multivariate analysis of covariance (MANCOVA) was performed to examine participant demographics as covariates (i.e., role, experience, employment setting, age, gender, race). Given the smaller sample size, a significance level of $p < 0.10$ was selected to reduce the probability of Type II error and increase the power of the MANCOVA. Partial eta squared was used to measure the magnitude of the effects, for which 0.01 indicates a small effect size, 0.09 indicates a medium effect size, and 0.25 indicates a large effect size. Analysis type not reported Sample size calculations not reported
Attrition	<ul style="list-style-type: none"> Intervention: 26 out of 29 participants completed post-intervention assessments Control: 25 out of 30 participants completed post-intervention assessments

Study limitations (author)	<ul style="list-style-type: none"> • The study relied on volunteer participants who chose to complete the intervention, and there may be differences in outcomes between those with interest in stress management and those mandated to participate in such. • The sample was too small to include participant demographics as additional independent variables. • The sample consisted mostly of early career educators under age 35, and it is plausible that older and more experienced educators may respond differently to the intervention. • Use of self-reports and lack of objective assessments. • Several unforeseen delays unrelated to the program led to the study being conducted at the end of the school year. By the time participants completed their post-intervention assessments, the school year either ended or was within a week of ending. Thus, participants likely experienced some reprieve from their work-related stress and may have experienced relief related to burnout. The timing of the study may also explain why the control group reported some decreases in burnout, though not at the level reported by the intervention group. • The lack of follow-up data.
Study limitations (reviewer)	Long-term outcomes were not measured
Source of funding	U.S. Department of Education

Study arms

Online stress intervention (N = 29)

29 participants were randomised to the intervention arm. Participants were recruited via email with employees that were in teacher certification programmes.

Control (N = 30)

30 participants were randomised to the control arm. Participants were recruited via email with employees that were in teacher certification programmes.

Characteristics**Arm-level characteristics**

Characteristic	Online stress intervention (N = 29)	Control (N = 30)
24 years and younger	n = 5 ; % = 19.2	n = 11 ; % = 44
No of events		
25 to 34 years	n = 15 ; % = 57.7	n = 10 ; % = 40
No of events		
35 years and older	n = 6 ; % = 24	n = 4 ; % = 16
No of events		
Men	n = 5 ; % = 19.2	n = 5 ; % = 20
No of events		
Women	n = 21 ; % = 80.8	n = 20 ; % = 80
No of events		
White	n = 13 ; % = 50	n = 12 ; % = 52
No of events		
African-American	n = 10 ; % = 38.5	n = 9 ; % = 36
No of events		
Other	n = 3 ; % = 11.5	n = 3 ; % = 12
No of events		

Outcomes

Study timepoints

- Baseline
- 5 week (Outcomes were measured 5 weeks after the pre-intervention survey.)

Employee outcomes

Outcome	Online stress intervention, Baseline, N = 29	Online stress intervention, 5 week, N = 29	Control, Baseline, N = 30	Control, 5 week, N = 30
Mental wellbeing (12 to 108) Self-reported - Teachers' Sense of Efficacy Scale-Short Form	n = 26 ; % = 89.7	n = 26 ; % = 89.7	n = 25 ; % = 83.3	n = 25 ; % = 83.3
Sample size				
Mental wellbeing (12 to 108) Self-reported - Teachers' Sense of Efficacy Scale-Short Form	86.96 (13.89)	92.08 (11.58)	87.16 (87.88)	87.88 (12.83)
Mean (SD)				
Job stress Self-reported - Emotional exhaustion subscale of the Maslach Burnout Inventory	n = 26 ; % = 89.7	n = 26 ; % = 89.7	n = 25 ; % = 83.3	n = 25 ; % = 83.3
Sample size				
Job stress Self-reported - Emotional exhaustion subscale of the Maslach Burnout Inventory	23.31 (9.92)	18.42 (10.01)	22.52 (13.45)	21.88 (12.58)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Online stress intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Online stress intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Online stress management (N = 29)

Brief name	Online stress intervention [page 1 - abstract]
Rationale/theory/Goal	The primary goals of the intervention were to (a) instruct strategies participants may use as coping resources for stress management; and (b) promote socioemotional competencies that cultivate positive learning experiences associated with lower burnout rates and higher teacher efficacy. [page 4]
Materials used	Open Learning platform [page 5]

Procedures used	<ul style="list-style-type: none"> • The program was self-paced with the recommendation of completing two modules per week for four weeks. • Each online module included written instructions and videos that provided information, demonstrations, and examples of how each strategy may be applied. • Participants were encouraged to select one or two coping strategies instructed in the online program, begin with small changes, and practice consistently. Throughout the program, participants developed personalized stress management plans associated with their desired goals. <p>[page 5]</p>
Provider	Online [page 5]
Method of delivery	Online [page 5]
Setting/location of intervention	Online [page 5]
Intensity/duration of the intervention	Eight 30-minute modules [page 5]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Using a fidelity checklist, two independent reviewers with experience facilitating stress management workshops evaluated the program and confirmed inclusion of scientifically supported content and consistency with guidelines for online courses according to Quality Matters (2015) [page 5]
Actual treatment fidelity	Interrater reliability was calculated by dividing the number of agreements by the total number of items and multiplying by 100%. Agreement was at 100%. [page 5]
Other details	Participants were compensated with an Amazon.com gift card in values that ranged from \$10 - \$60, dependent on the level of study participation [page 4]

Control (N = 30)

Brief name	Control [page 7]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants did not participate in the intervention, were emailed a brief thank you message with notification to expect an invitation to complete another survey in 5 weeks. [page 7]
Provider	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	Participants were compensated with an Amazon.com gift card in values that ranged from \$10 - \$60, dependent on the level of study participation [page 4]

D.11 Arnetz, 2013

Bibliographic Reference

Arnetz, Bengt B; Arble, Eamonn; Backman, Lena; Lynch, Adam; Lublin, Ake; Assessment of a prevention program for work-related stress among urban police officers.; International archives of occupational and environmental health; 2013; vol. 86 (no. 1); 79-88

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine the efficacy of a primary prevention program designed to improve psychobiological responses to stress among urban police officers.
Country/geographical location	Sweden
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: police service • Organisation size: large • Seniority: entry level (police cadets) • Income: not reported
Inclusion criteria	All trainees in the final term of the Swedish Police Academy training
Exclusion criteria	Not reported

Method of randomisation	Random sampling was stratified by gender, requiring that approximately one-third of the participants be women.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • A two-way, repeated-measures ANOVA was conducted to examine for the presence of an interaction between type of training (i.e., control vs. intervention) and outcome measures. (There were no significant baseline differences between the two groups regarding physiological or psychosocial variables.) • A two-way, repeated-measures ANOVA examined whether the two groups experienced differing levels of exposure to threat and violence between the start of training and 18 months later. (The two groups did not differ in levels of self-reported violence exposure: $F(1,62) = 1.18$, $p = 0.81$.) • A series of logistic regression models were reviewed to compare the two groups' improvement across the study's duration. • ITT analysis - not reported • Power calculation not reported
Attrition	<ul style="list-style-type: none"> • Intervention: Outcome data available for 31 out of 37 participants (84%) • Control: Outcome data available for 34 out of 38 participants (90%)
Study limitations (author)	Not reported
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • No information about missing data
Source of funding	<ul style="list-style-type: none"> • Swedish Work Environment Fund (currently, Swedish Council for Working Life and Social Research) • National Institute of Mental Health

- Swedish Royal Foundation (Kungafonden)

Study arms

Situational skills training (N = 37)

37 participants were randomised to receive the intervention. Participants were randomly selected from attendees at a police academy training session.

Usual practice (N = 38)

38 participants were randomised to receive the intervention. Participants were randomly selected from attendees at a police academy training session.

Characteristics

Arm-level characteristics

Characteristic	Situational skills training (N = 37)	Usual practice (N = 38)
Women	n = 12 ; % = 32	n = 12 ; % = 32
No of events		
Men	n = 25 ; % = 68	n = 26 ; % = 68
No of events		

Outcomes

Study timepoints

- Baseline
- 18 month (Follow up 18 months after the intervention)

Employee outcomes

Outcome	Situational skills training, Baseline, N = 37	Situational skills training, 18 month, N = 37	Usual practice, Baseline, N = 38	Usual practice, 18 month, N = 38
Quality of life (12-48) Self-reported - 12 item General health questionnaire (GHQ-12)	n = 31 ; % = 83.8	n = 31 ; % = 83.8	n = 34 ; % = 89.5	n = 34 ; % = 89.5
Sample size				
Quality of life (12-48) Self-reported - 12 item General health questionnaire (GHQ-12)	28.42 (4.06)	30.39 (4.21)	28.79 (3.11)	39.09 (3.37)
Mean (SD)				
Job stress Self reported - vital exhaustion measured Maastricht questionnaire	n = 31 ; % = 83.8	n = 31 ; % = 83.8	n = 34 ; % = 89.5	n = 34 ; % = 89.5
Sample size				
Job stress Self reported - vital exhaustion measured Maastricht questionnaire	34.61 (7.03)	38.03 (4.44)	35.2 (5.76)	34.29 (7.6)
Mean (SD)				

Outcome	Situational skills training, Baseline, N = 37	Situational skills training, 18 month, N = 37	Usual practice, Baseline, N = 38	Usual practice, 18 month, N = 38
Mental health symptoms Self reported - The Karolinska Institute Sleep Questionnaire	n = 31 ; % = 83.8	n = 31 ; % = 83.8	n = 34 ; % = 89.5	n = 34 ; % = 89.5
Sample size				
Mental health symptoms Self reported - The Karolinska Institute Sleep Questionnaire	24.3 (3.48)	25.13 (2.94)	24.06 (2.9)	23.52 (3.27)
Mean (SD)				

Quality of life - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Quality of life - Situational skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Situational skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Situational skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Situational skills training (N = 37)

Brief name	Prevention program for work-related stress among urban police officers [page 1]
Rationale/theory/Goal	Enhance the officers' sense of control over stress-provoking situations by rendering the incidents more predictable and by providing a psychological/tactical repertoire for the officers to utilize. [page 3]
Materials used	A scripted audiotape was provided to facilitate the imaginal process and to induce cue-controlled relaxation [page 3]
Procedures used	<ul style="list-style-type: none"> • The scenarios used in the training sessions were developed through interviews with highly experienced police officers who identified stressful emotions and experiences they were likely to encounter within their first year on the force [page 4] • Initial psychoeducational session to familiarize the participating officers with the nature of the intervention. • The components of the intervention were described including relaxation training, use of guided imagery to facilitate imaginal exposure to potentially stressful on-the-job incidents, and the mental practice of police tactical skills. • Didactics in adaptive coping strategies for the different scenarios were covered, and an educational presentation that included discussion of the theory of stress, impact on health and performance, and the rationale behind the benefits of imagery-based exposure and skills training was provided. • Participants were taught Jacobsen's (1938) progressive muscle relaxation technique, along with cue-controlled relaxation. • 2 police-relevant stress scenarios were presented with direction in adaptive coping skills and police technical/strategic skills • Discussion on possible unanticipated effects [p4]
Provider	Swedish Special Forces officers who had been trained by the researchers in administering the intervention. [page 3]
Method of delivery	Group sessions where each facilitator worked with 8 cadets [page 3]
Setting/location of intervention	Swedish Police Academy during academy hours and home [pages 3 and 4]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • Weekly, 9-session, and 90-min classroom format • Officers encouraged to review the scenarios at home 3 or more times per week

	[page 4]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 38)

Brief name	Training as usual [page 1]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable

Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.12 Arnetz, 2009

Bibliographic Reference Arnetz, Bengt B; Nevedal, Dana C; Lumley, Mark A; Backman, Lena; Lublin, Ake; Trauma resilience training for police: Psychophysiological and performance effects.; Journal of Police and Criminal Psychology; 2009; vol. 24 (no. 1); 1-9

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To test the effects of police trauma resilience training on stress and performance during a critical incident police work simulation.

Country/geographical location	Sweden
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: police service • Organisation size: large • Contract type: not reported • Seniority: police officers with 1 year of experience • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • Power calculations- not reported • Researchers performed a manipulation check of the potency of the stressful simulation by examining the sample of 18 participants as a whole. • Primary analyses addressed the effects of our training program by comparing the experimental (trained) and control group on the measures obtained during and after the stress-inducing critical incident simulation.

	<ul style="list-style-type: none"> • For those measures for which there was a baseline (pre-exposure) assessment, analyses of covariance were conducted, covarying the baseline measure. • For measures collected only during or post stress induction, we used independent groups t tests to compare group means.
Attrition	18 participants out of 25 invited officers took part in the critical incident simulation (72%; nine from the imagery training group and nine from the control group) agreed.
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • The effects reported in this paper are short-term, and it is not known whether this intervention would prevent the development of PTSD and other adjustment problems over time in response to real-life stressors.
Study limitations (reviewer)	Participants were all male, meaning the results may not be generalisable
Source of funding	Swedish Council for Working Life and Social Research

Study arms

Imagery and skills training (N = 9)

9 participants had been assigned to receive imagery and skills training. Participants had been recruited from a larger longitudinal study of 75 police cadets who had been randomly assigned to complete either an imagery and skills training programme or no additional preparatory training during their education at the police academy.

Usual practice (N = 9)

9 participants had been assigned to receive usual practice. Participants had been recruited from a larger longitudinal study of 75 police cadets who had been randomly assigned to complete either an imagery and skills training programme or no additional preparatory training during their education at the police academy.

Characteristics

Study-level characteristics

Characteristic	Study (N = 18)
Gender	n = 18 ; % = 100
Men	
No of events	

Outcomes

Study timepoints

- 1 year (Outcomes were measured after a critical incident simulation, which was performed one year after training was provided.)

Employee outcomes

Outcome	Imagery and skills training, 1 year, N = 9	Usual practice, 1 year, N = 9
Mental wellbeing	16.56 (4.59)	24.89 (9.61)
Self-reported- negative mood composite of Profile of Moods States		
Mean (SD)		
Job stress	26.78 (14.69)	41.11 (31.59)
Self-reported- visual analogue scale of perceived stress		
Mean (SD)		

Mental wellbeing - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Employer outcomes

Outcome	Imagery and skills training, 1 year, N = 9	Usual practice, 1 year, N = 9
productivity Objective performance composite measured by blinded assessor	298.89 (33.74)	253.44 (38.23)
Mean (SD)		

productivity - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Imagery and skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Imagery and skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - productivity - Imagery and skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Study arms

Imagery and skills training (N = 9)

Brief name	Imagery and skills training
Rationale/theory/Goal	<p>As first responders, police officers are frequently exposed to trauma and as a result, are at increased risk of adverse mental health outcomes, such as adjustment disorder, acute stress disorder, posttraumatic stress disorder (PTSD), and impaired job performance.</p> <p>The aim of the study was to test the effects of trauma resilience training on stress and performance among new police recruits . Twelve months after the training, psychophysiological stress and police work performance were assessed during a live critical incident simulation.</p>

	<p>The study hypothesized that the intervention, which used preparatory imagery and skills training, would increase resilience to the stress of critical incident trauma by attenuating acute stress responses.</p> <p>(Pages 1-2)</p>
Materials used	<ul style="list-style-type: none"> • Scripts of various critical incident traumas (CITs) designed to help police officers create mental images of specific stressors relevant to their work. • Survey of 33 scenarios relevant to police work, developed through interviewing experienced police officers • Audio tape to support home practice <p>(Page 3)</p>
Procedures used	<ul style="list-style-type: none"> • Initial psychoeducational session • Small group sessions consisted of relaxation and imagery training with mental skill rehearsal. • These sessions began with training and practice in progressive and in cue-controlled relaxation methods in which participants learned how to induce relaxation regardless of the situation. • This was followed by imagery training using scripts of various CITs which were verbally presented to help participants create mental images of specific, police work stressors . Examples of CITs included a fellow officer's life being in danger and attending a domestic violence call where children were adversely affected. • After visualising the event, group leaders presented cognitive and behavioural skills training in coping techniques • Group discussions of thoughts and feelings were facilitated by group leaders • Participants were encouraged to practice cue- controlled relaxation at home using the audiotape. <p>(Page 3)</p>
Provider	<p>National special forces senior officers, trained to deliver the intervention by the researchers.</p> <p>The senior officers had been previously exposed to mental training as part of their special forces background.</p> <p>Each facilitator worked with the same small group for each training session.</p> <p>(Page 3)</p>
Method of delivery	<p>Small group sessions (10 or less participants)</p> <p>(Page 3)</p>

Setting/location of intervention	Police training academy during regular training hours (Page 3)
Intensity/duration of the intervention	<ul style="list-style-type: none"> • One initial psychoeducation session • 10 weekly group sessions of 2 hours duration • Practice at home (Page 3)
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	12 months after the training, participants took part in a live, realistic critical incident simulation involving the re-enactment of a post office robbery. Data were collected from their response to this incident. (Page 4)

Imagery and skills training

Usual practice (N = 9)

Brief name	Usual practice
Rationale/theory/Goal	Not applicable

Materials used	Not applicable
Procedures used	No additional preparatory training was provided. Recruits provided consent to participate in live realistic critical incident simulation (Page 4)
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Police training academy (page 4)
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None to add

Usual practice

D.13 Asuero, 2014

Bibliographic Reference Asuero, Andres Martin; Queralto, Jenny Moix; Pujol-Ribera, Enriqueta; Berenguera, Anna; Rodriguez-Blanco, Teresa; Epstein, Ronald M; Effectiveness of a mindfulness education program in primary health care professionals: a pragmatic controlled trial.; The Journal of continuing education in the health professions; 2014; vol. 34 (no. 1); 4-12

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Sep-2010
Study end date	Feb-2012
Aim	To determine the effectiveness of a mindfulness-based training programme, for primary health care professionals, in reducing burnout and mood disturbances, increasing empathy, and developing mindfulness.
Country/geographical location	Spain
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: Not reported • Income: professional (nurses, social workers, physicians, clinical psychologists)

Inclusion criteria	<ul style="list-style-type: none"> • Participants had to be practicing primary health care professionals • Participants had to be willing to attend at least 80% of the educational programme, do the required at-home practice, and respond to study questionnaires
Exclusion criteria	Not reported
Method of randomisation	Stratified randomisation according to occupation
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All participants completed outcome measurements at both timepoints. • Outcome measures were reported as means (SD). • The intervention effects after 8 weeks were assessed using the change in scores (final minus baseline) in the intervention group minus the change in scores in the control group and the standardized effect size (SES). • The standardized response mean (SRM) was used to measure the effect size within-group comparisons. • The significance level for all tests was set at 5%, two-tailed.
Attrition	<ul style="list-style-type: none"> • All participants completed measures at both timepoints • Attendance at the sessions was 92% • All participants completed the intervention and none of the participants missed more than 2 sessions
Study limitations (author)	<ul style="list-style-type: none"> • Self-administered questionnaires do not measure the effect of the intervention on the participants' clinical work • Small sample size and mostly women, therefore, not generalisable • Long-term effects of the intervention are unknown • Participants were self-selected

	<ul style="list-style-type: none"> The group effects of the intervention are unknown
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Catalan Health Institute

Study arms

Modified mindfulness-based stress reduction (N = 43)

43 participants were randomised to receive a modified mindfulness-based stress reduction programme. Participants were recruited from adverts posted on websites visited by HCPs and through invitations sent to directors of primary health centres.

Wait list (N = 25)

25 participants were randomised to a wait list. Participants were recruited from adverts posted on websites visited by HCPs and through invitations sent to directors of primary health centres.

Characteristics

Study-level characteristics

Characteristic	Study (N = 68)
Gender	n = 63 ; % = 92
Women - n calculated by reviewer from percentage	
No of events	

Arm-level characteristics

Characteristic	Modified mindfulness-based stress reduction (N = 43)	Wait list (N = 25)
Age		
Mean (SD)	48.8 (7.8)	46.9 (6.7)

Outcomes**Study timepoints**

- Baseline
- 0 week (Follow up at end of intervention)

Employee outcomes

Outcome	Modified mindfulness-based stress reduction , Baseline, N = 43	Modified mindfulness-based stress reduction , 0 week, N = 43	Wait list, Baseline, N = 25	Wait list, 0 week, N = 25
Job stress (0-140) Self reported - Maslach burnout inventory (MBI)	73.4 (15.5)	67.4 (14.5)	74.2 (15.3)	75.2 (15.7)
Mean (SD)				
Mental health symptoms (0-60) Self reported - Profile of mood states (POMS)	21.4 (8.8)	14.9 (7.5)	21.5 (10.3)	22.1 (10.1)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Modified mindfulness-based stress reduction vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Modified mindfulness-based stress reduction vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Modified mindfulness-based stress reduction (N = 43)

Brief name	Mindfulness education programme [page 2]
Rationale/theory/Goal	The intervention was modelled after the intensive phase of Krasner's study, which emphasizes mindfulness in everyday activities and includes contemplation-meditation exercises such as mindfulness meditation, where participants focus on the present-moment experience and contemplate nonjudgmentally bodily sensations, breathing, sounds, and thoughts. [page 4]

Materials used	<ul style="list-style-type: none"> • CD with a recording of the exercises • An explanatory book • Instructions to practice at home between sessions • [page 4]
Procedures used	<ul style="list-style-type: none"> • There were 8 weekly group sessions with 21 and 22 individuals in the class • Each weekly session included educational presentation, formal mindfulness meditation, narrative and appreciate inquiry exercises and discussion • There was also an 8-hour session <p>[pages 3 and 4]</p>
Provider	A certified MBSR teacher [page 4]
Method of delivery	Group classes [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	The intervention lasted a total of 28 hours and consisted of 8 weekly sessions of 2.5 hours each and an intensive 8-hour session. [page 4]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Attendance at the sessions was 92%. All participants completed the intervention and none of the participants missed more than 2 sessions. [page 5]

Other details	The study participants were offered the course free of charge, although they had to pay 49 euros (US\$68) for the materials (CD and books). [page 4]
Wait list (N = 25)	
Brief name	Wait list [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> Participants were offered the intervention after the completion of the study. [page 3]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.14 Ayres, 2007

Bibliographic Reference

Ayres, Jody; Malouff, John M; Problem-solving training to help workers increase positive affect, job satisfaction, and life satisfaction.; European Journal of Work and Organizational Psychology; 2007; vol. 16 (no. 3); 279-294

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine the effectiveness of a brief problem-solving training for improving adjustment in individuals who have low control over their work environment.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: transport • Organisation size: large • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: not reported
Inclusion criteria	Approval was obtained from the management of an airline and from the relevant flight attendant association union to recruit flight attendants. Participants were recruited orally and through written invitations placed in their workplace mail slots.
Exclusion criteria	Not reported
Method of randomisation	Assignment started with a coin toss, after which assignment was alternated between one condition and the other.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> A power analysis for the between groups, pre – post experimental design, with alpha set at .05, covariates correlating .50 with the dependent variables, and a projected medium effect size, indicated that 98 participants were required for the main analysis of the study to have a power of .80. All outcome analyses included only those individuals who completed the study. Differences in preintervention characteristics were evaluated with an ANOVA (no significant differences were found) Manipulation check analyses: Using a conservative approach to control for alpha inflation, researchers used the Bonferroni adjustment and divided the usual alpha, .05, in half and evaluated each manipulation measure separately using $p=.025$ as the standard for an ANCOVA. Outcome measure analyses: ANCOVA analysis was used to compare the intervention and control groups, as suggested by Tabachnik and Fidell (2001) for experiments with pre and post data on the same measure. Effect sizes were calculated

Attrition	<ul style="list-style-type: none"> • Intervention: From 59 randomised participants, 56 completed useable postintervention questionnaires. Three participants were lost for the following reasons: Two did not receive the intervention because of scheduling difficulties, and one resigned. • Control: From 59 randomised participants, 55 completed useable postintervention questionnaires. Four participants were lost from the control group for the following reasons: Three were on annual leave and not contactable, and one failed to submit the postquestionnaire in time to be included.
Study limitations (author)	<ul style="list-style-type: none"> • The study did not include long-term follow up
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcome measures were reported • ITT analysis was not conducted
Source of funding	Not reported

Study arms

Problem-solving training (N = 59)

59 participants were randomised to a problem-solving training intervention. 120 flight attendants volunteered to participate from 295 participants working at a single airline.

Usual practice (N = 59)

59 participants were randomised to the usual practice condition. 120 flight attendants volunteered to participate from 295 participants working at a single airline.

Characteristics

Arm-level characteristics

Characteristic	Problem-solving training (N = 59)	Usual practice (N = 59)
Age		
Mean (SD)	32.51 (5.53)	32.46 (6.38)
Men		
No of events	n = 23 ; % = 39	n = 25 ; % = 42.4
Women		
No of events	n = 36 ; % = 61	n = 34 ; % = 57.6

Outcomes**Study timepoints**

- Baseline
- 0 week (Postintervention)

Employee outcomes

Outcome	Problem-solving training, Baseline, N = 59	Problem-solving training, 0 week, N = 59	Usual practice, Baseline, N = 59	Usual practice, 0 week, N = 59
Mental wellbeing				
Self reported - Positive affect section of PANAS	n = 56 ; % = 94.9	n = 56 ; % = 94.9	n = 55 ; % = 93.2	n = 55 ; % = 93.2
Sample size				

Outcome	Problem-solving training, Baseline, N = 59	Problem-solving training, 0 week, N = 59	Usual practice, Baseline, N = 59	Usual practice, 0 week, N = 59
Mental wellbeing Self reported - Positive affect section of PANAS Mean (SD)	30.34 (7.53)	37.98 (5.7)	36.62 (6.62)	32.42 (6.64)
job satisfaction (4-20) Self reported - Modified Facet-Free Job Satisfaction Scale Sample size	n = 56 ; % = 94.9	n = 56 ; % = 94.9	n = 55 ; % = 93.2	n = 55 ; % = 93.2
job satisfaction (4-20) Self reported - Modified Facet-Free Job Satisfaction Scale Mean (SD)	15.32 (3.99)	16.89 (3.06)	16.4 (2.97)	16.29 (3.06)

Mental wellbeing - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Problem-solving training vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcome)</i>

Employee outcomes - job satisfaction - Problem-solving training vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

Problem-solving training (N = 59)

Brief name	Problem-solving training [page 279]
Rationale/theory/Goal	Bandura's Social Cognitive Theory postulates that improvement in skills, including problem-solving skills, is mediated by self-efficacy, which involves believing that one can use the skill to deal effectively with prospective situations [page 281]
Materials used	Booklet in which participants wrote their goal [page 285]
Procedures used	<ul style="list-style-type: none"> • Participants were phoned with instructions to write down one realistic goal that they had wanted to achieve for some time and that they thought achieving would increase their happiness. • Participants met with a researcher for 30 to 60 minutes to discuss self efficacy, goal achievement, and happiness. • Participants completed the Barriers to Action Questionnaire (Greenburg, 1990) in order to target the perceived impediments to their goal achievement. • Participants received training in a multistep problem-solving model similar to that described by (D'Zurilla & Nezu, 1999) and applied that to personal barriers. • Problem-solving skills taught included (1) identifying a problem when it occurs, (2) defining the problem, (3) attempting to understand the problem, (4) setting goals related to the problem, (5) generating alternative

	<p>solutions, (6) evaluating and choosing the best alternatives, (7) implementing the chosen alternatives, and (8) evaluating the efficacy of the effort at problem solving</p> <ul style="list-style-type: none"> • Participants were instructed to write twice a week for a 4-week period about any actions they had taken towards achieving their goal. The journal also contained the problem solving steps that were taught and a sheet that gave examples of barriers to action for them to focus on. • Researcher contacted participants at 2 weeks and 4 weeks by phone to check on progress and offer advice about methods. <p>[page 285]</p>
Provider	Researcher- no further details provided [page 285]
Method of delivery	Phone calls [page 285]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	4 weeks made up of 3 phone calls (one was 30 to 60 minutes in length, with activities twice a week. [page 285]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 59)

Brief name	Usual practice [page 286]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.15 Banerjee, 2017

Bibliographic Reference Banerjee, Moitree; Cavanagh, Kate; Strauss, Clara; A Qualitative Study with Healthcare Staff Exploring the Facilitators and Barriers to Engaging in a Self-Help Mindfulness-Based Intervention.; Mindfulness; 2017; vol. 8 (no. 6); 1653-1664

Study details

Trial registration number	Not reported
Aim	To identify facilitators and barriers to engagement in a non-guided mindfulness-based self-help intervention from participants' narrative of the experience using thematic analysis
Country/geographical location	UK
Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	All who took part in a feasibility study were invited to be interviewed (16 out of 31 agreed to be interviewed)

Exclusion criteria	None reported
Statistical method(s) used to analyse the data	<p>Thematic analysis using the following steps were taken</p> <ul style="list-style-type: none"> • familiarisation with transcripts, • forming initial codes, • searching for themes, • reviewing themes, • defining and naming themes • producing reports. <p>Three credibility and reliability checks were conducted.</p> <ul style="list-style-type: none"> • First, the first and third authors conducted a consensus review and appraisal of themes from each transcript. • Second, two independent assessors with limited knowledge of the research question were allocated 40 sample quotations from the transcripts to allocate to a list of themes. • Third, the overarching themes were reviewed by the second author along with some sample quotations from the interviews.
Attrition	No dropouts
Study limitations (author)	<ul style="list-style-type: none"> • Only 16 out of 31 took part so data may not be representative of the whole sample • sample were all employed by same employer, and worked in the same field (mental health) as findings may not be generalisable to other sectors or industries • all researchers practised or were mindfulness trainers so their prior beliefs attitudes and assumptions may have influenced the thematic analysis • the intervention was a specific named intervention and so finding may not be generalisable to other mindfulness-based interventions • respondent validation or 'member checking' was not built into the current analysis so difficult to validate the researchers' understanding of the participants' subjective experiences.

Study limitations (reviewer)	None to add
Source of funding	No funding reported
Theme 1	Acceptability
Theme 2	Facilitators Information provision - People liked having an explanation of the intervention and how it may work <i>"The justification given about how this [mindfulness] works, kept me motivated to keep carrying on [practice]"</i> <i>"it is very important for me to understand what I am doing and why, I guess if I didn't understand the logic clearly I would have given up^"</i>

Study arms

Mindfulness (N = 16)

Characteristics

Study-level characteristics

Characteristic	Study (N = 16)
Age	43.81 (10.29)
Mean (SD)	
Female	n = 15 ; % = 93.8

Characteristic	Study (N = 16)
Sample size	
White British	n = 16 ; % = 100
Sample size	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes
Research Design	Was the research design appropriate to address the aims of the research?	Yes
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes
Data collection	Was the data collected in a way that addressed the research issue?	Yes
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Yes
Ethical Issues	Have ethical issues been taken into consideration?	Yes
Data analysis	Was the data analysis sufficiently rigorous?	Yes
Findings	Is there a clear statement of findings?	Yes
Research value	How valuable is the research?	The research has some value

Section	Question	Answer
Overall risk of bias and relevance	Overall risk of bias	Low
Overall risk of bias and relevance	Relevance	Relevant

D.16 Barattucci, 2019

Bibliographic Reference Barattucci, M.; Padovan, A.M.; Vitale, E.; Rapisarda, V.; Ramaci, T.; De Giorgio, A.; Mindfulness-based IARA model proves effective to reduce stress and anxiety in health care professionals. A six-month follow-up study; International Journal of Environmental Research and Public Health; 2019; vol. 16 (no. 22); 4421

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Nov-2018
Study end date	May-2019
Aim	To determine whether a mindfulness-based IARA Model is effective in improving perceived stress, anxiety and emotional regulation in healthcare workers.
Country/geographical location	Italy

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: Public • Industry: Healthcare • Size: Large • Contract type: Mixed (permanent and temporary) • Seniority: Mixed (doctors, nurses, healthcare assistants) • Income: Mixed (junior high school degree, high school degree and university degree)
Inclusion criteria	None reported
Exclusion criteria	None reported
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • mITT analysis • No power calculations were reported • Results presented as mean and standard error • Baseline characteristic were compared between groups with Chi-squared (socio-working conditions) and t-test (for measured outcomes) - this showed no differences in baseline characteristics • ANOVA with repeated measures 2 (Group: Training - Control) X 2 (Time: Before - Follow up) was used to test for group differences at different timepoints and difference between baseline and follow-up. • Correlation analyses and t-tests were used to test how demographic and work variable affect measured outcomes.

Attrition	<ul style="list-style-type: none"> • 295 out of 297 (99.3%) individuals allocated to the intervention completed follow-up measures. • 202 out of 297 (68.0%) individuals allocated to the control group completed follow-up measures.
Study limitations (author)	<ul style="list-style-type: none"> • Low response rate for control group • Scales used to measure perceived stress and anxiety did not take into account individual factors that relate to emotional regulation and how these would affect outcomes.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported
Source of funding	The research received no external funding

Study arms

IARA training (N = 297)

297 participants were randomly assigned to the IARA training programme from 602 volunteers from 4 different hospitals.

Usual practice (N = 297)

297 participants were randomly assigned usual practice from 602 volunteers from 4 different hospitals.

Characteristics

Study-level characteristics

Characteristic	Study (N = 497)
Age	40.4 (11)
Mean (SD)	
Gender	n = 284 ; % = 57
Women	
No of events	
Junior high school degree or lower	n = 34 ; % = 6.9
No of events	
High school degree	n = 212 ; % = 42.8
No of events	
University degree	n = 231 ; % = 46.5
No of events	

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured 6 months after the end of the training)

Employee outcomes

Outcome	IARA training, Baseline, N = 297	IARA training, 6 month, N = 297	Usual practice, Baseline, N = 297	Usual practice, 6 month, N = 297
Job stress (0-40) Self reported - perceived stress scale (PSS) - Low stress (0-13), moderate stress (14-26), high perceived stress (27-40) - SD calculated by reviewer from SE	n = 295 ; % = 99.3	n = 295 ; % = 99.3	n = 202 ; % = 68	n = 202 ; % = 68
Sample size				
Job stress (0-40) Self reported - perceived stress scale (PSS) - Low stress (0-13), moderate stress (14-26), high perceived stress (27-40) - SD calculated by reviewer from SE	1.63 (0.65)	1.33 (0.5)	1.69 (0.41)	1.79 (0.45)
Mean (SE)				
Job stress (0-40) Self reported - perceived stress scale (PSS) - Low stress (0-13), moderate stress (14-26), high perceived stress (27-40) - SD calculated by reviewer from SE	1.63 (11.16)	1.33 (8.59)	1.69 (5.83)	1.79 (6.4)
Mean (SD)				
Mental health symptoms (20 (80%)) Self-reported - Zung Self-Rating Anxiety Scale (SAS) - Norma range (20-44), mild to moderate (45-59), severe anxiety (60-74), extreme anxiety (75-80) - SD calculated by reviewer from SE	n = 295 ; % = 99.3	n = 295 ; % = 99.3	n = 202 ; % = 68	n = 202 ; % = 68
Sample size				
Mental health symptoms (20 (80%)) Self-reported - Zung Self-Rating Anxiety Scale (SAS) - Norma range	1.85 (0.27)	1.77 (0.22)	1.88 (0.31)	1.84 (0.38)

Outcome	IARA training, Baseline, N = 297	IARA training, 6 month, N = 297	Usual practice, Baseline, N = 297	Usual practice, 6 month, N = 297
(20-44), mild to moderate (45-59), severe anxiety (60-74), extreme anxiety (75-80) - SD calculated by reviewer from SE				
Mean (SE)				
Mental health symptoms (20 (80%)) Self-reported - Zung Self-Rating Anxiety Scale (SAS) - Norma range (20-44), mild to moderate (45-59), severe anxiety (60-74), extreme anxiety (75-80) - SD calculated by reviewer from SE	1.85 (4.64)	1.77 (3.78)	1.88 (4.41)	1.84 (5.4)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - IARA training vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Self-reported outcome and high attrition in control group)</i>

Employee outcomes - Mental health symptoms - IARA training vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>High attrition in control group</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Self-reported outcome and high attrition in control group</i>)

Study arms

IARA training (N = 297)

Brief name	Mindfulness-based IARA Model (an Italian acronym translatable into meeting, compliance, responsibility, autonomy) [page 1]
Rationale/theory/Goal	IARA is a model that encompass mindfulness, psychosynthesis, and counselling principles using emotional education, role-play, relaxation and breathing techniques, guided imagery, inter-personal and self-management skill improvement. [page 2]
Materials used	None reported
Procedures used	<ul style="list-style-type: none"> IARA training was given in a group setting with 19 to 22 HCP. There were taught, group, and individual elements, as well as homework. Session 1 : Participants learnt IARA principles, created a working group environment, developed awareness of here and now and positive qualities belonging to everyone and developed the use of the insight as a tool for personality integration. This was done using taught class and individual tasks.

	<ul style="list-style-type: none"> • Session 2: Participants learnt principles and techniques of counselling, how to improve emotional awareness and how to improve the patient-centred care, using clinical case exercises and taught exercises. • Session 3: Participants learnt SWOT analysis, creative imagination and techniques of IARA using taught class. • Session 4: Participants learnt the "Seven Psychological Types" according to psychosynthesis, planned changes in the group through new shared objectives, and improved awareness regarding people's qualities using taught class and exercises. <p>[pages 4 and 5]</p>
Provider	IARA trainers who had followed a specific qualifying course. Depending on the training meeting, trainers were either a psychologist and a neuroscientist, a psychologist and nurse, or psychologist and a director of nursing service, [page 4]
Method of delivery	<ul style="list-style-type: none"> • Group meetings [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	4 separate 8 hour group meetings [page 4]
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	IARA Model [page 4]
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 297)

Brief name	Usual practice [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.17 Barbosa, 2015

Bibliographic Reference Barbosa, Ana; Nolan, Mike; Sousa, Liliana; Figueiredo, Daniela; Supporting direct care workers in dementia care: effects of a psychoeducational intervention.; American journal of Alzheimer's disease and other dementias; 2015; vol. 30 (no. 2); 130-8

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Study start date	Nov-2011
Study end date	Mar-2013
Aim	The study aimed to analyse the effects of a person-centred care-based psychoeducational intervention on direct care workers' work-related stress, burnout, and job satisfaction.
Country/geographical location	Portugal
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: aged residential care • Organisation size: small/medium • Contract type: permanent • Seniority: not reported • Income: primarily primary to high school education

Inclusion criteria	Direct care workers who provided morning personal care to people with dementia in a regular basis and were employed for at least 2months.
Exclusion criteria	Temporary direct care workers and trainees
Method of randomisation	Random number generator
Method of allocation concealment	Not reported
Unit of allocation	After having been grouped into clusters of similar staff–resident ratio and residents with dementia–total residents’ ratio, 2 pairs of facilities of the same cluster were selected. After recruitment, the facilities within each pair were randomly assigned to the experimental group or control group.
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Sociodemographic characteristics of the groups at baseline were defined using descriptive statistics and compared with independent t tests or chi-square tests as appropriate. • Independent sample t tests were performed to examine differences between the groups at baseline. • After running normality and homogeneity of variance tests, the repeated measures analysis of variance was used to assess group x time intervention effects for each outcome measure. Partial eta-square was interpreted as small (≤ 0.05), medium (0.05-0.25), large (0.25-0.50), and very large (≥ 0.50). • The established level of significance was $P < 0.05$. • Analysis type not reported • No sample size calculations were reported
Attrition	<ul style="list-style-type: none"> • Experimental: no attrition • Control: 29 out of 31 participants completed post-test questionnaires
Study limitations (author)	<ul style="list-style-type: none"> • Relatively small sample size could have reduced the statistical power to detect more significant changes. • Results may have been influenced by the short implementation period. A small study period has been selected, given the risk that the intervention could create an additional burden for participants. However, according to the

	<p>qualitative data, this burden was inexistent as participants stressed the need for a longer intervention to attain greatest effects.</p> <ul style="list-style-type: none"> • Although participants were blinded to the experimental or the control group, it was not possible to blind the researchers to the intervention or assessments. • Participants were recruited after the clusters have been randomly allocated which could have led to selection bias.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • No long-term outcomes were measured
Source of funding	Portuguese Foundation for Science and Technology

Study arms

Psychoeducation (N = 27)

2 units were randomised to the treatment arm.

Education only (N = 31)

2 units were randomised to the control arm.

Characteristics

Arm-level characteristics

Characteristic	Psychoeducation (N = 27)	Education only (N = 31)
Age		
Mean (SD)	43.37 (10)	45.9 (8.04)

Characteristic	Psychoeducation (N = 27)	Education only (N = 31)
Gender	n = 27 ; % = 100	n = 31 ; % = 100
No of events		
Primary school	n = 4 ; % = 14.8	n = 11 ; % = 35.5
No of events		
Middle school	n = 6 ; % = 22.2	n = 6 ; % = 19.4
No of events		
High school	n = 11 ; % = 40.7	n = 13 ; % = 41.9
No of events		
college degree	n = 1 ; % = 3.7	n = 0 ; % = 0
No of events		
Other	n = 5 ; % = 18.5	n = 1 ; % = 3.2
No of events		

Outcomes

Study timepoints

- Baseline
- 2 week (Outcomes were measured 2 weeks after the intervention.)

Employee outcomes

Outcome	Psychoeducation, Baseline, N = 27	Psychoeducation, 2 week, N = 27	Education only, Baseline, N = 31	Education only, 2 week, N = 31
Job stress Self-reported - perceived stress scale - no ICC reported Mean (SD)	19.74 (6.16)	18.93 (6.6)	20.55 (6.31)	20.1 (4.79)
job satisfaction Self-reported - Portuguese version of the short-form Minnesota Satisfaction Questionnaire (MSQ) - no ICC reported Mean (SD)	72.74 (6.04)	73.7 (8.18)	68.14 (9.06)	68.55 (10.13)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Psychoeducation - Education only

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns (<i>Missing outcome data in control group</i>)
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Low
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Missing outcome data</i>)

Employee outcomes - job satisfaction - Psychoeducation - Education only

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low

Section	Question	Answer
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns (<i>Missing outcome data in control group</i>)
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Low
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Missing outcome data</i>)

Study arms

Psychoeducation (N = 27)

Brief name	Person-centred care (PCC)-based psychoeducational intervention [page 130 - abstract]
Rationale/theory/Goal	The intervention aimed to develop person-centred care competences and tools for stress management. [page 130 - abstract]
Materials used	Handouts with relevant information [page 132]
Procedures used	<ul style="list-style-type: none"> • Each session comprised 2 components—educative and supportive • The educative component lasted approximately 60 minutes and aimed to provide participants with principles of PCC, basic information about dementia, verbal and nonverbal communication strategies to interact with residents, and PCC-based interaction strategies including motor stimulation and multisensory stimulation. • In the 3 days following each session, the same professionals assisted each participant individually during morning care, clarifying doubts and making suggestions to implement more PCC.

	<ul style="list-style-type: none"> At the supportive component, participants were taught coping strategies to manage work-related stress and prevent burnout. At the end of each supportive component, relaxation techniques, stretching, and strengthening exercises were practiced. <p>[page 131]</p>
Provider	A gerontologist and a physical therapist [page 131]
Method of delivery	Group sessions included active-learning methods, including group discussions, role-playings, or brainstorming. [page 132]
Intensity/duration of the intervention	8 weekly sessions of approximately 90 minutes [page 130]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Education only (N = 31)

Brief name	Education only [page 132]
Rationale/theory/Goal	Not applicable

Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • It was the absence of the supportive component (including the final stretching and strengthening exercises) that distinguished both interventions. • The coordination, length, order, and content of the sessions were the same as the educational component of the psychoeducational intervention. • Participants were individually assisted during morning care by the same professionals, which helped participants to deliver more PCC and clarified doubts that emerged from sessions. <p>[page 132]</p>
Provider	Not reported
Method of delivery	Group session [page 132]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8 weekly sessions [page 132]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.18 Barr, 2015

Bibliographic Reference

Barr, Dennis J; Boulay, Beth; Selman, Robert L; McCormick, Rachel; Lowenstein, Ethan; Gamse, Beth; Fine, Melinda; Leonard, M. Brielle; A randomized controlled trial of professional development for interdisciplinary civic education: Impacts on humanities teachers and their students.; Teachers College Record; 2015; vol. 117 (no. 2); no-specified

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Study start date	2007
Study end date	2008
Aim	To examine the impacts of a professional development intervention on teachers (self-efficacy, burnout and professional engagement and satisfaction) an students (academic, civic, social and ethical competencies).
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: mostly public (92% public, 8% private) • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)

Inclusion criteria	<ul style="list-style-type: none"> • Schools in close proximity to Facing History regional office • Schools with an interest in having teachers trained • Teachers who taught a humanities course in which they could implement a facing history unit • Teachers who made a commitment to implementing a minimum of six weeks of Facing History during the 2007-2008 school year and were primarily teaching 9th or 10th graders
Exclusion criteria	Schools with teacher or administrator who is teaching a Facing History unit or has previously attended a Facing History seminar
Method of randomisation	Eligible teacher participants were identified prior to randomisation. Schools were first stratified by region and, using a computer-generated, randomly ordered list, schools were randomly assigned to either an intervention group or a control within each region.
Method of allocation concealment	Not reported
Unit of allocation	School (cluster)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All impacts were estimated using a two-level hierarchical linear model to account for the fact that teachers and students are clustered within schools. In models estimating impacts on teachers, baseline measures of the outcome were included as a covariate. • Tests of statistical significance reflect an adjusted alpha level, using the Benjamini-Hochberg correction to bring the effective alpha level across outcomes with a domain down to 0.05. • ITT analysis not reported • No power calculations reported • No ICC reported
Attrition	<ul style="list-style-type: none"> • Intervention: 1/40 schools did not complete baseline measures, and 7/39 schools were lost to follow-up. Follow-up outcomes were reported for 53 out of 78 participants who completed baseline measures (68%) • Control: 3/40 schools did not complete baseline measures, and 7/37 schools were lost to follow-up. Follow-up outcomes were reported for 60 out of 102 participants who completed baseline measures (59%)

Study limitations (author)	Self-reported outcomes
Study limitations (reviewer)	None
Source of funding	Richard and Susan Smith Family Foundation

Study arms

Professional development (N = 78)

42 schools were randomised to the intervention group. At baseline, 78 participants from 40 schools were assigned to receive the professional development intervention.

Wait list (N = 102)

42 schools were randomised to the control group. At baseline, 102 teachers from 40 schools were assigned to a wait list control.

Characteristics

Arm-level characteristics

Characteristic	Professional development (N = 78)	Wait list (N = 102)
White	n = 41 ; % = 77	n = 45 ; % = 75
No of events		
Other	n = 10 ; % = 19	n = 13 ; % = 22

Characteristic	Professional development (N = 78)	Wait list (N = 102)
No of events		
Bachelor's level	n = 17 ; % = 32	n = 24 ; % = 40
No of events		
Master's level or greater	n = 34 ; % = 64	n = 35 ; % = 58
No of events		

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes measured after 1 year)

Employee outcomes

Outcome	Professional development, Baseline, N = 78	Professional development, 1 year, N = 78	Wait list, Baseline, N = 102	Wait list, 1 year, N = 102
Mental wellbeing Self reported- teacher self-efficacy evaluated using eight outcomes including the Charter Education Efficacy Belief Instrument (CEEBI) and seven subscales of the Teaching for Informed Civic Engagement Efficacy Belief Inventory (TICE-EBI) - no ICC was reported	n = 53 ; % = 67.9	n = 53 ; % = 67.9	n = 60 ; % = 58.8	n = 60 ; % = 58.8
Sample size				

Outcome	Professional development, Baseline, N = 78	Professional development, 1 year, N = 78	Wait list, Baseline, N = 102	Wait list, 1 year, N = 102
Mental wellbeing Self reported- teacher self-efficacy evaluated using eight outcomes including the Charter Education Efficacy Belief Instrument (CEEBI) and seven subscales of the Teaching for Informed Civic Engagement Efficacy Belief Inventory (TICE-EBI) - no ICC was reported Mean (SD)	3.78 (0.42)	4 (0.39)	3.74 (0.42)	3.76 (0.39)
Job stress Self-reported- Emotional exhaustion subscale of Maslach Burnout Inventory (MBI) - no ICC was reported Sample size	n = 53 ; % = 67.9	n = 53 ; % = 67.9	n = 60 ; % = 58.8	n = 60 ; % = 58.8
Job stress Self-reported- Emotional exhaustion subscale of Maslach Burnout Inventory (MBI) - no ICC was reported Mean (SD)	1.89 (0.8)	1.88 (0.84)	2.2 (0.8)	2.09 (0.84)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

For baseline measures, standard deviations were calculated from the standard error of difference between arms. For follow-up measures, standard deviations were calculated using the p-value.

Critical appraisal - cRCT RoB

Employee outcomes - Mental wellbeing - Professional development - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - Job stress - Professional development - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Professional development (N = 78)

Brief name	Professional development intervention [page 1]
Rationale/theory/Goal	To examine the impacts of a professional development intervention on teachers in terms of self-efficacy, burnout, professional engagement and job satisfaction. The aim was to support teachers to develop their capacity to implement a historical interdisciplinary case study using a student-centred pedagogy. [page 4]
Materials used	<ul style="list-style-type: none"> Teachers resource book 'Facing history and ourselves: holocaust and human behaviour'.

	<ul style="list-style-type: none"> • Additional print and digital resources. <p>[page 6]</p>
Procedures used	<ul style="list-style-type: none"> • 5 day professional development seminar for teachers • Follow up support from Facing History staff over the following year through coaching and workshops as teachers developed lesson plans and implemented them. • Access to curricular resources and materials. <p>[page 6]</p>
Provider	Facing History and Ourselves (non-profit organisation) programme staff members. [page 6]
Method of delivery	<ul style="list-style-type: none"> • Initial group seminar • Initial follow up meeting • Ongoing coaching as requested • Guest speakers and workshops – no further detail is provided <p>[page 6]</p>
Setting/location of intervention	In class [page 6]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 5-day seminar (35-40 hours) • Minimum of one hour follow-up meeting • Coaching as requested. <p>[page 6]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

<p>Planned treatment fidelity</p>	<p>Fidelity of implementation was defined at teacher and classroom levels</p> <p>At teacher level:</p> <ul style="list-style-type: none"> • Participation in a full four or five day Facing History seminar and use of follow-up services, including at least one planning session with a programme staff member . <p>At classroom level:</p> <ul style="list-style-type: none"> • Teaching a minimum of a 6 week unit of Facing History and Ourselves: Holocaust and Behaviour, with at last 2 hours of study of each sequential part of the unit, supported by use of the accompanying resource book and some of the videos and DVDs. <p>[page 26]</p>
<p>Actual treatment fidelity</p>	<p>At teacher level:</p> <ul style="list-style-type: none"> • All teachers attended the seminar • All teachers had at least one planning meeting with programme staff • Use of follow up services varied according to type of resources and support: <ul style="list-style-type: none"> - 98% support in finding resources (online, video, print) - 96% support in developing a Facing History teaching unit - 85% support in developing particular lessons - 62% attended conferences or events at least once - 52% had support in managing their classroom

	<ul style="list-style-type: none"> - 42% attended workshops - 37% attended modelling lessons <p>At classroom level:</p> <p>49/53 teachers provided data and were given a fidelity score, which was categorised into high, medium or low fidelity.</p> <p>47% teachers delivered the programme with high fidelity</p> <p>53% teachers delivered the programme with medium or low fidelity.</p> <p>[page 26]</p>
Other details	None to add

Professional development intervention

Wait list (N = 102)

Brief name	Wait list [page 11]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Waiting list to participate in the intervention in the following year. [page 11]
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None to add

Wait list control

D.19 **Benn, 2012**

Bibliographic Reference

Benn, Rita; Akiva, Tom; Arel, Sari; Roeser, Robert W; Mindfulness training effects for parents and educators of children with special needs.; *Developmental Psychology*; 2012; vol. 48 (no. 5); 1476-1487

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Aim	To investigate whether a short-term, intensive, school-based mindfulness training intervention is feasible for parents and educators and whether it is effective in fostering positive changes in mindfulness, reductions in stress and distress, increases in well-being, and positive changes in relational and caregiving competence.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Size of organisation: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Recruited parents and educators were randomly assigned by a computerized random number generator prior to baseline measures.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The effects of the intervention were tested with a series of analyses of covariance by condition (intervention vs control) and group (teacher vs parent), and covariates such as age, gender, education level, as well as an individual's history of past meditation experience and baseline scores. • Effect sizes were calculated using Cohen's d with covariate adjusted means with an effect size of .2 to .3 typically considered small, .5 medium, and .8 or greater, large. • ITT analysis not reported • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention : out of 19 teachers randomised, 19 (100%) completed baseline measurements, 19 (100) completed post-intervention measurements and 14 (74%) completed follow up assessments. • Control: out of 19 teachers randomised, 16 (84%) completed baseline measurements, 9 (47%) completed post-intervention measurements and 9 (47%) completed follow up measurements.
Study limitations (author)	<ul style="list-style-type: none"> • Outcome measures were self reported • A passive control was used rather than an active control • High attrition
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow up • Most participants were women, meaning that the results may not be generalisable to all workplaces
Source of funding	Fetzer Institute, the University of Michigan's Office of Vice President for Research and Institute of Human Adjustment, the Impact Foundation, and the Ann Arbor Public School District

Study arms

Mindfulness training (N = 19)

19 teachers were randomised to receive mindfulness training. Participants were recruited through the special education services in the school district.

Wait list (N = 19)

19 teachers were randomised to receive mindfulness training. Participants were recruited through the special education services in the school district.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 35)
Age Characteristics for participants who completed baseline measurements	45.6 (<i>empty data to empty data</i>)
Mean (95% CI)	
Women	n = 32 ; % = 91.4
No of events	
Men	n = 3 ; % = 8.6
No of events	
Socioeconomic - educational level College degree or higher - characteristics of participants who completed baseline measures	n = 32 ; % = 91
No of events	

Outcomes**Study timepoints**

- Baseline
- 2 month (Follow up 2 months after the intervention)

Employee outcomes

Outcome	Mindfulness training, Baseline, N = 19	Mindfulness training, 2 month, N = 19	Wait list, Baseline, N = 19	Wait list, 2 month, N = 19
Mental wellbeing (1-5) Self reported - Emotion Regulation at Work Self-Efficacy Scale	n = 19 ; % = 100	n = 14 ; % = 73.7	n = 16 ; % = 84.2	n = 9 ; % = 47.4
Sample size				
Mental wellbeing (1-5) Self reported - Emotion Regulation at Work Self-Efficacy Scale	3.84 (0.55)	4.28 (0.56)	3.8 (0.52)	3.33 (0.9)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Mindfulness training vs Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in control group)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (Outcome measures were self reported)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (Attrition and self-reported outcomes)

Study arms

Mindfulness training (N = 19)

Brief name	SMART-in-Education (Stress Management and Relaxation Techniques) program [page 4]
Rationale/theory/Goal	It was proposed that changes in mindfulness from baseline to program completion would mediate long-term changes in stress, distress, and wellbeing. With greater attention to internalized processes that precipitate behavior, it was proposed as likely that both parents and educators would learn to modify their cognitions and responses in ways that support more optimal mental functioning and caregiving competence.[page 2]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> The MT involves 36 hr of didactic and group discussion activities, mindfulness practices, and homework assignments delivered over nine 2.5-hr sessions and 2 full days. The mindfulness practices include specific mental training exercises, such as concentration on thoughts or the breath, and homework practices, such as assignments of daily sitting practices and monitoring emotional and behavioural responses.

	<ul style="list-style-type: none"> • A typical session consists of question-and answer periods, didactic lectures and group discussions, modelling of mindfulness practices, and actual group mindfulness practice. • Teachers participated in MT sessions twice a week over a 5-week period in a separate session to parents. <p>[page 4]</p>
Provider	Two pairs of instructors who had formal professional training in MBSR or mindfulness-based cognitive therapy (a variation of MBSR). In addition, they had received 3 days of training in the SMART curriculum by the curriculum developers, with ongoing supervision and consultation as needed. [pages 4 and 5]
Method of delivery	Group sessions and at-home practice [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	36 hours over a 5 week period comprised of nine 2.5 hour session and 2 full days [page 4]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	SMART-in-Education was a fully manualised instructional curriculum developed by the Impact Foundation. The curriculum represents approximately 70% of the same components and practices as the mindfulness-based stress reduction (MBSR) program developed by Kabat-Zinn and includes additional content focused on emotion theory and regulation, forgiveness, kindness and compassion, and the application of mindfulness to parenting and teaching. [page 4]
Actual treatment fidelity	Participants attended most of the sessions (M = 9.9 sessions, range = 7–11 sessions for parents and teachers). Participants reported, on average, 10 minutes (parents and teachers) of formal mindfulness home practice per day. [page 5]
Other details	Study participation fulfilled a district requirement of attending a minimum of 10 hr of professional development. All participants were paid \$25 for completion of study assessments at each of three time points [page 2]

Wait list (N = 19)

Brief name	Wait list [page 2]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received the intervention in the following year [page 2]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.20 Bethay, 2013

Bibliographic Reference

Bethay, J. Scott; Wilson, Kelly G.; Schnetzer, Lindsay W.; Nassar, Stephanie L.; Bordieri, Michael J.; A Controlled Pilot Evaluation of Acceptance and Commitment Training for Intellectual Disability Staff; *Mindfulness*; 2013; vol. 4 (no. 2); 113-121

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The aim of the present study was to evaluate the effects of a workshop for intellectual disabilities staff that combined ACT with training in applied behavior analysis (ACT+ABA).
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: residential facility for individuals with intellectual disability • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: education level mixed
Inclusion criteria	Not reported
Exclusion criteria	Not reported

Method of randomisation	Method not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • One-way ANOVAs and Chi-square analyses were used to analyse baseline differences. • Means and standard deviations were presented for outcome measures. • 2×3 repeated measures ANOVAs were conducted to examine differences between pre-test, post-tests, and 3-month follow-up scores for all outcome and process measures across the two conditions. • Medians and ranges were presented for outcome and process measures for the 14 participants scoring in the clinical range on the GHQ-12. • No calculations for sample sizes were reported • Analysis type was not reported
Attrition	<ul style="list-style-type: none"> • Intervention: 18 out of 20 participants completed the study • Control: 16 out of 18 participants completed the study
Study limitations (author)	<ul style="list-style-type: none"> • To begin, the internal validity of the study is compromised by the small number of participants. • The ACT+ABA intervention appears to have been most useful for individuals who exhibited higher levels of stress, which suggests the intervention may not need to be applied universally. • Because the ACT condition contained elements of applied behavior analysis training, the current design does not allow for firm conclusions about whether changes in stress levels were produced solely by ACT or by the combination of ACT and ABA training. • The lack of a control group consisting of another stress management intervention. • The present study did not include measures of important ACT-related processes other than defusion.

Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Not reported

Study arms

Acceptance and commitment therapy + applied behavioural analysis (N = 20)

20 participants were randomised to the intervention group. Participants were recruited via general announcements and flyers posted at the workplace.

Applied behavioural analysis (N = 18)

18 participants were randomised to the control group. Participants were recruited via general announcements and flyers posted at the workplace.

Characteristics

Study-level characteristics

Characteristic	Study (N = 34)
Age	22 to 60
Range	
Age	38 (<i>empty data</i>)
Mean (SD)	

Characteristic	Study (N = 34)
Women	n = 26 ; % = 76.5
No of events	
Men	n = 8 ; % = 23.5
No of events	
White	n = 17 ; % = 50
No of events	
African-American	n = 17 ; % = 50
No of events	

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes were measured 3 months after the intervention)

Employee outcomes

Outcome	Acceptance and commitment therapy + applied behavioural analysis, Baseline, N = 20	Acceptance and commitment therapy + applied behavioural analysis, 3 month, N = 20	Applied behavioural analysis, Baseline, N = 18	Applied behavioural analysis, 3 month, N = 18
Job stress Self-reported - emotional	n = 18 ; % = 90	n = 18 ; % = 90	n = 16 ; % = 88.9	n = 16 ; % = 88.9

Outcome	Acceptance and commitment therapy + applied behavioural analysis, Baseline, N = 20	Acceptance and commitment therapy + applied behavioural analysis, 3 month, N = 20	Applied behavioural analysis, Baseline, N = 18	Applied behavioural analysis, 3 month, N = 18
exhaustion subscale of the Maslach Burnout Inventory				
Sample size				
Job stress Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	16.78 (13.32)	15.78 (11.09)	17.81 (11.03)	16.81 (12.85)
Mean (SD)				
Quality of life Self-reported - General Health Questionnaire-12	n = 18 ; % = 90	n = 18 ; % = 90	n = 16 ; % = 88.9	n = 16 ; % = 88.9
Sample size				
Quality of life Self-reported - General Health Questionnaire-12	10.44 (5.68)	7.94 (3.28)	11.56 (3.31)	10.13 (4.05)
Mean (SD)				

Job stress - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Acceptance and commitment therapy + applied behavioural therapy - Applied behavioural therapy

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes -Quality of life - Acceptance and commitment therapy + applied behavioural therapy - Applied behavioural therapy

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Study arms

Acceptance and commitment therapy + applied behavioural analysis (N = 20)

Brief name	Acceptance and Commitment Training (ACT) and Applied Behavior Analysis (ABA) [page 115]
Rationale/theory/Goal	This intervention was constructed based upon examination of ACT treatment protocols. Treatment components were adapted to address the particular difficulties encountered by intellectual disabilities staff, such as dealing with emotional reactions to challenging behaviours, as well as perceived lack of support from and cooperation among co-workers. [page 115]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> To accommodate the participants' schedules, they were offered three weekly times in which they could attend their assigned training group. Participants were asked to attend the groups at the same time each week in order to foster group cohesion. Each session was attended by four to eight participants.

	<ul style="list-style-type: none"> • The first session of the workshop began with brief didactics about stress in the workplace and the ACT model. Participants identified and shared examples of work stressors to identify thoughts, emotions, and coping strategies associated with the stressors. The workability of these coping strategies was then examined. The first day concluded with a guided mindfulness exercise. • Participants were asked to practice mindfulness exercises as homework. • The second workshop session began with a review of the homework assignment from the previous session. A continued discussion of defusion ensued, with an emphasis on perspective-taking skills in difficult work situations. Staff then engaged in guided practice exercise, which attempted to foster contact with a transcendent sense of self and to encourage non-judgmental acceptance of internal events. Staff then engaged in a writing exercise where they described a stressful work experience. Participants then practiced an exercise, in which they were asked to attend to various bodily sensations, emotions, and thoughts that emerged in response to the memory of the event that they had just written about. Staff then engaged in a guided meditation designed to facilitate experiential contact with work-related values. Staff were then asked to list some of their values and to identify goals related to those values. Finally, participants were asked to make behavioural commitments to practice valued actions. Barriers to effective action and techniques for building larger patterns of committed action were discussed. For homework, the participants were encouraged to continue exercises learnt in the session. • The final session consisted of a 3-h lecture about the principles of applied behavior analysis, with emphasis on how participants can use ACT techniques to enhance their behavior management skills. Participants were also encouraged to continue to practice the mindfulness skills that they had learned in the previous two sessions. <p>[page 116]</p>
Provider	Advanced graduate student with 1 year of training and supervision in ACT [page 115]
Method of delivery	Group sessions [pages 115]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Three 3-h group sessions that were administered at 1-week intervals for 3 weeks [page 115]
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Applied behavioural analysis (N = 18)

Brief name	Applied Behavior Analysis [page 116]
Rationale/theory/Goal	The control condition consisted of applied behavior analysis that were derived from the Miller (2005) text. [page 116]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The training sessions consisted of programmed instruction in which the lectures were divided into brief (15–20 min) lessons, each followed by a brief quiz which the participants completed in small groups. The instructors provided corrective feedback on the quizzes before advancing to the next lesson. • Throughout the training, participants were encouraged to relate the course content to their job duties and to practice the principles and techniques they were learning between sessions. <p>[pages 116 and 117]</p>
Provider	Advanced graduate students in clinical psychology who had completed coursework in applied behavior analysis [page 116]
Method of delivery	Group session [page 115]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Three 3-h group sessions that were administered at 1-week intervals for 3 weeks [page 115]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.21 Bond, 2000

Bibliographic Reference

Bond, Frank W; Bunce, David; Mediators of change in emotion-focused and problem-focused worksite stress management interventions.; Journal of occupational health psychology; 2000; vol. 5 (no. 1); 156

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Aim	To examine how acceptance and commitment therapy and problem-focused training affect both mental health outcomes (general mental health and depression) and work-related outcomes (job motivation, job satisfaction, and propensity to innovate).
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: media • Organisation size: large • Contract type: not reported • Seniority: mixed (jobs included managerial jobs) • Income: participants were primarily university graduates
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Matching for gender, participants were randomised to treatment arms. Details were not provided.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not clear. List-wise deletion was conducted due to attrition. • With this sample size, there was a 73% chance of detecting medium-sized $\text{On}2 = .09$ main and interaction effects for the group and time variables, using a two-tailed alpha level of .05 (Cohen, 1988). • To examine whether ACT and IPP led to improvements on the outcome variables, we first conducted a 3 X 4 repeated measures multivariate analysis of variance (MANOVA) involving all dependent variables, with treatment group as the between-subjects variable and time as the within-subject variable.
Attrition	<p>Final group sizes were:</p> <ul style="list-style-type: none"> • ACT- 24/30 (80%) • Problem-solving- 21/30 (70%) • Control- 20/30 (66.7%) <p>Between each observation time, there was no evidence of a differential attrition rate between the three groups. Comparisons between participants who dropped out and those who remained in the experiment revealed no significant TI differences on any of the biographical, mediator, or outcome variables. Also there were no between-groups differences on biographical variables.</p>
Study limitations (author)	Not reported
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • There was as greater level of attrition in the control group
Source of funding	Not reported

Study arms

Acceptance and commitment therapy (N = 30)

30 participants were assigned to receive acceptance and commitment therapy. Participants were from a single organisation, and were recruited via internal email and team meetings.

Problem-focused training (N = 30)

30 participants were assigned to receive problem-focused training. Participants were from a single organisation, and were recruited via internal email and team meetings.

Wait list (N = 30)

30 participants were assigned to a wait list. Participants were from a single organisation, and were recruited via internal email and team meetings.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 90)
Age	36.43 (9.72)
Mean (SD)	
Men	n = 45 ; % = 50
No of events	
Women	n = 45 ; % = 50
No of events	

Outcomes**Study timepoints**

- Baseline
- 27 week (Outcomes were measures at 27 weeks from the beginning of the intervention.)

Employee outcomes

Outcome	Acceptance and commitment therapy, Baseline, N = 30	Acceptance and commitment therapy, 27 week, N = 30	Problem-focused training, Baseline, N = 30	Problem-focused training, 27 week, N = 30	Wait list, Baseline, N = 30	Wait list, 27 week, N = 30
Mental health symptoms Self-reported- Beck Depression Inventory (BDI)	n = 24 ; % = 80	n = 24 ; % = 80	n = 21 ; % = 70	n = 21 ; % = 70	n = 20 ; % = 66.7	n = 20 ; % = 66.7
Sample size						
Mental health symptoms Self-reported- Beck Depression Inventory (BDI)	3.83 (2.97)	3.13 (2.76)	3.77 (2.51)	3.38 (2.01)	3.17 (3.11)	3.45 (3.24)
Mean (SD)						
job satisfaction Self-reported- Intrinsic job satisfaction (Warr 1979)	n = 24 ; % = 80	n = 24 ; % = 80	n = 21 ; % = 70	n = 21 ; % = 70	n = 20 ; % = 66.7	n = 20 ; % = 66.7
Sample size						
job satisfaction Self-reported- Intrinsic job satisfaction (Warr 1979)	35.1 (2.66)	36.17 (2.63)	34.17 (3)	34.38 (3.4)	34.83 (2.45)	34.8 (3.61)

Outcome	Acceptance and commitment therapy, Baseline, N = 30	Acceptance and commitment therapy, 27 week, N = 30	Problem-focused training, Baseline, N = 30	Problem-focused training, 27 week, N = 30	Wait list, Baseline, N = 30	Wait list, 27 week, N = 30
Mean (SD)						
Quality of life Self-reported- General Health Questionnaire-12 (GHQ-12)	n = 24 ; % = 80	n = 24 ; % = 80	n = 21 ; % = 70	n = 21 ; % = 70	n = 20 ; % = 66.7	n = 20 ; % = 66.7
Sample size						
Quality of life Self-reported- General Health Questionnaire-12 (GHQ-12)	12.17 (4.33)	10.42 (2.95)	12.37 (3.61)	12.95 (3.96)	12.03 (3.11)	12.65 (3.38)
Mean (SD)						

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Acceptance and commitment therapy - Problem-focused training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Acceptance and commitment therapy - Problem-focused training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Quality of life - Acceptance and commitment therapy - Problem-focused training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Acceptance and commitment therapy (N = 30)

Brief name	Acceptance and commitment therapy
Rationale/theory/Goal	<p>To compare the utility of Acceptance and Commitment Therapy which is an emotion focused stress management intervention designed to increase an individual's ability to cope with workplace stress, with a problem solving approach which trains individuals to identify and alleviate stressors.</p> <p>(Page 156)</p>
Materials used	<p>Stress management Intervention manual</p> <p>(Page 158)</p>
Procedures used	<p>Participants attended 3 half day sessions which consisted of:</p> <ul style="list-style-type: none"> • Group discussions • Didactic teaching • Experience orientated exercises • Homework the importance of which was heavily emphasised • Review of homework <p>Participants in the ACT group were taught how to experience and accept thoughts and feelings they found undesirable without trying to change them. Exercises were used to teach participants that they would not become distressed by the thoughts or feelings if they accepted and experienced them.</p>

	(Page 159)
Provider	Not reported
Method of delivery	Group sessions
	(Page 158)
Setting/location of intervention	Not reported
Intensity/duration of the intervention	3 x half day sessions. The first two were on consecutive weeks and the third was delivered 3 months later.
	(Page 158)
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Homework completion was not formally monitored but group discussions indicated the vast majority of participants completed their homework.
	(Page 158)
Other details	None to add

Acceptance and commitment therapy

Problem focused training (N = 30)

Brief name	Problem focused training (Innovation Promotion Programme)
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	(Page 156 Abstract)
Rationale/theory/Goal	To compare the utility of a problem solving focused training programme (Innovation Promotion Programme) which trains individuals to identify and alleviate workplace stressors, with acceptance and commitment therapy which is an emotion focused stress management intervention designed to increase an individual's ability to cope with workplace stress. (Page 156)
Materials used	Stress management Intervention manual (Page 158)
Procedures used	Participants attended 3 half day sessions which consisted of: <ul style="list-style-type: none"> • Group discussions • Didactic teaching • Experience orientated exercises • Homework, the importance of which was heavily emphasised • Review of homework <p>Participants in the problem focused training group were encouraged to modify their workplace stressors, firstly by identifying them and then by innovatively changing them. They were taught brainstorming and creativity techniques to support this and developed action plans to implement the changes.</p> (Page 159)
Provider	Not reported
Method of delivery	Group sessions (Page 158)
Setting/location of intervention	Not reported

Intensity/duration of the intervention	3 x half day sessions. The first two were on consecutive weeks and the third was delivered 3 months later. (Page 158)
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Homework completion was not formally monitored but group discussions indicated the vast majority of participants completed their homework. (Page 158)
Other details	None to add

Problem focused training

Wait list (N = 30)

Brief name	Wait list (page 156 - abstract)
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants volunteered - no further details provided
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None to add

Wait list control

D.22 Bostock, 2019

Bibliographic Reference

Bostock, Sophie; Crosswell, Alexandra D; Prather, Aric A; Steptoe, Andrew; Mindfulness on-the-go: Effects of a mindfulness meditation app on work stress and well-being.; Journal of occupational health psychology; 2019; vol. 24 (no. 1); 127-138

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	Mar-2012
Study end date	Jan-2013
Aim	To determine whether a mindfulness meditation programme delivered via a smartphone app could improve mental wellbeing, reduce job stress, and reduce ambulatory blood pressure during the day.
Country/geographical location	UK
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: pharmaceutical and technology industries • Size of organisation: large • Contract type: mostly full-time (96%) • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	<ul style="list-style-type: none"> • Participants who self reported no work stress (scoring zero on a 6-item work over commitment scale) • Participants who self reported a clinical diagnosis of depression, hypertension, heart disease or cancer • Participants who did not own an Android or iPhone smartphone • Participants who refused to be randomly assigned to the intervention or control conditions.
Method of randomisation	Random number generator software

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis - List-wise deletion was performed • eta-squared was used as an effect size index • Outcome data were presented as mean and standard deviation • Chi-square and t-tests were used to examine group difference in baseline characteristics • Intervention effects on each outcome were tested using ANCOVA • Pearson correlations were used to examine whether the number of practice sessions was associated with baseline psychological outcomes. • Dose response effects were investigated using 2 x 3 repeated measures ANOVA.
Attrition	<ul style="list-style-type: none"> • 96% of participants in the intervention group completed follow-up interviews. • 96% of participants in the control group completed follow-up interviews.
Study limitations (author)	<ul style="list-style-type: none"> • Lack of active control condition • Short-term follow up • Use of self-administered blood pressure readings
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcome measures • Extensive exclusion criteria mean that the sample may not be generalisable
Source of funding	<ul style="list-style-type: none"> • British Heart Foundation • National Institute on Aging • National Heart Lung and Blood Institute

Study arms

Mindfulness app (N = 128)

128 participants were randomised to the intervention group from two worksites.

Wait list (N = 110)

110 participants were randomised to the wait-list control group from two worksites.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness app (N = 128)	Wait list (N = 110)
Age		
Mean (SD)	36 (8.3)	35 (6.9)
Gender		
Women	n = 77 ; % = 60	n = 64 ; % = 58
Sample size		
Socioeconomic status (1 - 10)		
Self-reported - higher values represent most senior managers	4.9 (2)	4.8 (1.8)
Mean (SD)		

Outcomes

Study timepoints

- Baseline
- 9 week (Outcomes measured between 9 and 11 weeks from start of intervention)

Employee outcomes

Outcome	Mindfulness app, Baseline, N = 128	Mindfulness app, 9 week, N = 128	Wait list, Baseline, N = 110	Wait list, 9 week, N = 110
Mental wellbeing (1-4) Self reported- Warwick Edinburgh Mental Well-being Scale (WEMWBS)	n = 128 ; % = 100	n = 123 ; % = 96.1	n = 110 ; % = 100	n = 106 ; % = 96.4
Sample size				
Mental wellbeing (1-4) Self reported- Warwick Edinburgh Mental Well-being Scale (WEMWBS)	47.6 (6.8)	49.9 (6.7)	46.9 (5.8)	47 (7.5)
Mean (SD)				
Job stress Self reported - 16 items from Whitehall II study questionnaire	n = 128 ; % = 100	n = 123 ; % = 96.1	n = 110 ; % = 100	n = 106 ; % = 96.4
Sample size				
Job stress Self reported - 16 items from Whitehall II study questionnaire	1.08 (0.21)	1.04 (0.21)	1.07 (0.24)	1.08 (0.3)
Mean (SD)				
Mental health symptoms - Depression (0-21) Self reported - to be extracted - depression subscale of the Hospital Anxiety and Depression Scale (HADS) - extracted for meta-analysis	n = 128 ; % = 100	n = 123 ; % = 96.1	n = 110 ; % = 100	n = 106 ; % = 96.4

Outcome	Mindfulness app, Baseline, N = 128	Mindfulness app, 9 week, N = 128	Wait list, Baseline, N = 110	Wait list, 9 week, N = 110
Sample size				
Mental health symptoms - Depression (0-21) Self reported - to be extracted - depression subscale of the Hospital Anxiety and Depression Scale (HADS) - extracted for meta-analysis	5.05 (3.4)	3.6 (3.2)	5.13 (3.2)	5.18 (3.5)
Mean (SD)				
Mental health symptoms - Anxiety (0-21) Self-reported - anxiety subscale of the Hospital Anxiety and Depression Scale (HADS)	n = 128 ; % = 100	n = 123 ; % = 96.1	n = 110 ; % = 100	n = 106 ; % = 96.4
Sample size				
Mental health symptoms - Anxiety (0-21) Self-reported - anxiety subscale of the Hospital Anxiety and Depression Scale (HADS)	9.13 (3.9)	7.44 (3.6)	9.36 (4)	8.86 (3.9)
Mean (SD)				
Post-hoc - work climate Self reported - 5-item	n = 128 ; % = 100	n = 123 ; % = 96.1	n = 110 ; % = 100	n = 106 ; % = 96.4
Sample size				
Post-hoc - work climate Self reported - 5-item	3.16 (0.5)	3.3 (0.5)	3.22 (0.5)	3.21 (0.6)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Depression - Polarity - Lower values are better

Mental health symptoms - Anxiety - Polarity - Lower values are better

Post-hoc - work climate - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Mindfulness app vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Mindfulness app vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Depression - Mindfulness app vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Anxiety - Mindfulness app vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Post-hoc-work climate - Mindfulness app vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness app (N = 128)

Brief name	Mindfulness app (Headspace) [page 5]
Rationale/theory/Goal	In this study, being 'mindful' is defined as being in a state of paying full attention to their present moment experience with openness and non-judgemental acceptance. It has been proposed that that mindfulness-based therapies reduce stress by improving capacity to cope with stressful situations and enhancing attention regulation. [page 2]
Materials used	<ul style="list-style-type: none"> • Smartphone (Android or iPhone) • Omron R2 wrist blood pressure monitor <p>[pages 4 and 5]</p>
Procedures used	<ul style="list-style-type: none"> • Participants received email instructions to download the app and inviting them to a 1-hour in-person introductory talk about meditation. • The app contained several short introductory videos that explained the rationale for mindfulness meditation and described mindfulness techniques. • The training programme consisted of 45 meditation sessions lasting from 10 to 20 minutes. • Participants could choose to meditate at any time during the day. • Listeners were led through pre-recorded mindfulness sessions. • Each session was designed to be used once per day for 45 days. • Participants received a weekly reminder to encourage use of the app. <p>[page 6]</p>

Provider	<ul style="list-style-type: none"> • Headspace app • Introductory talk was provided by Headspace founder <p>[page 6 and 14]</p>
Method of delivery	<ul style="list-style-type: none"> • Smartphone app [page 6]
Setting/location of intervention	<ul style="list-style-type: none"> • Digital [page 6]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 10 to 20 minutes per day for 45 days [page 6]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	<ul style="list-style-type: none"> • The program begins with 10 days of 10-minute meditation sessions, followed by 'Take 15 days of 15 minute meditations and then 20 days of 20 minute meditations. • Participants must complete the meditations in the sequential order set by the program, and must complete each component before starting the next. • Longer sessions included more time for silent meditation. <p>[page 6]</p>
Actual treatment fidelity	<ul style="list-style-type: none"> • Participants assigned to the intervention condition completed an average of 16.6 meditation sessions (SD=12.9, range 0–45 days) over 8 weeks. • Thirteen participants did not use the app; three cited technical reasons and ten cited lack of time. • Nearly three quarters of participants (74%) completed 6 sessions (which is approximately 60 minutes of meditation), 68% completed >100 total minutes,, 23% completed >325 total minutes and 2% completed all 45 sessions (725 min). <p>[page 9]</p>

Other details	After completing the follow-up assessment, participants were able to continue using the app. [page 6]
Wait list (N = 110)	
Brief name	Wait list control [page 5]
Rationale/theory/Goal	Not applicable
Materials used	<ul style="list-style-type: none"> NHS online advice for work stress [page 6]
Procedures used	<ul style="list-style-type: none"> Participant were sent a link to NHS online advice for work and stress [page 6]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	After completing the follow-up assessments, participants were given access to the intervention. [page 6]

D.23 Bragard, 2010

Bibliographic Reference Bragard, Isabelle Etienne, Anne-Marie Merckaert, Isabelle Libert, Yves Razavi, Darius; Efficacy of a Communication and Stress Management Training on Medical Residents' Self-efficacy, Stress to Communicate and Burnout A Randomized Controlled Study; JOURNAL OF HEALTH PSYCHOLOGY; 2010; vol. 15 (no. 7); 1075-1081

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Country/geographical location	Belgium
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: medical residents

	<ul style="list-style-type: none"> Income: professional
Inclusion criteria	<p>Medical residents who:</p> <ul style="list-style-type: none"> spoke French showed an interest in psychological training were willing to participate in the training programme and its assessment procedure
Exclusion criteria	<ul style="list-style-type: none"> Participants who did not complete the assessment procedure after training Participants who attended less than one hour of the communication skills training and less than one hour of the stress management skills training
Method of randomisation	Computer-generated randomisation list
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Statistical analyses of the data consisted of a comparative analysis of both groups of medical residents at baseline using t tests and χ^2 tests as appropriate. Time and group-by-time changes in the medical residents' self-efficacy, stress to communicate and burnout were analysed using repeated-measures analysis of variance (MANOVA). The effect size of the training programme's efficacy was also calculated. All tests were two-tailed and the alpha was set at 0.05. No sample size calculations were reported Per-protocol analysis (participants who attended less than one hour of the communication skills training and less than one hour of the stress management skills training were excluded)

Attrition	Out of 113 randomised participants, 96 participants were included for analysis.
Study limitations (author)	<ul style="list-style-type: none"> • Small number of participants due to difficult recruitment • Medical residents were voluntarily enrolled, which could limit the generalizability of the results.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Participants who attended less than one hour of the communication skills training and less than one hour of the stress management skills training were excluded • Outcome measures were self-reported
Source of funding	Fonds National de la Recherche Scientifique—Section Télévie' of Belgium and the CAM, training and research group

Study arms

Stress management (N = 49)

49 participants completed the intervention and assessments. Participants were recruited via internal letters of invitation.

Waiting list (N = 47)

47 participants completed the control assessments. Participants were recruited via internal letters of invitation.

Characteristics

Arm-level characteristics

Characteristic	Stress management (N = 49)	Waiting list (N = 47)
Age	28.3 (3)	28.1 (2.2)
Mean (SD)		

Characteristic	Stress management (N = 49)	Waiting list (N = 47)
Men	n = 16 ; % = 32.7	n = 19 ; % = 40.4
No of events		
Women	n = 33 ; % = 67.3	n = 28 ; % = 59.6
No of events		

Outcomes

Study timepoints

- Baseline
- 2 month (Outcomes were measured 2 months after the end of the intervention.)

Employee outcomes

Outcome	Stress management, Baseline, N = 49	Stress management, 2 month, N = 49	Waiting list, Baseline, N = 47	Waiting list, 2 month, N = 47
Job stress Self-reported - emotional exhaustion subscale of the Maslach burnout Inventory	25.2 (9.2)	23.6 (9.4)	26.7 (8.4)	24.2 (9.6)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management - Waiting list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity around missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes)</i>

Study arms**Stress management (N = 49)**

Brief name	Communication skills training and stress management skills training [page 1078]
Rationale/theory/Goal	The training is a person-directed intervention bringing together a communication skills training and a stress management skills training has been developed to help medical residents deal with their own discomfort. [page 1076]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The intervention was delivered in small groups (up to 7 participants) • The teaching method is learner-centred, skill-focused, practice-oriented and intensive (with feedback delivered during the role-play). The communication skills training offered some theoretical information presenting adequate communication skills in two-person and three-person interviews. In the other sessions, medical residents were invited to practise the principles discussed in the theoretical sessions through role-plays with immediate feedback offered by experienced facilitators. • The stress management skills training focused on four topics: detection of job stressors and stress outcomes; relaxation techniques; cognitive restructuring; and time management. • A last session promoted integration and use of learned skills. <p>[page 1078]</p>
Provider	Not reported
Method of delivery	Small groups [page 1078]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	30-hour communication skills training and 10-hour stress management skills training [page 1078]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Waiting list (N = 47)

Brief name	Waiting list [page 1077]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Medical residents in the waiting-list group were invited to take part in the training programme after the end of the second assessment time. [page 1077]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.24 Brinkmann, 2020

Bibliographic Reference Brinkmann, Amelie Edith Press, Sophia Antonia Helmert, Eduard Hautzinger, Martin Khazan, Inna Vagedes, Jan; Comparing Effectiveness of HRV-Biofeedback and Mindfulness for Workplace Stress Reduction: A Randomized Controlled Trial; APPLIED PSYCHOPHYSIOLOGY AND BIOFEEDBACK; 2020; vol. 45 (no. 4); 307-322

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT02709551
Study start date	Nov-2014
Study end date	Jul-2015

Aim	The aim of this study is to examine the effect of mindfulness-based interventions and heart rate variability-biofeedback (HRV-Bfb) on psychological and psychophysiological measures of stress compared to a waiting-list control group in a workplace setting.
Country/geographical location	Germany
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: entertainment • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed education level
Inclusion criteria	Time inclusion criteria (details not reported)
Exclusion criteria	Participants who reported psychological illness or physical illness/heart rate or cortisol altering medications
Method of randomisation	Participants were stratified by gender and perceived stress prior to randomization to ensure there was an even distribution of gender and perceived levels of stress among participants in all three groups.
Method of allocation concealment	Randomization was carried out using opaque envelopes.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Differences between groups at pre-test were analysed using Pearson's Chi square Test (categorical data) or a one-way ANOVA. • If the cell occupation was too low, Fisher's Exact Test was used.

	<ul style="list-style-type: none"> • Normality of distribution of the data was tested using the Kolmogorov–Smirnov Test. In case of violation of the assumption of normal distribution nonparametric tests were used to check for differences. • There were no missing data. • The effect of time and differences between groups were assessed using 3 (assessment points) × 3 (groups) repeated measures ANOVAs. Within-group analysis were conducted using repeated measures ANOVAs for the factor “time”. • Pairwise comparisons were conducted using Bonferroni-corrected post hoc tests. • Two-sided p-values of < 0.05 were considered statistically significant. • Effect sizes for ANOVAs were calculated using partial eta-squared (η^2) and Cohen’s d was used for comparison of effect sizes. Effect sizes $d = 0.2$–0.4 were considered small, 0.5–0.8 medium and > 0.8 large. Effect sizes smaller $d = 0.2$ were considered as no effect. $\eta^2 < 0.06$ was considered small, 0.06–0.14 medium and > 0.14 large. • Analysis type (ITT) not specified. • Sample size was calculated a priori using G*Power with $\alpha = 0.05$, $\beta = 0.95$ and three points of measurement for a within–between repeated measures analysis of variance (ANOVA) with an expected effect size of $f = 0.25$. A total sample size of $N = 54$ was calculated.
Attrition	<ul style="list-style-type: none"> • HRV-Bfb intervention - data from 18 out of the 23 participants randomised were analysed • Mindfulness-based intervention - data from 15 out of the 19 participants randomised were analysed • Waiting list control - data from 19 out of the 27 participants randomised were analysed
Study limitations (author)	<ul style="list-style-type: none"> • Despite the overall positive reception of the invitation to participate in a stress reduction training, employees often told us that they would not be able to participate despite wishing to do so. Practical considerations, particularly time constraints, were most frequently cited as reasons for inability to participate. • Inability to have a double-blind control in this study could also have impacted the results. It is possible that the researchers’ knowledge of participants group assignment could have influenced their behavior. • In this study, the preponderance of female participants and the highly specialized workplace context limit the generalizability of the results of this study to the general population of working employees. • The relatively small sample size may be responsible for lack of significant findings in this study.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • Lack of long-term follow up

Source of funding	Projekt DEAL
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Study arms

Heart rate variability-biofeedback (stress management) (N = 23)

23 participants were randomised to the heart rate variability-biofeedback intervention. Recruitment took place within the organisation and via email.

Mindfulness-based intervention (N = 19)

23 participants were randomised to the mindfulness-based intervention. Recruitment took place within the organisation and via email.

Wait list (N = 27)

27 participants were randomised to the wait list control. Recruitment took place within the organisation and via email.

Characteristics

Arm-level characteristics

Characteristic	Heart rate variability-biofeedback (stress management) (N = 23)	Mindfulness-based intervention (N = 19)	Wait list (N = 27)
Age Data for completers only	42.06 (11.96)	45.2 (8.84)	42.89 (10.71)
Mean (SD)			

Characteristic	Heart rate variability-biofeedback (stress management) (N = 23)	Mindfulness-based intervention (N = 19)	Wait list (N = 27)
Women	n = 66.7 ; % = 12	n = 73.3 ; % = 11	n = 73.7 ; % = 14
No of events			
Men	n = 33.3 ; % = 6	n = 26.7 ; % = 4	n = 26.3 ; % = 5
No of events			
high-school diploma	n = 27.8 ; % = 5	n = 6.7 ; % = 1	n = 15.8 ; % = 3
No of events			
No high school diploma	n = 38.9 ; % = 7	n = 46.7 ; % = 7	n = 21.1 ; % = 4
No of events			
University	n = 33.3 ; % = 6	n = 46.7 ; % = 7	n = 63.2 ; % = 12
No of events			

Outcomes

Study timepoints

- Baseline
- 12 week (Outcomes were measured after 12 weeks.)

Employee outcomes

Outcome	Heart rate variability-biofeedback (stress management), Baseline, N = 18	Heart rate variability-biofeedback (stress management), 12 week, N = 23	Mindfulness-based intervention, Baseline, N = 19	Mindfulness-based intervention, 12 week, N = 19	Wait list, Baseline, N = 27	Wait list, 12 week, N = 27
Job stress Self-reported - TICS-SSCS scale chronic stress of the Trier Inventory for Chronic Stress	n = 18 ; % = 78.3	n = 18 ; % = 78.3	n = 15 ; % = 78.9	n = 15 ; % = 78.9	n = 19 ; % = 70.4	n = 19 ; % = 70.4
Sample size						
Job stress Self-reported - TICS-SSCS scale chronic stress of the Trier Inventory for Chronic Stress	17.22 (8.29)	15 (7.67)	17.67 (6.6)	16.07 (5.73)	20.47 (7.89)	20.63 (8.33)
Mean (SD)						
Mental health symptoms Self-reported - Beck-depression inventory	n = 18 ; % = 100	n = 18 ; % = 100	n = 15 ; % = 78.9	n = 15 ; % = 78.9	n = 19 ; % = 70.4	n = 19 ; % = 70.4
Sample size						
Mental health symptoms Self-reported - Beck-depression inventory	8.67 (6.66)	5.33 (8.13)	7.33 (4.46)	3.2 (5.11)	7.95 (5.96)	4.26 (4.26)
Mean (SD)						

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Heart rate variability-biofeedback - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Heart rate variability-biofeedback - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Heart rate variability-biofeedback (stress management) (N = 23)

Brief name	Heart rate variability-biofeedback [page 309]
Rationale/theory/Goal	HRV-Bfb is a well-established, empirically supported technique for improving self-regulation and alleviating symptoms of stress, anxiety, and other psychophysiological disorders. During HRV-Bfb training individuals learn to breathe at the optimal respiratory frequency to maximally increase their HRV. [page 308]
Materials used	Mobile HRV training device, which is a spherical hand-held battery- operated device. HRV is automatically calculated from the pulse rate, and provides feedback. Individually adjustable blue LED light signals

	indicate the breathing frequency helping the individual to determine their resonance frequency breathing rate which corresponds to maximal HRV. The device stores heart rate measures along with the time and duration of each practice sequence. It can be connected via USB port to a computer to transmit data, using specially developed software. [page 309]
Procedures used	<ul style="list-style-type: none"> • HRV-Bfb training consisted of a psychoeducation about the physiology of stress and the relationship between stress and heart rate variability, as well as instruction in the use of the mobile HRV training device. • HRV-Bfb exercises consisted of slow breathing either following the pacer or independently and experimenting in changing breathing to maximize HRV (using the feedback provided by the light). <p>[page 309]</p>
Provider	Not reported
Method of delivery	Psychoeducation details not reported. Use of HRV-Bfb is conducted individually. [page 309]
Setting/location of intervention	Workplace [page 308]
Intensity/duration of the intervention	The trainings for the respective intervention method took place over four consecutive half days. Participants practiced their skills independently after the initial training for a period of 6 weeks. [page 309]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Mindfulness-based intervention (N = 19)

Brief name	Mindfulness-based intervention [page 309]
Rationale/theory/Goal	The MBI was based on Mindfulness-Based Stress Reduction (MBSR) by Kabat-Zinn (1990) but also included elements of self-compassion, acceptance and commitment therapy and Mindfulness-Based Cognitive Therapy (MBCT; Khazan 2013) and consisted of formal guided meditations and informal exercises. [page 309]
Materials used	Meditation CDs consisting of 12 guided meditations which were recorded by a member of our team to support formal meditation at home. [page 309]
Procedures used	Examples of formal guided meditations include mindfulness of the breath and mindfulness of thoughts, feelings, and physiological sensations. Informal meditation practices encouraged brief pauses throughout the day during which participants would volitionally shift their attention to present moment awareness without judging. [page 309]
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Workplace [page 308]
Intensity/duration of the intervention	The trainings for the respective intervention method took place over four consecutive half days. Participants practiced their skills independently after the initial training for a period of 6 weeks. [page 309]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 27)

Brief name	Wait list [page 308]	Wait list [page 308]
Rationale/theory/Goal	Not applicable	Not applicable
Materials used	Not applicable	Not applicable
Procedures used	Not applicable	Not applicable
Provider	Not applicable	Not applicable
Method of delivery	Not applicable	Not applicable
Setting/location of intervention	Not applicable	Not applicable
Intensity/duration of the intervention	Not applicable	Not applicable
Tailoring/adaptation	Not applicable	Not applicable
Unforeseen modifications	Not applicable	Not applicable
Planned treatment fidelity	Not applicable	Not applicable
Actual treatment fidelity	Not applicable	Not applicable

Other details	None	None
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D.25 Brook, 2021

Bibliographic Reference Brook, Judy; Aitken, Leanne M; MacLaren, Julie-Ann; Salmon, Debra; An intervention to decrease burnout and increase retention of early career nurses: a mixed methods study of acceptability and feasibility.; BMC nursing; 2021; vol. 20 (no. 1); 19

Study details

Study design	Focus group study
Trial registration number	Not reported - not a trial
Study start date	Jan-2019
Study end date	Aug-2019
Aim	To understand the experiences of nursing students and academic staff who were involved in the implementation of an educational intervention, aimed at identifying and measuring acceptability, with a view to identifying barriers and facilitators to implementation and assessing future scope for the intervention.
Country/geographical location	UK
Setting	UK university and a large inner-city UK NHS healthcare organization
Inclusion criteria	Not specified - sample contained a) student participants consisting of adult or child nursing students who were in the final year of their pre-registration nursing programme and who had engaged with the intervention; b) Academic participants

	including any members of the academic workforce who had been involved in the implementation of the intervention including facilitators and nursing programme directors.
Exclusion criteria	Not reported
Statistical method(s) used to analyse the data	<p>Questionnaire data analysed via descriptive statistics and used to inform the discussion points for the interviews and focus groups.</p> <p>Qualitative data was analysed via thematic analysis focused on acceptability questionnaire free text comments, focus groups, interviews, and field notes following Braun and Clarke. Data from staff and student participants were analysed separately. Data analysis was supported by use of Nvivo software V12.</p>
Attrition	64 participants completed pre-intervention questionnaires with 51/64 (80%) completing a post intervention questionnaire. A total of 12 students and 7 staff participated in interviews and focus groups.
Study limitations (author)	The attendance at the intervention was considered low (n=70) few students attended all intervention sessions and little is known about the views of those who did not attend. The study was undertaken in one site which may limit the generalizability of the findings
Study limitations (reviewer)	Not reported
Source of funding	Burdett Trust for Nursing [Grant number: SB\ZA\101010662\253815].
Theme 1	<p>Experience:</p> <p>The experience of participating in the intervention was reported positively reiterating findings from the student acceptability questionnaire that affective attitude was more positive over time. Students predominantly commented on content of the intervention and staff commented on facilitation.</p> <p>Sub-theme: Content and relevance</p> <p>The content was considered appropriate and relevant to their roles as student and qualified nurses, perceiving the subject matter to be a positive addition to the traditional curricula. The focus on clinical practice and skills to support</p>

	<p>transition to early career nurse was particularly welcomed. The co-produced nature of the intervention lent additional credibility to the content. The questionnaire data highlighted that in terms of <i>intervention coherence</i>, students understood the rationale behind the intervention and recognized the relevance of the content of the sessions.</p> <ul style="list-style-type: none"> • <i>"It was everything that I felt like University hadn't identified as important, which was actually so important in practice, you incorporated it into a three-week course. (student 9 interview)"</i> <p>Sub-theme: Delivery and logistics</p> <p>The nature of the intervention, incorporating psychological skills training, and small and large group work, encouraged facilitators to limit the sense of hierarchy in the groups, by appropriately sharing personal and work experiences. The compassionate facilitation of the sessions aligns with the self-efficacy scores in the acceptability questionnaire, with students becoming increasingly confident over time that they could contribute effectively.</p> <p>The students commented positively about the helpful and respectful approach of the facilitators, which made sharing difficult experiences in placement possible.</p> <ul style="list-style-type: none"> • <i>"It just gives you time to relate to everyone else, because everyone spoke about their experiences and no one was judging anyone, everyone was just saying you know what, this is what happened in my placement...no one's there to put you down. (student 1 interview)"</i>
<p>Theme 2</p>	<p>Identifying facilitators and overcoming barriers</p> <p>Staff discussed their learning from working in partnership with a large healthcare organisation and acknowledged the complexity of trying to retrofit additional sessions into established curricula.</p> <p>Students discussed conflicting priorities, lack of initial confidence as they found their way in new clinical placements, and the influential nature of the clinical environment on their decision making.</p>

Sub-theme: Attendance, engagement and timing

Engagement with the intervention was varied. In the last trimester of the programme students had many priorities, including academic and clinical practice assessment deadlines, and full-time placement responsibilities. Staff recognised the pressures the students were under and how this affected their decision to attend.

As the pressure builds on a student through the third year ... I think so does their ability to take on new things reduce because they've got so much going on like dissertations, final placements, clinical assessments and other coursework, things like that (staff FG 2)

Some students identified that the days provided respite from the intensity of clinical practice and the sharing of placement experience was supportive and relevant. Others felt that attendance would have been much greater when the pressures of the programme were fewer.

The problem is when we're on placement we're doing full time hours plus extra study sessions and then a lot of people have to work on top of that and then that doesn't even include the people that have children and family ... I find managing my life and prioritising things so challenging. (student 9 interview)

Sub-theme: Role of the practice environment

Clinical colleagues influenced student/staff experience.

Staff found that communication across the two organisations was challenging, with misunderstanding about the nature and value of the intervention; recognising that the

	<p>busy nature of the clinical areas was influential, as patient care was central to decision making but noted that clinical staff were sometimes reluctant to release students to attend. This impacted on student motivation to negotiate attendance at the sessions.</p> <ul style="list-style-type: none"> • <i>It's difficult because it's supposed to be a collaboration between the [NHS organisation] and the University and the students seem to have been caught a little in the crossfire, but in most cases I think the students were able to get to attend when they needed to. (staff FG 2)</i> • <i>The placement, they don't like it, yeah, because it was final year placement ... They keep telling us, "Well that's irrelevant ... you shouldn't be attending those. It's more important that you attend your clinical hours." (student 6 interview)</i> <p>Many of the students described their clinical experience as stressful. The intervention was therefore timely as it stimulated a realisation that the stress needed to be addressed and provided new skills and tools to support transition to a new role.</p> <p>Students described how they had incorporated the new techniques into their everyday practice and were seeing positive results.</p> <ul style="list-style-type: none"> • <i>The mindfulness I did find quite useful with the breathing, because the neuro placement was really hectic ... I would just focus on myself and take five seconds, ten seconds to breathe and then I'll be like OK, I've got to do this, this and this, and it helped me organise my head in a way. (Student 5 interview)</i> <p>The narrative from both students and staff describing clinical practice as a pressurised environment relates to the acceptability questionnaire data showing an increase in perceived burden and significant increase in opportunity cost for students participating in the intervention.</p>
Theme 3	Future scope

Students and staff recommended that the intervention should be offered to all future students. It should be introduced at the beginning of the nursing programme and continue as a fundamental aspect of learning until qualification.

Staff and students would encourage colleagues and peers to become involved with delivery and attendance.

Staff believed that the codesigned nature of the intervention gave it credibility as a response to the expressed needs of a changing demographic of students.

Sub-theme: Beneficial effect

Students described the immediate intervention benefit for them in their professional and personal lives. Sessions gave insight into transition to a qualified nurse but also helped with their placement experiences as a student.

Mindfulness and psychological skills and techniques, helped students cope better with their emotions in difficult situations.

The opportunity to meet with peers in a safe environment to discuss placement experiences and strengthen networks was highly valued.

- *It was nice that no one thought we were negative people when we discussed negative things. Most people say we should just be positive but you taught us how to and that its okay to struggle slightly. (Child BSc Student Acceptability Questionnaire 11)*

For some students the intervention was a lifeline at a difficult period of their lives.

I genuinely appreciated those sessions, as a student, and in terms of personal life as well. At one point it got quite emotional for me, because I thought, my goodness, this is really helpful. And, finally there's a focus on us students, and our mental wellbeing. (student 7 interview)

Students recognised the need to be aware of their own wellbeing, notice how they were responding to stress and take proactive action.

- *"You get the stress where you just brush it aside but it affects us, but the sessions made me realise it affects us a lot more than we think and that if we didn't deal with it, it has such bad effects and I think that was the, the sessions helped me come to a realisation. (student 1 interview)*

Sub-theme: Enduring impact

Students described activity connected to time management, stress management and coping mechanisms related to both in their work and home lives.

Students were consistently using specific skills there was a sense that the sessions had changed their perspective and they could draw on the techniques and newly developed networks at difficult times.

- *I felt that the sessions helped me to cope with the stress and I have taken away skills that I can apply not just within nursing but in everyday life. (Adult BSc Student Acceptability Questionnaire 13)*

Students described embedding their learning into their daily activities (downloading mindfulness apps onto their phones; practising meditation or breathing exercises during their commute or at break times on the wards.

Some described how they now accepted negative thoughts and were more conscious of how their behaviour could reflect their personal values and impact on colleagues, friends and family; key tenets of ACT.

- *Meditating I tried, but it's just so difficult when you're stressed ... it's good because it made me aware of, OK my heart's racing, OK I, you know, I can't seem to breathe properly. It was great to be aware and notice your feelings, but I wasn't able to put myself in the full meditation mode. (student 6 interview)*

Staff also recognised the benefits for students and felt that the intervention would have enduring impact. They noticed subtle changes in the students' thinking and demeanour. Staff outlined that new skills would support students to deal with the challenges, such as low self-esteem, helplessness and home-life responsibilities.

- *What they were doing as part of this study actually began to bleed through into some of their thinking about other things, which is difficult to capture objectively but ... I think it was a really positive experience (staff FG 1)*

Staff regarded the intervention as positive enhancement of the traditional university offer that would be beneficial to the students in their future career. This positive perception of the immediate and enduring impact of the intervention aligns with the acceptability questionnaire data indicating a significant increase in perception of the intervention as an effective mechanism for supporting early career nurses.

Study arms

Burnout and retention (N = 64)

Intervention to decrease burnout and increase retention of early career nurses, in order to identify acceptability and feasibility in a single centre

Characteristics

Study-level characteristics

Characteristic	Study (N = 19)
Age	NR
Nominal	

Characteristic	Study (N = 19)
Gender	NR
Nominal	
Ethnicity	NR
Nominal	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes <i>(To understand the experiences of nursing students and academic staff who were involved in the implementation of an educational intervention, aimed at identifying and measuring acceptability, with a view to identifying barriers and facilitators to implementation and assessing future scope for the intervention.)</i>
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes <i>(To understand the experiences of nursing students and academic staff; aimed at identifying and measuring intervention acceptability, with a view to identifying barriers and facilitators to implementation and assessing future scope for the intervention.)</i>
Research Design	Was the research design appropriate to address the aims of the research?	Yes <i>(Rationale for approach adopted outlined: Mixed method approach and the way the quantitative elements link into the qualitative.)</i>
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes <i>(Purpose sampling; UK university and a large inner-city UK NHS healthcare organization staff and students involved in receiving or delivering the intervention of interest.)</i>

Section	Question	Answer
Data collection	Was the data collected in a way that addressed the research issue?	Yes <i>(Mixed method. Setting was not justified per say but the rationale is clear (investigation of intervention acceptance in a UK university and a large inner-city UK NHS healthcare organisation). Questionnaires pre-post used to inform qualitative investigation which were collected via semi-structure interviews (Students) and focus groups (Staff))</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Can't tell <i>(No reference to researchers self critical examination of formulation of research question and data collection. Sample was selected purposively and were based on volunteers (for the qualitative element). No changes in research design or any events during the study reported.)</i>
Ethical Issues	Have ethical issues been taken into consideration?	Yes <i>(Ethical approval was gained from City, University of London School of Health Sciences Research Ethics Committee (reference: Staff/17–18/18), the Health Research Authority (21.06.18: IRAS ID: 245992) and by the Barts Health NHS Trust Research and Development Department (02.07.18: R&D No: 012400) with respect to research capacity. Participation was voluntary and informed consent was gained in writing from all participants at the beginning of the study and repeated verbally prior to participation in interviews or focus groups. Completion of questionnaires by participants was taken to indicate consent.)</i>
Data analysis	Was the data analysis sufficiently rigorous?	Yes <i>(Method and process for data analysis outlined (mixed methods. Quantitative questionnaires used to inform qualitative investigation with triangulation of themes undertaken across quantitative and qualitative outcomes). Thematic analysis undertaken with direct quotes to underpin themes and contradictory positions outlined where they arose. The researcher has not alluded to any potential bias introduced by their presences during data analysis or data collection.)</i>
Findings	Is there a clear statement of findings?	Yes <i>(3 overarching themes and 6 sub themes (2 per theme) outlined)</i>
Research value	How valuable is the research?	The research is valuable

Section	Question	Answer
Overall risk of bias and relevance	Overall risk of bias	Low <i>(The qualitative approach adopted was appropriate given the aims and objectives of the study; No reference to researchers self critical examination of formulation of research question and data collection. The method of data collection and analysis was justified. Thematic analysis undertaken with direct quotes to underpin themes and contradictory positions outlined where they arose. Setting was not justified per say but the rationale is clear (investigation of intervention acceptance in a UK university and a large inner-city UK NHS healthcare organisation). Questionnaires pre-post used to inform qualitative investigation which were collected via semi-structure interviews (Students) and focus groups (Staff). Findings are outlined as themes and sub-themes with direct quotes used to underpin themes)</i>
Overall risk of bias and relevance	Relevance	Highly relevant <i>(UK based study focused on mindfulness intervention)</i>

D.26 Calder Calisi, 2017

Bibliographic Reference Calder Calisi, Catherine; The Effects of the Relaxation Response on Nurses' Level of Anxiety, Depression, Well-Being, Work-Related Stress, and Confidence to Teach Patients.; Journal of holistic nursing : official journal of the American Holistic Nurses' Association; 2017; vol. 35 (no. 4); 318-327

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported

Aim	To measure the effects of the RR on levels of anxiety, depression, well-being, and work-related stress among cardiac nurses.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	Registered nurses from 3 cardiac units in the hospital
Exclusion criteria	Not reported
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Data were reported for participant who completed the study only • Analyses began with descriptive summaries, including means and standard deviations of study variables • Independent-sample t tests were used to compare study variables at baseline (no differences were found). • Paired sample t tests and repeated-measures analysis of variance were used to assess the effect of the intervention on the main outcome measures over time, both within and between study groups.

	<ul style="list-style-type: none"> No power calculation was reported
Attrition	86.6% of nurses who enrolled in the study completed
Study limitations (author)	<ul style="list-style-type: none"> This was a pilot study- small sample All data was accepted as this was a pilot study therefore the nurses who were assigned to the intervention may have completed fewer than the suggested number of relaxation sessions Only one type of nurse (cardiac) included
Study limitations (reviewer)	<ul style="list-style-type: none"> Lack of clarity regarding how many participants were randomised and what proportion of randomised participants completed outcome measures in each arm All study participants were women, meaning that the findings can't be generalised to all workplaces
Source of funding	'Make a difference' Grant at Massachusetts General Hospital

Study arms

Relaxation response (N = 24)

24 participants who were randomised to receive the relaxation response training completed the study. A total of 53 nurses were enrolled in the study. Participants were recruited voluntarily following consultation with nurse managers.

Wait list (N = 22)

22 participants who were randomised to the wait list control completed the study. A total of 53 nurses were enrolled in the study. Participants were recruited voluntarily following consultation with nurse managers.

Characteristics

Study-level characteristics

Characteristic	Study (N = 46)
Age	27 to 60
Range	
Gender	n = 46 ; % = 100
No of events	

Outcomes**Study timepoints**

- Baseline
- 8 week (Outcomes were measured at the end of the 8-week intervention period)

Employee outcomes

Outcome	Relaxation response, 8 week vs Baseline, N = 24	Wait list, 8 week vs Baseline, N = 22
Mental wellbeing (0-7) Self-reported- semantic differential scale - wellbeing	0.08 (1.25)	-0.05 (1.32)
Mean (SD)		
Job stress (0-7) Self-reported- semantic differential scale - work-related stress	-1.25 (1.9)	-0.38 (1.53)
Mean (SD)		

Outcome	Relaxation response, 8 week vs Baseline, N = 24	Wait list, 8 week vs Baseline, N = 22
Mental health symptoms (20 (80%)) Self-reported- State Trait Anxiety Inventory (STAI) state component Mean (SD)	-1.71 (9.47)	-0.73 (7.92)

Mental wellbeing - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Relaxation response - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Relaxation response - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Relaxation response (N = 24)

Brief name	Relaxation response (RR) [page 318]
Rationale/theory/Goal	RR is a diaphragmatic breathing pattern and a repetitive mental focus that breaks the train of everyday thought [page 321]
Materials used	Journal of relaxation breathing sessions [page 323]
Procedures used	<ul style="list-style-type: none"> • Participants received a 45-minute in-service regarding the RR. In this session, nurses learned about the benefits and utilization of the RR in their personal lives and practiced the actual technique in the class. • Participants were encouraged to do the breathing exercises for 10 to 20 minutes, twice per day, for 8 weeks and were asked to keep a journal of their relaxation breathing sessions. <p>[pages 322 and 323]</p>
Provider	Not reported
Method of delivery	Classes [page 323]
Setting/location of intervention	Workplace [page 322]
Intensity/duration of the intervention	8-week intervention with initial 45-minute class and twice daily 10-20 minute individual practice [pages 322 and 323]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 22)

Brief name	Wait list [page 323]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were eligible to receive the class at the termination of the study, if they so desired. [page 323]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.27 Carissoli, 2015

Bibliographic Reference Carissoli, Claudia; Villani, Daniela; Riva, Giuseppe; Does a meditation protocol supported by a mobile application help people reduce stress? Suggestions from a controlled pragmatic trial.; *Cyberpsychology, behavior and social networking*; 2015; vol. 18 (no. 1); 46-53

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The aim of this study was to test the effectiveness of a brief self-help protocol inspired by mindfulness meditation and delivered through a smartphone app in reducing stress for the nonclinical population.
Country/geographical location	Italy
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported

	<ul style="list-style-type: none"> • Industry: mixed • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed
Inclusion criteria	<ul style="list-style-type: none"> • > 18 years old • employed • a native Italian speaker
Exclusion criteria	Not reported
Method of randomisation	Block randomisation
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Stress levels were compared among the three groups at the baseline, and no significant differences were found, as measured by the MSP questionnaire. • Due to the low number of participants included in each group and to overcome the low statistical observed power, gain score variables were created with the difference between values of the original variable of stress at the two times of the protocol (end and beginning) and with the average daily BPM assessed before and after each of the two sessions. These variables were used to conduct the analysis. • No power calculations were reported
Attrition	Of the 56 participants randomized in this study, 100% completed the questionnaire before and after intervention.

Study limitations (author)	Small sample size and the short duration of the intervention lead us to consider the obtained results with caution.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • No long-term follow-up
Source of funding	Not reported

Study arms

Meditation (N = 20)

20 participants were randomised to the intervention arm. Flyers were posted on the bulletin board of some companies and associations in Milan to attract participants

Music (N = 18)

18 participants were randomised to the music control. Flyers were posted on the bulletin board of some companies and associations in Milan to attract participants

Wait-list (N = 18)

18 participants were randomised to the wait-list control. Flyers were posted on the bulletin board of some companies and associations in Milan to attract participants

Characteristics

Study-level characteristics

Characteristic	Study (N = 56)
Age	38.11 (6.92)
Mean (SD)	
Gender	n = 32 ; % = 57.1
Women - percentages calculated by reviewer	
No of events	
High school diploma	n = 18 ; % = 32.1
No of events	
Degree level education	n = 37 ; % = 66.1
No of events	
Other qualifications	n = 1 ; % = 1.8
No of events	

Outcomes

Study timepoints

- Baseline
- 3 week (After the intervention)

Employee outcomes

Outcome	Meditation, 3 week vs Baseline, N = 20	Music, 3 week vs Baseline, N = 18	Wait-list, 3 week vs Baseline, N = 18
Job stress Using Mesure du Stress Psychologique - psychophysiological feelings Mean (SD)	-0.3 (2.41)	-0.17 (1.46)	0.28 (0.96)
Mental health symptoms Using Mesure du Stress Psychologique - Mean (SD)	0.15 (2.6)	0.22 (1.93)	0 (1.81)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - RCT RoB

Job stress - Meditation vs Music vs Wait-list-(change from baseline to 2 week follow-up)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Mental health symptoms - Meditation vs Music vs Wait-list (change from baseline to 2 week follow-up)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Study arms**Meditation (N = 20)**

Brief name	Meditation [page 46 - title]
Rationale/theory/Goal	Specifically, sitting meditation was the focus of the intervention, consisting of different exercises, such as mindful breathing and thought distancing. In terms of mindful breathing, participants learned how to direct their attention to the sensations of breathing and to notice when their mind wandered away; in terms of thought distancing, participants had to try to perceive thoughts as “events” in their minds, simply observing the process of thought. [page 47]
Materials used	'It's time to relax app' created by using the Eclipse Integrated Development Environment. [page 47]
Procedures used	<ul style="list-style-type: none"> • All participants were initially met and given instructions and descriptions of the research. Baseline psychometric assessment and demographic data were collected (time 0). • Participants practiced meditation by listening to the guided or free meditation supported by the smartphone application. <p>[page 48]</p>
Provider	Mobile app [page 47/48]
Method of delivery	Mobile app [page 47 and 48]
Setting/location of intervention	Participants were not constricted by guidelines on how to apply the experimental intervention: they could freely choose the time for the relaxation sessions, with the only rule being to avoid any other activity during the sessions. [page 48]
Intensity/duration of the intervention	Meditation participants had to practice two mindfulness meditations per day, lasting 15 minutes [page 48]
Tailoring/adaptation	not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	No special strategy was used to motivate participants' adherence to the trial protocol. [page 48]

Music (N = 18)

Brief name	Music listening [page 46 - abstract]
Rationale/theory/Goal	Control group that was a brief relaxation protocol based on passive listening to music [page 47]
Materials used	Mobile device [page 48]
Procedures used	<ul style="list-style-type: none"> All participants were initially met and given instructions and descriptions of the research. Baseline psychometric assessment and demographic data were collected (time 0). Music listeners had to use their mobile device to listen to two pieces of relaxing music (chosen from a proposed list) per day, lasting about 15 minutes each, while doing nothing else. <p>[page 48]</p>
Provider	Mobile [page 48]
Method of delivery	Mobile phone [page 48]
Setting/location of intervention	Participants were not constricted by guidelines on how to apply the experimental intervention: they could freely choose the time for the relaxation sessions, with the only rule being to avoid any other activity during the sessions. [page 48]
Intensity/duration of the intervention	Two pieces of music lasting 15 minutes each [page 48]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait-list (N = 18)

Brief name	Waiting list group [page 47]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.28 Cascales-Perez, 2020

Bibliographic Reference Cascales-Perez, Maria Luisa Ferrer-Cascales, Rosario Fernandez-Alcantara, Manuel Cabanero-Martinez, Maria Jose; Effects of a mindfulness-based programme on the health- and work-related quality of life of healthcare professionals; SCANDINAVIAN JOURNAL OF CARING SCIENCES; 2020

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	
Aim	To evaluate the effectiveness and medium- and long-term effects of a MBSR programme for primary care (PC) health professionals on their health-related quality of life and quality of work life.
Country/geographical location	Spain
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public

	<ul style="list-style-type: none"> • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed
Inclusion criteria	<ul style="list-style-type: none"> • Healthcare professionals at all PC centres in a health district (area 19) of the Alicante Public Health Service (Spain) • A commitment to attend at least 80% of sessions and to complete all follow-up questionnaires
Exclusion criteria	A self-reported diagnosis of a psychiatric disease
Method of randomisation	Stratified randomisation by professional category using computer-generated number randomisation
Method of allocation concealment	Randomisation was conducted by an independent statistician
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • After a descriptive analysis, the Kolmogorov–Smirnov test was applied to check the normality of variable distribution and the Levene test to determine the homogeneity of variance. • Mixed 2 × 2 ANOVAs were used to compare the impact of the Mindfulness Programme on intervention and control groups, considering group and time as independent variables and evaluating the effects of their interaction. • Repeated-measures ANOVAs were conducted to evaluate the effect of the programme on study variables over time in the intervention group (six measurement time points). • $p < 0.05$ was considered significant in all tests. • The Bonferroni correction was applied to post hoc analysis. • Effect sizes were calculated by using partial eta-squared statistics (η^2_p). • There were no missing data.

	<ul style="list-style-type: none"> The sample size was estimated a priori using the G*Power programme, calculating that at least 28 participants were needed in each group to obtain a statistical power of 0.80 with an α value of 0.05 for a moderate effect size.
Attrition	No attrition
Study limitations (author)	<ul style="list-style-type: none"> Potential selection bias, because the study population comprised healthcare professionals who voluntarily participated in the study. The sample contained a larger proportion of nurses than of other healthcare professionals The lack of an active control group means that differences in outcome measures may have been influenced by levels of motivation or commitment, among other unknown factors. The study was not blinded, because the same person (MLCP) conducted the assessment and intervention sessions and was also a member of the research team, which might have influenced the positive outcomes observed. The controls were not followed up, preventing long-term comparisons between the groups.
Study limitations (reviewer)	Self-reported outcomes
Source of funding	No funding was received for the research

Study arms

Mindfulness-based programme (N = 30)

30 participants were randomised to the intervention arm. Healthcare professionals were recruited by email from across a health district.

Control (N = 28)

28 participants were randomised to the control arm. Healthcare professionals were recruited by email from across a health district.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness-based programme (N = 30)	Control (N = 28)
Age		
Mean (SD)	52.36 (9.44)	49.64 (9.7)
Men		
No of events	n = 5 ; % = 16.7	n = 6 ; % = 21.4
Women		
No of events	n = 25 ; % = 83.3	n = 22 ; % = 78.6
Very good		
No of events	n = 6 ; % = 20	n = 1 ; % = 3.6
Good		
No of events	n = 19 ; % = 63.4	n = 23 ; % = 82.1
Bad		
No of events	n = 4 ; % = 13.3	n = 4 ; % = 14.3
Very bad		
No of events	n = 1 ; % = 3.3	n = 0 ; % = 0

Outcomes

Study timepoints

- 0 week (At endpoint)

Employee outcomes

Outcome	Mindfulness-based programme, 0 week, N = 30	Control, 0 week, N = 28
Job stress Using Maslach Burnout Inventory - Emotional exhaustion Mean (SD)	13.7 (9.63)	18.1 (11)
Mental health symptoms Using Profile of Mood States - Depression Mean (SD)	5.43 (7.33)	11.14 (10.03)
Quality of life Using Professional Quality of Life Scale (ProQOL R-IV) Mean (SD)	70.9 (6.91)	72.75 (8.88)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB**Job stress - MBSR vs Control (at endpoint)**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-report outcome</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Mental health symptoms - MBSR vs Control (at endpoint)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-report outcome</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Quality of life - MBSR vs Control (at endpoint)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-report outcome</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Study arms

Mindfulness-based programme (N = 30)

Brief name	Mindfulness-based programme [page 2]
Rationale/theory/Goal	The objective of mindfulness-based stress reduction (MBSR) programmes is to promote awareness of the present moment without judging, evaluating or reacting to the different thoughts or emotions that may arise. Development of these abilities appears especially important for healthcare professionals. [page 1 - abstract]
Materials used	Audio files [page 3]
Procedures used	<ul style="list-style-type: none"> • The programme aimed to promote full consciousness in daily activities and uses meditation–contemplation exercises and Yoga-type stretching. • Besides guided exercises, programme modules included group discussions on issues such as attention, emotions, reaction of stress, communication and healthy life habits. Inquiry was used to support group discussions where patients shared their experience of guided exercises. • Participants in each subgroup formed a WhatsApp group that the instructor used for support between sessions and throughout the 1-year follow-up, sharing audio files for participants to use in their daily practice of exercises. <p>[pages 2 and 3]</p>

Provider	The instructor had been trained in the programme [page 2]
Method of delivery	Group sessions with 15 participants in each group [page 2]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Eight 2.5-hour sessions over 8 weeks [page 2 and page 1 - abstract]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 28)

Brief name	Control group intervention [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not reported

Procedures used	The instructor described the theoretical aspects of mindfulness (basic concepts, benefits of mindfulness for health and professional performance) and mindfulness practices (mindfulness of breathing). This group did not participate in any practical activities. [page 3]
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Single 2.5-hour session [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.29 Castillo Gualda, 2017

Bibliographic Reference Castillo Gualda, Ruth; García, Valme; Pena, Mario; Galan, Arturo; Brackett, Marc; Preliminary findings from RULER Approach in Spanish teachers' emotional intelligence and work engagement; *Electronic Journal of Research in Educational Psychology*; 2017; vol. 15; 641-664

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To assess the effectiveness of a socio-emotional learning program, RULER, on enhancing both the emotional intelligence and work-related outcomes in Spanish teachers.
Country/geographical location	Spain
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: small • Contract type: not reported • Seniority: mixed (included teachers and managers) • Income: professional
Inclusion criteria	Not reported
Exclusion criteria	Not reported

Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Unit (school)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • No ICC was reported • No power calculations were reported • Descriptive analyses and reliability indices of the measures used were conducted. • Analysis of correlations between the variables of EI, work engagement and burnout was performed. Student's t-test analysis was then performed for each of the variables at pre-test level in order to examine if there were significant differences between the experimental and control groups prior to the intervention. • To assess the effectiveness of the intervention in relation to EI skills and variables related to workplace well-being, multivariate analysis of covariance (MANCOVA) was performed for each of the variables of interest (EI, engagement and burnout). Sex and pre-test measures were included as covariables. • The effect sizes were calculated using partial η^2.
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Size of the sample • The lack of randomization at the level of the participants • Participants were mostly women • Single school in experimental group and single school in control group • Findings limited to private schools • No active control • Outcome measures were self-reported • Outcomes should have been measured after 3 and 6 months

Study limitations (reviewer)	<ul style="list-style-type: none"> No ICC was reported
Source of funding	Not reported

Study arms

Emotional skills training (N = 32)

1 school was randomised to take part in RULER (a socioemotional learning programme).

Usual practice (N = 22)

1 school was randomised to receive usual practice.

Characteristics

Arm-level characteristics

Characteristic	Emotional skills training (N = 32)	Usual practice (N = 22)
Age		
Range	23 to 56	25 to 59
Age		
Mean (SD)	34.06 (7.16)	39.41 (9.6)
Gender		
Percentage calculated from n by reviewer	n = 27 ; % = 84.4	n = 16 ; % = 72.7

Characteristic	Emotional skills training (N = 32)	Usual practice (N = 22)
No of events		

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes were measured after 1 year.)

Employee outcomes

Outcome	Emotional skills training, Baseline, N = 32	Emotional skills training, 1 year, N = 32	Usual practice, Baseline, N = 22	Usual practice, 1 year, N = 22
Job stress Self-reported - emotional exhaustion subscale of Maslach Burnout Inventory (MBI) - no ICC was reported Mean (SD)	1.8 (0.16)	1.73 (0.89)	2.38 (0.2)	2.43 (0.93)
job satisfaction Self-reported - vigor subscale of Utrecht Work Engagement Scale - no ICC was reported Mean (SD)	4.96 (0.14)	5.21 (1.09)	5.24 (1.97)	4.59 (0.91)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - cRCT RoB**Employee outcomes - Job stress - Emotional skills training - Usual practice**

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Emotional skills training - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Emotional skills training (N = 32)

Brief name	Socio-emotional learning programme (RULER)
Rationale/theory/Goal	RULER is a socio-emotional learning (SEL) intervention based on the theoretical model of the four branches of EI described previously (Mayer and Salovey, 1997). The training pursued the following objectives: (a) develop teachers' emotional skills in learning; (b) exploit emotional skills to become good educational professionals and improve

	personal/professional relations; (c) deal with stress; and (d) establish and build the necessary requirements to integrate RULER tools within the school's educational curriculum. [page 650]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> Teachers received training covering the four tools that comprise the foundations of emotional education. These are intended to be applied first on their own and integrated into teachers' daily personal/professional lives for several months, and they are then to be taught and integrated in their classes. SEL training is conceptualized on the basis of five key skills that make up the RULER acronym: Recognizing emotions to obtain valuable information on the environment; understanding the causes and consequences of the emotions of the educational community to predict behaviour; labelling emotions to describe emotional experience in a precise and complete way; expressing emotions to communicate properly and according to the context; regulating one's own emotions to exploit the constructive power of emotions. <p>[page 650]</p>
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Outside working hours [page 651]
Intensity/duration of the intervention	3-month intervention consisting of training delivered through 24 contact hours over 8 sessions of 3 hours. [page 651]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 22)

Brief name	Control [page 642]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.30 Cheema, 2013

Bibliographic Reference Cheema, Birinder S; Houridis, Angelique; Busch, Lisa; Raschke-Cheema, Verena; Melville, Geoff W; Marshall, Paul W; Chang, Dennis; Machliss, Bianca; Lonsdale, Chris; Bowman, Julia; Colagiuri, Ben; Effect of an office worksite-based yoga program on heart rate variability: outcomes of a randomized controlled trial.; BMC complementary and alternative medicine; 2013; vol. 13; 82

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	ACTRN12611000536965
Study start date	Mar-2011
Study end date	Jun-2011
Aim	To determine if an office worksite-based hatha yoga program could improve physiological stress, evaluated via heart rate variability (HRV), and associated health-related outcomes in a cohort of office workers.

Country/geographical location	Australia
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: education • Size of organisation: large • Contract type: full time • Seniority: mixed • Income: mixed
Inclusion criteria	<ul style="list-style-type: none"> • Adult (>18 years) • Employed as a full-time academic staff, general staff or post-graduate student at the University • Not currently engaged in regular yoga practice • Available to attend three yoga sessions per week during lunch break • Able to communicate in English • No acute or chronic medical conditions that would contraindicate the performance of hatha yoga practice
Exclusion criteria	Not reported
Method of randomisation	Computer-generated randomly permuted blocks stratified by gender
Method of allocation concealment	An investigator not involved in data collection prepared the assignments in sealed envelopes that were given to participants following the completion of baseline testing
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Differences between the yoga and control group at baseline were investigated using an independent samples t-test and chi square test, for continuous and categorical data, respectively. (No statistically significant differences were observed between groups at baseline on the descriptive characteristics). • All participant data were included in the primary (group × time) analyses regardless of compliance to yoga intervention. • Missing data were imputed using the last observation- carried-forward method (intention-to-treat). • Changes between the yoga and control group were determined by analysis of covariance (ANCOVA) of the post-treatment score controlling for the baseline score. • Additional covariates were identified by comparison of group means at baseline for statistical and/or clinically meaningful differences (i.e. BMI). • Recruitment resulted in lower participant interest and enrolment than anticipated and therefore our a priori calculation of statistical power was reduced from 80% to 63%.
Attrition	<ul style="list-style-type: none"> • Intervention: 17 out of 18 participants completed protocol and follow-up testing (94%). Attendance ranged from 33% to 97% and averaged 73 ± 19%. 11/17 (65%) participants attended ≥70% of the sessions. • Control: 17 out of 19 participants completed protocol and follow-up testing (89%).
Study limitations (author)	<ul style="list-style-type: none"> • Single worksite in a university setting • Low number of participants
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow up • Self-reported outcomes • One of the authors is owner of a commercial Yoga studio, Yoga Synergy Pty Ltd.
Source of funding	University of Western Sydney

Study arms**Yoga (N = 18)**

18 participants were randomised to receive the yoga intervention. Participants were from a single university.

Usual practice (N = 19)

19 participants were randomised to receive usual practice. Participants were from a single university.

Characteristics**Arm-level characteristics**

Characteristic	Yoga (N = 18)	Usual practice (N = 19)
Age		
Mean (SD)	37 (12)	39 (13)
Women		
No of events	n = 14 ; % = 78	n = 16 ; % = 84
Men		
No of events	n = 4 ; % = 22	n = 3 ; % = 16

Outcomes**Study timepoints**

- Baseline
- 2 day (Outcomes were measured at least 48 hours following the final yoga session)

Employee outcomes

Outcome	Yoga, Baseline, N = 18	Yoga, 2 day, N = 18	Usual practice, Baseline, N = 19	Usual practice, 2 day, N = 19
Mental health symptoms (20 (80%)) Self reported - State Anxiety Inventory (STAI), Mean (SD)	32.7 (6.2)	27.9 (7.6)	36.1 (9.7)	32.1 (7.8)
job satisfaction Self reported - Job in general (JIG), Mean (SD)	46.9 (7.6)	47.1 (7.7)	46.3 (6)	46.7 (6.2)
Quality of life Self reported - mental component scale of the Medical Outcomes Trust Short-form 36 Health Status Questionnaire (SF36), Mean (SD)	45.3 (8.9)	47.5 (10.6)	45.2 (9.23)	48.5 (7.7)

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Yoga vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Yoga vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Quality of life - Yoga vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Yoga (N = 18)

Brief name	Hatha yoga [page 2]
Rationale/theory/Goal	Hatha yoga can improve markers of physical fitness, musculoskeletal pain, psychological stress and health related quality of life [page 2]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> The yoga program was developed to teach beginner students safely and progressively over the intervention period and was based on the Yoga Synergy Water Sequence, created by Simon Borg Olivier and Bianca Machliss. Approximately 95% of each session involved the performance of asanas and vinyasa. Participants were instructed to choose the level of difficulty appropriate to them during any given session. All participants were instructed to wear appropriate clothing for the yoga session, and change facilities were available at the venue. <p>[page 3]</p>
Provider	Experienced instructor from Yoga Synergy Pty. Ltd. [page 2]
Method of delivery	Group sessions [page 2]
Setting/location of intervention	Workplace during lunch hour [page 2]

Intensity/duration of the intervention	10-week intervention with sessions 3 times per week (50 minutes per session) [page 2]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 19)

Brief name	Control group [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not reported
Procedures used	Not applicable
Provider	Participants in the control group were advised to maintain current lifestyle practices and were not provided specific information or instructions about yoga practice. [page 3]
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.31 **Chen, 2009**

Bibliographic Reference

Chen, Shoshi; Westman, Mina; Eden, Dov; Impact of enhanced resources on anticipatory stress and adjustment to new information technology: a field-experimental test of conservation of resources theory.; Journal of occupational health psychology; 2009; vol. 14 (no. 3); 219-230

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported

Aim	The study was conducted in an organisation that was going to implement new IT systems. The aim of the study was to determine whether resource gain before IT implementation prevents user stress, has a positive effect on user satisfaction, prevents user exhaustion, prevents vigour loss, and increases IT usage.
Country/geographical location	Israel
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: not reported • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	No details reported
Method of allocation concealment	Not reported
Unit of allocation	Unit (cluster)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • No power calculations were reported • No ICC was reported

	<ul style="list-style-type: none"> Means and standard deviations were presented, as well as Treatment X Occasion and simple-effects tests
Attrition	One pre-test and two post-tests were conducted. 280 users responded to the Time 1 questionnaire, 250 at Time 2, and 230 on the third occasion. The final sample consisted of 218 users in 25 units.
Study limitations (author)	<ul style="list-style-type: none"> Generalisability is limited by the characteristics of the sample and IT studies. By concentrating on secondary prevention, the interventions in the present experiment essentially ignored the potential effects of interventions targeting primary causes, that is, the stressors themselves. The unique characteristics of enterprise resource planning might limit the generalizability of the results.
Study limitations (reviewer)	<ul style="list-style-type: none"> Self-reported outcomes No long-term follow-up Lack of clarity over the numbers of participants that were recruited to each arm
Source of funding	Not reported

Study arms

Resource workshop (N = 71)

10 units were assigned to the resource workshop group. The final sample size of the intervention group was 71 participants.

Usual practice (N = 147)

15 units were assigned to the resource workshop group. The final sample size of the intervention group was 147 participants.

Outcomes

Study timepoints

- Baseline

- 2 month (Follow-up 2 months after intervention.)

Employee outcomes

Outcome	Resource workshop, Baseline, N = 71	Resource workshop, 2 month, N = 71	Usual practice, Baseline, N = 147	Usual practice, 2 month, N = 147
Job stress Self-reported- Maslach burnout inventory - no ICC was reported Mean (SD)	1.7 (1.35)	1.7 (1.11)	1.39 (1.46)	2.53 (1.29)
job satisfaction Self-reported- vigor measured by Utrecht work engagement scale - no ICC was reported Mean (SD)	3.94 (1.39)	4 (0.72)	3.6 (1.53)	3.16 (1.55)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Resource workshop - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns (<i>Lack of clarity around attrition</i>)
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Attrition and self-reported outcomes</i>)

Employee outcomes - job satisfaction - Resource workshop - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns (<i>Lack of clarity around attrition</i>)
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Attrition and self-reported outcomes</i>)

Study arms

Resource workshop (N = 71)

Brief name	Resources workshop [page 229 - Appendix A]
Rationale/theory/Goal	Based on the conservation of resources theory, employees in an organisation introducing new Information Technology received a resources workshop in addition to the technical training. The aim was to enhance their psychological resources, reduce anticipated stress and help them adjust to the new technology. [page 219]
Materials used	Not reported
Procedures used	The intervention consisted of <ul style="list-style-type: none"> 5 days technical training to use the new information technology (this was also received by the control group)

	<ul style="list-style-type: none"> • An additional resources workshop based on a stress prevention programme which focused on recognising the symptoms of stress and skills training to improve coping. • The workshop was delivered to groups of 5 to 18 participants, and was designed as an active learning experience to enrich experimental users' psychological resources. <p>[page 222 and page 229 - Appendix A]</p>
Provider	Experienced organisational consultants. [page 222]
Method of delivery	Workshop
Setting/location of intervention	Not reported
Intensity/duration of the intervention	4 hours of training [page 229 - Appendix A]
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None to add

Usual practice (N = 147)

Brief name	Usual practice [page 222]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	5 days technical training to use the new information technology (this was also received by the intervention group) but with no additional support. [page 222]
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None to add

D.32 Chirico, 2019

Bibliographic Reference Chirico, Francesco; Sharma, Manoj; Zaffina, Salvatore; Magnavita, Nicola; Spirituality and Prayer on Teacher Stress and Burnout in an Italian Cohort: A Pilot, Before-After Controlled Study.; *Frontiers in psychology*; 2019; vol. 10; 2933

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Sep-2017
Study end date	Feb-2018
Aim	To determine whether a prayer and focus group intervention is effective in reducing burnout syndrome, and improving job satisfaction and mental wellbeing.
Country/geographical location	Italy
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: medium • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	The study population consisted of teachers:

	<ul style="list-style-type: none"> • working in the institution for over 6 months with a minimum of a 20-h-per-week • being a lay teacher employed at a primary, preschool, or kindergarten school of the Congregation • having no abuse of alcohol or drugs consumption with neurological effects • having no history of psychiatric disorders • being not unfit for work
Exclusion criteria	Not reported
Method of randomisation	Simple randomization procedures
Method of allocation concealment	The schedule of treatment group allocations was concealed by the study statistician, with individual treatment group assignments revealed to the project manager only when study participants completed baseline testing and were ready to commence treatment.
Unit of allocation	individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Descriptive analyses were conducted for demographic variables (age groupings, marital status, religious belief, teaching class, length of service), and differences between PT and control group were evaluated using the chi-square test. • Unpaired and paired t-tests were used for comparisons. • The effect size of the treatment, that is, whether the results are clinically relevant or not, was calculated using Cohen's D. • Analysis type (ITT) was not specified • No sample size calculations were reported
Attrition	Lack of clarity around attrition
Study limitations (author)	<ul style="list-style-type: none"> • Reduced generalizability of a study conducted in a single private school to other types of school or other types of religion. • Furthermore, participants could not be blinded to their treatment assignment.

	<ul style="list-style-type: none"> The use of self-report instruments to measure outcome variables introduced the possibility of bias.
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms

Prayer (N = 25)

25 participants were randomised to the intervention arm. Participants were invited from a single Catholic school.

Control (N = 25)

25 participants were randomised to the control arm. Participants were invited from a single Catholic school.

Characteristics

Arm-level characteristics

Characteristic	Prayer (N = 25)	Control (N = 25)
Age		
Mean (SD)	35.56 (6.8)	37.5 (8.23)

Outcomes

Study timepoints

- Baseline
- 4 month (Outcomes measured 4 months after baseline measures)

Employee outcomes

Outcome	Prayer, 4 month vs Baseline, N = 25	Control, 4 month vs Baseline, N = 25
Job stress (0-54) Self-reported - Emotional exhaustion subscale of the Italian version of the Maslach Burnout Inventory Mean (SD)	4.92 (4.48)	19.76 (10.86)
job satisfaction Self reported - Italian version of Warr, Cook, and Wall's Job Satisfaction Scale Mean (SD)	77 (8.19)	46.04 (7.5)
Quality of life (0-30) Self-reported - General Health Questionnaire - 30 Mean (SD)	2.04 (1.39)	9.16 (3.21)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Prayer - Usual practice - tBaseline vs t4**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-reported outcomes</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Prayer - Usual practice - tBaseline vs t4

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-reported outcomes</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Quality of life - Prayer - Usual practice - tBaseline vs t4

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-reported outcomes</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Prayer (N = 25)

Brief name	Meditative prayer [page 3]
Rationale/theory/Goal	In a Christian prospective, prayer can take different forms, among which are conversational prayer, meditative prayer, ritual prayer, and intercessory prayer. In this study, we used meditative prayer, which consists of contemplation of spiritual themes and the relationship of the divine with the mankind. [page 3]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The protocol required the combination of an individualized Christian prayer and a focus group of prayer reflection. • Before the treatment, participants attended two didactic lectures, followed by an individual interview with the instructor. • Participants were advised to practice the prayer once daily for 10 min at home before sleeping.
	[page 3]
Provider	Expert in religion psychology [page 3]
Method of delivery	Group lecture and focus group and individual interview [page 3]

Setting/location of intervention	Workplace [page 3]
Intensity/duration of the intervention	16 training sessions (two 30-minute sessions per week) that occurred over 8 consecutive weeks [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 25)

Brief name	Control [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants continued with their usual schedule and were not instructed in PT until after the 2-month intervention study. [page 3]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.33 Christakis, 2012

Bibliographic Reference

Christakis, Ioannis; Pagkratis, Marios T; Varvogli, Lisa; Darviri, Christina; Chroussos, George; Measuring the stress of the surgeons in training and use of a novel interventional program to combat it.; Journal of the Korean Surgical Society; 2012; vol. 82 (no. 5); 312-6

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Nov-2010
Study end date	Mar-2011
Aim	To measure levels of stress in surgeons undergoing training and to use an interventional programme to combat the effects of stress.
Country/geographical location	Greece
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: trainees • Income: professional
Inclusion criteria	Surgical trainees that worked in a public hospital in Greece In their first 4 years out of the six years in total required in order to complete the Training Program of General Surgery in Greece.
Exclusion criteria	<ul style="list-style-type: none"> • use of anti-psychotic medication • previous history of psychiatric illness • already using other relaxation techniques • being on a psychological counselling program

Method of randomisation	Random integer generator
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • Power calculations- not reported • T-test parametric testing of independent samples and non-parametric testing of Mann- Whitney • A level of less than 0.05% was accepted as statistically significant
Attrition	<p>In the intervention group, 28/32 trainees (87.5%) completed the study</p> <p>In the control group, 24/30 trainees (80%) completed the study</p>
Study limitations (author)	Small sample size
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow-up • Self-reported outcomes • Participants were mostly men
Source of funding	Not reported

Study arms

Diaphragmatic breathing and progressive muscular relaxation (N = 32)

32 participants were randomised to the intervention group where participants learnt diaphragmatic breathing and progressive muscular relaxation techniques.

Wait list (N = 30)

30 participants were randomised to a wait list group.

Characteristics

Study-level characteristics

Characteristic	Study (N = 62)
Age	30 to 45
Range	
Age	37 (<i>empty data</i>)
Mean (SD)	
Women	n = 4 ; % = 6
No of events	
Men	n = 58 ; % = 94
No of events	

Outcomes

Study timepoints

- Baseline

- 8 week (Outcomes were measured at the end on the 8-week intervention period)

Employee outcomes

Outcome	Diaphragmatic breathing and progressive muscular relaxation, Baseline, N = 32	Diaphragmatic breathing and progressive muscular relaxation, 8 week, N = 32	Wait list, Baseline, N = 30	Wait list, 8 week, N = 30
Mental wellbeing Self-reported- Psychological job demands subscale of Job content questionnaire (JCQ)	n = 32 ; % = 100	n = 28 ; % = 87.5	n = 28 ; % = 93.3	n = 22 ; % = 73.3
Sample size				
Mental wellbeing Self-reported- Psychological job demands subscale of Job content questionnaire (JCQ)	21 (3.84)	21.67 (3.84)	20.64 (2.53)	20.66 (2.53)
Mean (SD)				
Mental wellbeing Self-reported- Psychological job demands subscale of Job content questionnaire (JCQ)	21 (0.5)	21.67 (0.5)	20.64 (0.98)	20.66 (0.98)
Mean (p value)				
Job stress (0-40) Self-reported- Perceived Stress Scale	n = 32 ; % = 100	n = 28 ; % = 87.5	n = 28 ; % = 93.3	n = 22 ; % = 73.3
Sample size				

Outcome	Diaphragmatic breathing and progressive muscular relaxation, Baseline, N = 32	Diaphragmatic breathing and progressive muscular relaxation, 8 week, N = 32	Wait list, Baseline, N = 30	Wait list, 8 week, N = 30
Job stress (0-40) Self-reported- Perceived Stress Scale Mean (SD)	33.34 (6.28)	28.08 (6.28)	32.88 (2.11)	32.54 (2.11)
Job stress (0-40) Self-reported- Perceived Stress Scale Mean (p value)	33.34 (0.002)	28.08 (0.002)	32.88 (0.57)	32.54 (0.57)

Mental wellbeing - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Study reported p-values for difference between baseline and endpoint. Standard deviations calculated by reviewer by deriving t-value from p-value and participant numbers. Standard error was then calculated by using the t-value and difference in means between baseline and endpoint. Finally standard deviation was calculated from standard deviation, based on an assumption that standard deviations of outcome measurements are the same in both groups.

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Diaphragmatic breathing and progressive muscular relaxation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Diaphragmatic breathing and progressive muscular relaxation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Diaphragmatic breathing and progressive muscular relaxation (N = 32)

Brief name	Diaphragmatic breathing and progressive muscular relaxation [page 313]
Rationale/theory/Goal	To provide trainees with easy, drug free, techniques that can improve their stress and thus their quality of life and their professional development. [page 315]
Materials used	Audio CD containing instructions on using diaphragmatic breathing and progressive muscular relaxation techniques [page 313]
Procedures used	<ul style="list-style-type: none"> Participants were provided with audio CDs containing instructions on using diaphragmatic breathing and progressive muscular relaxation techniques Compliance to the study and guidance was provided through regular telephone sessions every week. <p>[page 313]</p>
Provider	Not reported
Method of delivery	Audio recordings and telephone sessions [page 313]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Suggested use of the audio CD was twice a day for 8 weeks [page 313]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Compliance was recorded though weekly telephone calls [page 313]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 30)

Brief name	Wait list [page 314]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	At the end of the study, all data provided in the intervention group were also given to the control group for future use. [page 314]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.34 Clarke-walper, 2020

Bibliographic Reference Clarke-walper, K.; Penix, E.A.; Trachtenberg, F.; Simon, E.; Coleman, J.; Magnavita, A.; Ortigo, K.; Regala, S.; Marceau, L.; Ruzek, J.I.; Rosen, R.C.; Wilk, J.E.; Efficacy of a web-based tool in reducing burnout among behavioral health clinicians: Results from the ptsd clinicians exchange; *Psychiatric Research and Clinical Practice*; 2020; vol. 2 (no. 1); 3-9

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	May-2016
Aim	To determine whether a web-based tool could reduce burnout among clinicians treating military populations.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: military healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (social workers, psychologists, professional mental health counsellor, medical professional with psychiatry focus)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Participants were randomly assigned, with the use of a 3:1 randomization scheme
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Statistical significance was measured at a level of 0.05. • One maximum likelihood iteration was used to impute missing data for the ProQOL-5 and EBPAS scores, age, years of experience, number of clients, and hours, although these factors all had few missing data (range 2–18 missing items from 605 participants). • Descriptive statistics were then calculated for all variables of interest. • Because the primary outcome of interest was burnout scores at 12 months after baseline, the associations between these scores and the variables of interest were examined by using unadjusted linear regression models and then by using a multivariable analysis with backward elimination. A stepwise linear regression model was then constructed, with the first step based on the presence of significant predictors of burnout at 12 months found during the initial analysis above. Further steps were used to add a variety of clinical characteristics. In the last steps, the model examined group assignment, Web site usage, and use of evidence-based practices. • Sample size calculations not reported.
Attrition	Among the 605 participants, 379 (63%) completed the assessment at 6 months, 395 (65%) completed the assessment at 12 months, and 311 subjects (51%) completed both assessments.
Study limitations (author)	<ul style="list-style-type: none"> • The low number of participants in the intervention group who accessed the Exchange, which limited the ability to assess whether Exchange features effectively reduced burnout. • The overall sample consisted of self-selected volunteers, which may have introduced unmeasured response biases. • Self-care resources were a relatively small part of the Exchange overall.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	U.S. Army Medical Research and Materiel Command, Congressionally Directed Medical Research Program.

Study arms

PTSD clinicians exchange (N = 453)

453 participants were randomised to a stress management programme. Participants were recruited via email and online message boards.

Control (N = 152)

152 participants were randomised to a newsletter-only control group. Participants were recruited via email and online message boards.

Characteristics

Arm-level characteristics

Characteristic	PTSD clinicians exchange (N = 453)	Control (N = 152)
Age		
Mean (SD)	48.3 (11.4)	46.5 (12.2)
Women		
No of events	n = 308 ; % = 68	n = 110 ; % = 72
Men		
No of events	n = 140 ; % = 32	n = 41 ; % = 27
Other		
No of events	n = 5 ; % = 1	n = 1 ; % = 1

Characteristic	PTSD clinicians exchange (N = 453)	Control (N = 152)
White	n = 339 ; % = 75	n = 122 ; % = 80
No of events		
African-American	n = 34 ; % = 8	n = 13 ; % = 9
No of events		
Hispanic	n = 21 ; % = 5	n = 4 ; % = 3
No of events		
Asian	n = 14 ; % = 3	n = 3 ; % = 2
No of events		
Mixed	n = 17 ; % = 4	n = 8 ; % = 5
No of events		
Other/missing	n = 28 ; % = 6	n = 2 ; % = 1
No of events		

Outcomes

Study timepoints

- Baseline
- 12 month (Outcomes were measured 12 months after baseline measures.)

Employee outcomes

Outcome	PTSD clinicians exchange, Baseline, N = 453	PTSD clinicians exchange, 12 month, N = 453	Control, Baseline, N = 152	Control, 12 month, N = 152
Job stress Self-reported - Burnout subscale of ProQOL-5	19.9 (5.1)	20.3 (5.4)	20.2 (5.4)	20.4 (5.6)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - PTSD clinicians exchange - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

PTSD clinicians exchange (N = 453)

Brief name	PTSD Clinicians Exchange [page 4]
Rationale/theory/Goal	The Web-based tool, the PTSD Clinicians Exchange, was designed to increase clinician familiarity with, perceived benefits of, and implementation of evidence-based practices for the treatment of PTSD and to address clinician burnout. The Exchange built upon previous intervention efforts by using a Web-based format and by linking clinicians with resources to enhance access to specialized training, which has been associated with reduced levels of burnout. The Exchange also provides clinicians with immediate feedback regarding their current level of burnout and suggests possible self-care strategies to address burnout symptoms. The Exchange targets social support, an important protective factor against burnout by providing clinicians with the opportunity to connect with other colleagues and to receive feedback from experts. [page 4]
Materials used	Web-based tool [page 4]
Procedures used	<ul style="list-style-type: none"> • The PTSD Clinicians Exchange is composed of three sections: “Engage,” which focuses on 26 key practices for PTSD; “Connect,” which includes a number of interactive features aimed at connecting clinicians with each other; and “Inspire,” a self-care section that provides resources aimed at managing stress, burnout, and secondary traumatic stress (STS). • The Exchange also includes a self-assessment component consisting of the Professional Quality of Life Scale–5 (ProQOL-5). By completing this self-assessment, clinicians can ascertain their current level of burnout, STS, and compassion satisfaction. • Participants were also sent biweekly email reminders featuring PTSD treatment practices included on the Web site. <p>[page 4]</p>

Provider	Online [page 4]
Method of delivery	Web-based [page 4]
Setting/location of intervention	Web-based [page 4]
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 152)

Brief name	Newsletter-only control group [page 4]
Rationale/theory/Goal	Not applicable
Materials used	Newsletter [page 4]

Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.35 Coffeng, 2014

Bibliographic Reference Coffeng, Jennifer K; Boot, Cecile R L; Duijts, Saskia F A; Twisk, Jos W R; van Mechelen, Willem; Hendriksen, Ingrid J M; Effectiveness of a worksite social & physical environment intervention on need for recovery, physical activity and relaxation; results of a randomized controlled trial.; PloS one; 2014; vol. 9 (no. 12); e114860

Study details

Study design	Cluster randomised controlled trial
Trial registration number	NTR2553
Study start date	Sep-2011
Aim	To investigate the effectiveness of a worksite social and physical environment intervention on need for recovery (i.e., early symptoms of work-related mental and physical fatigue), physical activity and relaxation.
Country/geographical location	The Netherlands
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: not reported • Seniority: mixed (team leaders and employees) • Income: mixed (mixed education levels)
Inclusion criteria	Not being on sick leave for more than four weeks
Exclusion criteria	Not reported

Method of randomisation	The effectiveness of the interventions was investigated in a trial using a 2x2 factorial design. The two factors were the social environment intervention and the physical environment intervention, of which the social environment intervention was randomised at department level and the physical environment intervention was stratified on department level, i.e., one stratum with environment modifications and the other stratum without environment modifications. This resulted in four research groups: (1) combined social and physical environment, intervention group; (2) social environment intervention group only; (3) physical environment intervention group only; (4) no intervention (control group).
Method of allocation concealment	Not reported
Unit of allocation	Department
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • An intraclass correlation coefficient (ICC) of 0.025 was assumed • The effect size of 12 can be detected by four groups of 101 participants, taking into account a loss to follow up of 25%, a power of 80% and a two-tailed significance level of 5%. • Data were analysed according to the intention-to-treat principle • Linear mixed model analysis (MlwiN version 2.27) was performed for each outcome measure.
Attrition	<ul style="list-style-type: none"> • Social intervention: 94/118 participants (80%) • Control: 96/106 participants (91%)
Study limitations (author)	<ul style="list-style-type: none"> • Study was underpowered regarding the primary outcome measure, need for recovery. • Considerable loss-to-follow up at 6 months for the secondary outcome measures (.20%) • Study did not account for cluster-level confounding • Use of self-report for assessing reach (percentage of participants that used any of the intervention components at least once)
Study limitations (reviewer)	<ul style="list-style-type: none"> • The present study did not account for cluster-level confounding. • Outcomes were measured by self-report and no objective measurements were used. • Study was underpowered regarding the primary outcome measure, need for recovery.

	<ul style="list-style-type: none"> Did not perform an adjustment for multiple testing
Source of funding	Ohra Nuts fonds

Study arms

Motivational interviewing (N = 118)

118 employees from 7 departments were assigned to a social environment intervention (motivational interviewing training and sessions).

Control (N = 106)

106 employees from 6 departments were assigned to a control group

Characteristics

Arm-level characteristics

Characteristic	Motivational interviewing (N = 118)	Control (N = 106)
Age		
Mean (SD)	43.6 (10.3)	40.7 (9.2)
Gender		
Men	n = 73 ; % = 61.9	n = 65 ; % = 61.3
No of events		

Characteristic	Motivational interviewing (N = 118)	Control (N = 106)
Low	n = 39 ; % = 33.1	n = 21 ; % = 19.8
No of events		
Intermediate	n = 23 ; % = 19.5	n = 24 ; % = 22.6
No of events		
High	n = 56 ; % = 47.5	n = 61 ; % = 57.5
No of events		

Outcomes

Study timepoints

- Baseline
- 12 month (12-month follow-up)

Employee outcomes

Outcome	Motivational interviewing, Baseline, N = 118	Motivational interviewing, 12 month, N = 118	Control, Baseline, N = 106	Control, 12 month, N = 106
Job stress	n = 118 ; % = 100	n = 78 ; % = 66.1	n = 106 ; % = 100	n = 85 ; % = 80.2
Self-reported- Oldenburg Burnout Inventory				
Sample size				

Outcome	Motivational interviewing, Baseline, N = 118	Motivational interviewing, 12 month, N = 118	Control, Baseline, N = 106	Control, 12 month, N = 106
Job stress Self-reported- Oldenburg Burnout Inventory Custom value	84	61	75	66
Job stress Self-reported- Oldenburg Burnout Inventory Mean (SD)	2.1 (0.5)	2.1 (0.4)	2.1 (0.5)	2.2 (0.5)
job satisfaction (1-7) Utrecht work engagement scale Sample size	n = 118 ; % = 100	n = 75 ; % = 63.4	n = 106 ; % = 100	n = 76 ; % = 71.7
job satisfaction (1-7) Utrecht work engagement scale Custom value	84	59	75	60
job satisfaction (1-7) Utrecht work engagement scale Mean (SD)	5 (0.9)	5 (0.8)	5 (0.9)	4.8 (1)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Employer outcomes

Outcome	Motivational interviewing, Baseline, N = 118	Motivational interviewing, 12 month, N = 118	Control, Baseline, N = 106	Control, 12 month, N = 106
productivity (1-5) Self-reported- Individual Work Performance Questionnaire (IWPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025 Sample size	n = 117 ; % = 99.2	n = 76 ; % = 64.4	n = 105 ; % = 99.1	n = 78 ; % = 73.6
productivity (1-5) Self-reported- Individual Work Performance Questionnaire (IWPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025 Custom value	83	60	75	61
productivity (1-5) Self-reported- Individual Work Performance Questionnaire (IWPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025 Mean (SD)	3.3 (0.7)	3.7 (0.7)	3.6 (0.6)	3.6 (0.7)
absenteeism Company records - - custom value relates to sample sizes adjusted for clustering using ICC of 0.025 Sample size	n = 115 ; % = 97.5	n = 112 ; % = 94.9	n = 102 ; % = 96.2	n = 105 ; % = 99.1
absenteeism Company records - - custom value relates to sample sizes adjusted for clustering using ICC of 0.025	83	80	73	75

Outcome	Motivational interviewing, Baseline, N = 118	Motivational interviewing, 12 month, N = 118	Control, Baseline, N = 106	Control, 12 month, N = 106
Custom value				
absenteeism Company records - - custom value relates to sample sizes adjusted for clustering using ICC of 0.025	2.5 (8)	3.9 (11.5)	1.7 (4)	3.6 (12.3)
Mean (SD)				
Presenteeism Self-reported- absolute presenteeism in relation to the World Health Organization Health and Work Performance Questionnaire (HPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025	n = 118 ; % = 100	n = 74 ; % = 62.7	n = 105 ; % = 99.1	n = 76 ; % = 71.7
Sample size				
Presenteeism Self-reported- absolute presenteeism in relation to the World Health Organization Health and Work Performance Questionnaire (HPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025	84	59	75	60
Custom value				
Presenteeism Self-reported- absolute presenteeism in relation to the World Health Organization Health and Work Performance Questionnaire (HPQ) - custom value relates to sample sizes adjusted for clustering using ICC of 0.025	76.4 (8.2)	76.6 (12.1)	77 (9.2)	75 (11.7)
Mean (SD)				

productivity - Polarity - Higher values are better

absenteeism - Polarity - Lower values are better

Presenteeism - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Motivational interviewing - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns <i>(Higher level of missing outcome data in intervention group)</i>
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - job satisfaction - Motivational interviewing - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - productivity - Motivational interviewing - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - absenteeism - Motivational interviewing - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Low
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Employer outcomes - Presenteeism - Motivational interviewing - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low

Section	Question	Answer
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Motivational interviewing (N = 118)

Brief name	Group motivational interviewing [Coffeng 2014 a, page 4]
Rationale/theory/Goal	Motivational interviewing (MI) is a counselling style that stimulates behavioural change by focusing on exploring and resolving ambivalence [Coffeng 2014, page 4]
Materials used	Web-based social media platform, worksheets, group discussion [Coffeng 2014 a, page 5]
Procedures used	Team leaders who had received 2-days training form a GMI-professional led sessions within their own team. [Coffeng 2014 a, page 4]
Provider	Team leaders [Coffeng 2014 a, page 5]
Method of delivery	Group sessions [Coffeng 2014 a, page 5]
Setting/location of intervention	Workplace [Coffeng 2014 c, page 259]

Intensity/duration of the intervention	Four 90-minute sessions within 3.5 months [Coffeng 2014 a, page 5]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 106)

Brief name	Control group [Coffeng 2014 a, page 4]
Rationale/theory/Goal	Not reported
Materials used	Not reported
Procedures used	Not reported
Provider	Not reported
Method of delivery	Not reported

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

D.36 Copeland, 2021

Bibliographic Reference

Copeland, Darcy; Brief Workplace Interventions Addressing Burnout, Compassion Fatigue, and Teamwork: A Pilot Study.; Western journal of nursing research; 2021; vol. 43 (no. 2); 130-137

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported

Aim	The purpose of this pilot study was to examine the feasibility, acceptability, and effectiveness of brief, five-minute interventions on nurses' burnout, compassion fatigue, and perceptions of teamwork.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: mixed • Income: professional (nurses)
Inclusion criteria	Full and part-time nurses and nurse aides working any shift at a suburban, 225 bed, Level 1 trauma centre
Exclusion criteria	Not reported
Method of randomisation	A list of random numbers generated from an online random number generator
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Paired sample t tests were done to detect differences in ProQOL and teamwork scores pre and post intervention within groups. • Statistically significant differences, those with p values ≤ 0.05, were reported. • Delta scores were calculated to determine % differences in mean variable scores pre and post intervention by group.

	<ul style="list-style-type: none"> • Cohen's d effect sizes compared mean ProQOL and teamwork variable scores to determine the magnitude of the effect of the interventions. • Pearson r correlations were run to examine the strength and direction of relationship between the ProQOL and teamwork variables. • A small sample of 23 individuals was enrolled. This number was chosen as it is 9% of the sample size desired for the larger study, which is 51 participants per group based on a priori sample size calculations. • Likely mITT analysis - data were presented for nurses who completed pre- and post-assessments
Attrition	Two out of 23 participants were lost to follow-up. There is a lack of clarity around which groups had attrition.
Study limitations (author)	<ul style="list-style-type: none"> • Small sample from a single hospital and lack of statistical power. • The final sample consisted of only women. • No attempts were made to control for participants' past experiences, for example, with meditating or journaling.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • No long-term follow-up
Source of funding	The author(s) received no financial support

Study arms

Meditation (N = 4)

4 participants that were randomised to the meditation intervention completed all outcome measures. Participants were invited to participate via organisational email.

Outdoor breaks (N = 5)

5 participants that were randomised to the outdoor break intervention completed all outcome measures. Participants were invited to participate via organisational email.

Gratitude (N = 5)

5 participants that were randomised to the gratitude intervention completed all outcome measures. Participants were invited to participate via organisational email.

Journaling (N = 4)

4 participants that were randomised to the journaling intervention completed all outcome measures. Participants were invited to participate via organisational email.

Usual practice (N = 2)

4 participants that were randomised to the control completed all outcome measures. Participants were invited to participate via organisational email.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 20)
Age	44.4 (11.4)
Mean (SD)	
Gender	n = 20 ; % = 100
No of events	

Outcomes

Study timepoints

- Baseline
- 6 week (Outcomes were measured after 6 weeks.)

Employee outcomes

Outcome	Meditation, Baseline, N = 4	Meditation, 6 week, N = 4	Outdoor breaks, Baseline, N = 5	Outdoor breaks, 6 week, N = 5	Gratitude, Baseline, N = 5	Gratitude, 6 week, N = 5	Journaling, Baseline, N = 4	Journaling, 6 week, N = 4	Usual practice, Baseline, N = 2	Usual practice, 6 week, N = 2
Job stress Self-reported - Burnout subscale of the 30-item ProQOL Mean (SD)	20.25 (2.6)	18.25 (3.8)	20.8 (4.2)	23.2 (3.3)	19.4 (3.8)	17.2 (5)	25.25 (4.6)	22.25 (3.2)	27.5 (12)	25.5 (10.6)

Job stress - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Meditation - Outdoor breaks - Gratitude - Journaling - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity over numbers initially randomised)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Meditation (N = 4)

Brief name	Meditation [page 132]
Rationale/theory/Goal	Meditation was described as a way to enhance mindfulness and become present in the moment. Participants were assured there is no right or wrong way to meditate, it is normal for the mind to wander during meditation, and the most important thing is that they take the time to do it. [page 132]

Materials used	<ul style="list-style-type: none"> • Meditation app • Record keeping log <p>[page 132]</p>
Procedures used	<ul style="list-style-type: none"> • Participants were asked to download a meditation app on their smartphone (i.e., Simple Habit). The Simple Habit app, for example, allows users to identify how much time they have (five minutes), where they are (work), and what they would like to emphasize (stress, frustration, energy, focus, procrastination). They are then guided through a meditation suited for the choices selected. Participants not wanting to download an app were shown how to search for five-minute meditations on the web. • Participants were instructed to use any quiet, private space available to them (conference room, compassion room, staff lounge) and to turn off any work phones or pagers during this time. • Each participant was given a record keeping log to record the date worked, location of meditation, identification of which meditation was done, and length of time spent meditating. <p>[page 132]</p>
Method of delivery	App [page 132]
Setting/location of intervention	Workplace [page 132]
Intensity/duration of the intervention	Participants were asked to meditate for approximately five minutes at work every day they worked during the six-week period. [page 132]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Participants were not asked to change any other practice while at work; participants assigned to one intervention were not expressly discouraged from engaging in the other interventions. [page 132]

Outdoor breaks (N = 5)

Brief name	Outside [page 132]
Rationale/theory/Goal	Being outdoors was described as an opportunity to disconnect themselves from their work and to recharge themselves. [page 132]
Materials used	Record keeping log [page 132]
Procedures used	<ul style="list-style-type: none"> • Participants were asked to take a break outdoors at work every day they worked during the six-week period. • Participants were asked to spend a minimum of five minutes outdoors. • Participants were told they could engage in activity (walking a path) or sit quietly (in the healing garden), but they were to turn off personal phones and work phones/pagers during this time. As the intent is to disconnect and refocus, participants were also asked to limit interaction with others during this time and instead focus on what they could hear, see, or smell around them. • Each participant was given a record keeping log to record the date worked, location they went to outdoors, and time spent outside. <p>[page 132]</p>
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Workplace [page 132]
Intensity/duration of the intervention	Every day for a minimum of 5 minutes for 6 weeks [page 132]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Participants were not asked to change any other practice while at work; participants assigned to one intervention were not expressly discouraged from engaging in the other interventions. [page 132]

Gratitude (N = 5)

Brief name	Gratitude [page 132]
Rationale/theory/Goal	It was explained that the act of complimenting or thanking another person can be intrinsically rewarding and motivating. It can also increase a sense of connection/relationship between people. [pages 132 and 133]
Materials used	A record keeping log [page 133]
Procedures used	<ul style="list-style-type: none"> • Participants were asked to thank three people and compliment three additional people at work every day they worked during the six-week period. • Participants were told that they could compliment and thank any person (colleague, visitor, and patient) they encounter during their work and that they should communicate a positive message. • Each participant was given a record keeping log to record the date worked and positions, not names, of the people they thanked and complimented. <p>[pages 132 and 133]</p>
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Workplace [page 132]
Intensity/duration of the intervention	6 weeks [page 132]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Participants were not asked to change any other practice while at work; participants assigned to one intervention were not expressly discouraged from engaging in the other interventions. [page 132]

Journaling (N = 4)

Brief name	Journaling [page 133]
Rationale/theory/Goal	Journaling was described as an opportunity to reflect on their experiences during their work shift and also as an opportunity to take the perspective of “the other”. [page 133]
Materials used	Small three-ring notebooks were provided with the following prompts glued to the inside cover, although they were not required to be used: how would the patient/visitor/colleague/ observer describe this situation; the best thing that happened today was; what I would have done differently if I could; this was unexpected and here’s what I did; the situation that touched me the most today was; would you believe this happened; or the way I got through that was. [page 133]
Procedures used	<ul style="list-style-type: none"> • Participants were asked to journal for a minimum of five minutes at work every day they worked during the six-week period. • The journaling could take any form the participant wished. • Participants were asked to date each journal entry to keep track of how often they journaled during the six-week period. <p>[page 133]</p>
Provider	Not reported

Method of delivery	Not reported
Setting/location of intervention	Workplace [page 133]
Intensity/duration of the intervention	A minimum of 5 minutes every day for 6 weeks [page 133]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Participants were not asked to change any other practice while at work; participants assigned to one intervention were not expressly discouraged from engaging in the other interventions. [page 132]

Usual practice (N = 2)

Brief name	Usual practice [page 133]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	These participants were asked not to change anything in their work practice for six weeks. [page 133]
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.37 Crain, 2017

Bibliographic Reference

Crain, Tori L; Schonert-Reichl, Kimberly A; Roeser, Robert W; Cultivating teacher mindfulness: Effects of a randomized controlled trial on work, home, and sleep outcomes.; Journal of occupational health psychology; 2017; vol. 22 (no. 2); 138-152

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported

Aim	To determine the effectiveness of a workplace mindfulness training (WMT) on teachers' wellbeing, quality of sleep, quantity of sleep and sleepiness during the day.
Country/geographical location	The US and Canada
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	No detail
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Lack of detail around how many participants completed outcome measures • No power calculations were reported • Group equivalence was established for baseline measures • The effect of randomization condition on study outcomes was examined while controlling for baseline measures of outcomes using analyses of covariance (ANCOVAs)

	<ul style="list-style-type: none"> After examining baseline differences in outcomes, effect sizes for each study outcome at post program and follow-up (Cohen's d)
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> A wait list, as opposed to active control, was used Self-selected population
Study limitations (reviewer)	<ul style="list-style-type: none"> Self-reported outcome measures Most of the participants were women, therefore the results may not be generalisable to all workplaces
Source of funding	Spencer Foundation, the Fetzer Institute, Mind and Life Institute, and Portland State University.

Study arms

Mindfulness training (N = 54)

A combined total of 54 participants were randomised to the mindfulness training intervention. Flyers sent to all teachers in district by district staff- teachers self-selected.

Wait list (N = 59)

A combined total of 59 participants were randomised to the wait list. Flyers sent to all teachers in district by district staff- teachers self-selected.

Characteristics

Study-level characteristics

Characteristic	Study (N = 113)
Age	46.9 (9.2)
Mean (SD)	
Gender	n = 101 ; % = 89
No of events	

Outcomes

Study timepoints

- Baseline
- 3 month (Follow up 3 months after intervention)

Employee outcomes

Outcome	Mindfulness training, Baseline, N = 54	Mindfulness training, 3 month, N = 54	Wait list, Baseline, N = 59	Wait list, 3 month, N = 59
Mental health symptoms (1-7) Self reported - single item 'How often have you had trouble getting to sleep or staying asleep?' Mean (SD)	4.16 (2.09)	3.36 (1.63)	4.02 (1.96)	3.49 (1.85)
job satisfaction (1-5) Self reported - single item 'Overall, how satisfied are you with your present teaching job?' Mean (SD)	3.24 (6.3)	3.19 (0.64)	3.11 (0.6)	3.09 (0.56)

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Mindfulness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job satisfaction - Mindfulness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness training (N = 54)

Brief name	Workplace mindfulness training (WMT) programme [page 143]
Rationale/theory/Goal	WMT aims to cultivate focused attention, awareness, and a nonreactive relationship to moment-to-moment experience in order to reduce automatic stress reactivity and cultivate greater emotional calm and mental clarity. [page 139]

Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Participants attended 11 sessions, which included two 6-hour Saturday sessions. Other sessions occurred after work hours during the week. • The intervention used guided mindfulness practices, group discussions of mindfulness practice, small-group activities to practice skills in real-life scenarios, lecture and guided home practices, and homework assignments • Practices included body scans, focused-attention meditation, open-monitoring meditation and loving-kindness meditation. <p>[page 139]</p>
Provider	The mindfulness instructor that created the programme [page 144]
Method of delivery	Group classes and home assignments [page 143]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8-week programme with 11 sessions and total contact time of 36 hours. [page 143]
Tailoring/adaptation	Intervention was tailored to teachers. [page 143]
Unforeseen modifications	Not reported
Planned treatment fidelity	WMT was based on established MBSR techniques (approximately 60% of material). [page 143]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 59)

Brief name	Wait list [page 143]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants completed the intervention at a later date [page 143]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.38 Daigle, 2018

Bibliographic Reference Daigle, Stephanie; Talbot, France; French, Douglas J; Mindfulness-based stress reduction training yields improvements in well-being and rates of perceived nursing errors among hospital nurses.; Journal of advanced nursing; 2018; vol. 74 (no. 10); 2427-2430

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine the effects of mindfulness-based stress reduction (MBSR) on mental wellbeing and errors among hospital nurses.
Country/geographical location	Canada
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Size of organisation: not reported • Contract type: mixed (full time and part time) • Seniority: registered nurses and licensed practical nurses • Income: not reported

Inclusion criteria	Nurses providing direct patient care
Exclusion criteria	Health reasons not specified (post randomisation)
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Outcomes were presented as mean and standard deviation • Chi-square goodness-of-fit and t-tests were used to test differences in baseline characteristics • ANCOVAs were performed using intention-to-treat analyses • Effect size was presented as partial eta squared
Attrition	52 (74% of nurses) complete the post-treatment assessment
Study limitations (author)	Self-reported outcome measures
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow up • Participants were excluded post randomisation for health reasons
Source of funding	Faculty of graduate studies and research of the Université de Moncton

Study arms

MBSR (N = 38)

38 individuals were randomised to the MBSR intervention group from 80 nurses recruited in a general hospital setting.

Wait list (N = 37)

37 individuals were randomised to the waitlist control group from 80 nurses recruited in a general hospital setting.

Characteristics**Arm-level characteristics**

Characteristic	MBSR (N = 38)	Wait list (N = 37)
Age		
Mean (SD)	47.03 (9.7)	45.3 (9.5)
Registered nurse		
Sample size	n = 21 ; % = 56.8	n = 22 ; % = 66.7
Licensed practical nurse		
Sample size	n = 16 ; % = 43.2	n = 11 ; % = 33.3

Outcomes**Study timepoints**

- Baseline
- 0 month (Outcomes were measured post intervention.)

Employee outcomes

Outcome	MBSR, Baseline, N = 38	MBSR, 0 month, N = 38	Wait list, Baseline, N = 37	Wait list, 0 month, N = 37
Mental health symptoms - Anxiety (0-36) Self-reported - Tension-Anxiety subscale of the Profile of Mood States (POMS-TA)	11.32 (6.66)	8.92 (6.89)	10.72 (6.12)	11.45 (7)
Mean (SD)				

Mental health symptoms - Anxiety - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental health symptoms - Anxiety - MBSR vs Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

MBSR (N = 38)

Brief name	Mindfulness-based stress reduction [page 2427]
Rationale/theory/Goal	Mindfulness training is thought to improve the self-regulation of attention, which may increase concentration. Improved well-being, attention and concentration may in turn reduce the occurrence of errors. [page 2428]
Materials used	<ul style="list-style-type: none"> Materials included several exercises to help increase attention and mindfulness including sitting and walking meditation, body scanning and yoga. Participants received a copy of Kabat-Zinn's (1990) book describing the MBSR program. <p>[page 2428]</p>
Procedures used	<ul style="list-style-type: none"> Participants attended 8 weekly group sessions of 2.5 hours each, and received course material. Daily practices of 45 minutes each were recommended and a full day retreat was included. <p>[page 2428]</p>
Provider	Not reported
Method of delivery	<ul style="list-style-type: none"> Group sessions Daily practices Full-day retreat <p>[page 2428]</p>

Setting/location of intervention	Not reported
Intensity/duration of the intervention	<ul style="list-style-type: none"> • Participants attended 8 weekly group sessions of 2.5 hours each. • 45-minute daily practices • Full day retreat <p>[page 2428]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 37)

Brief name	Waitlist control
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • Participants were offered MBSR once completed by the intervention group [page 2428]

Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.39 **Das, 2019**

Bibliographic Reference

Das, Sai Krupa; Mason, Shawn T; Vail, Taylor A; Rogers, Gail V; Livingston, Kara A; Whelan, Jillian G; Chin, Meghan K; Blanchard, Caroline M; Turgiss, Jennifer L; Roberts, Susan B; Effectiveness of an Energy Management Training Course on Employee Well-Being: A Randomized Controlled Trial.; American journal of health promotion : AJHP; 2019; vol. 33 (no. 1); 118-130

Study details

Study design	Cluster randomised controlled trial
Trial registration number	NCT02593240
Study start date	Sep-2015
Study end date	Dec-2016
Aim	To test whether completers of a 2.5-day intensive intervention—designed to enhance employee health and well-being—would experience improved QoL 6 months later.
Country/geographical location	US
Setting	<p>Sector:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: not reported • Organisation size: large • Contract type: not reported • Seniority: not reported • Income mixed
Inclusion criteria	<ul style="list-style-type: none"> • To be eligible to participate, worksites had to have been in operation for at least 3 years; have ≥300 employees with a low turnover rate (≤15%); have a postal address; and have contact information for a company representative who was willing to sign a consent form on behalf of his or her institution, complete a questionnaire for assessment of worksite eligibility, and facilitate employee outreach as well as on-site evaluations conducted by Tufts investigators. • At screening, employees were deemed eligible if they were aged ≥21 years, had a BMI of ≥20 and <50 kg/m², and were willing to sign an informed consent form, provide their e-mail to receive program materials, complete outcome assessments, and provide a physician release form.

Exclusion criteria	<ul style="list-style-type: none"> • Sites were excluded at screening if they had recent, current, or impending on-site, commercially run well-being programs. • Exclusion criteria included remote or contract workers, non-English speakers, pregnancy, mobility limitations, concurrent participation in an intensive lifestyle program, and major diseases, such as active cancer or cardiovascular disease.
Method of randomisation	At each participating worksite, approximately 20 employees were enrolled on a first-come, first-served basis; enrolees at each worksite completed baseline assessments before they were informed of their randomization. Worksites were randomized using a 2:1 allocation in favour of the intervention (n = 8 worksites) versus the waitlisted control condition (n = 4 worksites). Worksites were the unit of randomization with a stratification for employer type (for-profit, non-profit, and mixed work-type).
Method of allocation concealment	Worksites were randomized by a statistician independent of the study.
Unit of allocation	Worksite
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Data were examined for normality. Baseline characteristics of participants in the IG and CG were described and differences between groups were evaluated using the chi-square test for categorical variables and 2-sample t tests for continuous variables. • Primary analyses included participants with complete data for the outcome measures. • Secondary analyses were performed excluding outliers and utilizing last observation carried forward (LOCF) for missing data. • All models were adjusted for the following fixed effects: age, sex, ethnicity, and baseline value of the outcome of interest. • Site nested within intervention status (IG or CG) was classified as a random effect in all models. For outcomes that were normally distributed, IG and CG were compared by computing least square means and 95% confidence intervals (CI) from general linear mixed models. • The main outcomes were the mean change of measures between baseline and month 6 controlling for baseline value. • All testing was 2-sided, and results with P values <.05 were considered statistically significant.

	<ul style="list-style-type: none"> • Sample size was calculated based on the primary outcome (vitality) using an expected 9-point increase in the IG compared to the CG and a between-worksites standard deviation of 3.4 points. In all, 12 worksites, with a 2:1 allocation in favour of the intervention and 15 participants per worksite, were required to have 80% power to detect a 9-point increase in vitality score. • Per-protocol analysis - data analysed for intervention completers only
Attrition	<ul style="list-style-type: none"> • Intervention group: 146 completed outcome assessments out of 179 participants randomised to the arm. • Control: 74 completed outcome assessments out of 83 participants randomised to the arm.
Study limitations (author)	The self-selected worksites and use of self-reported measures are possible limitations in this study.
Study limitations (reviewer)	Per-protocol analysis
Source of funding	Johnson & Johnson, Health and Wellness Solutions, Inc.

Study arms

Energy management training course (N = 179)

8 worksites were randomised to the intervention arm.

Wait list (N = 83)

4 worksites were randomised to the control arm.

Characteristics

Arm-level characteristics

Characteristic	Energy management training course (N = 179)	Wait list (N = 83)
Age Characteristics for completers only (IG n=163; CG n=77)	46.7 (11.1)	45.9 (10.3)
Mean (SD)		
Gender Female - characteristics for completers only (IG n=163; CG n=77)	n = 93 ; % = 57	n = 47 ; % = 61
No of events		
White	n = 124 ; % = 76.1	n = 62 ; % = 80.5
No of events		
Black	n = 8 ; % = 4.9	n = 4 ; % = 5.2
No of events		
Asian	n = 19 ; % = 11.6	n = 5 ; % = 6.5
No of events		
Other	n = 12 ; % = 7.4	n = 6 ; % = 7.8
No of events		
US\$0 to US\$59,999	n = 11 ; % = 6.7	n = 10 ; % = 13
No of events		
US\$60,000 to US\$99,999	n = 42 ; % = 25.8	n = 15 ; % = 19.5
No of events		

Characteristic	Energy management training course (N = 179)	Wait list (N = 83)
US\$100,000 and over	n = 108 ; % = 66.3	n = 49 ; % = 63.6
No of events		
Unknown	n = 2	n = 3 ; % = 3.9
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured after 6 months.)

Employee outcomes

Outcome	Energy management training course, 6 month vs Baseline, N = 179	Wait list, 6 month vs Baseline, N = 83
Job stress Self-reported - fatigue subscale of the profile of moods states. No ICC was reported	n = 136 ; % = 76	n = 67 ; % = 80.7
Sample size		
Job stress Self-reported - fatigue subscale of the profile of moods states. No ICC was reported	-1.75 (-2.62 to -0.87)	-0.03 (-1.24 to 1.18)
Mean (95% CI)		

Outcome	Energy management training course, 6 month vs Baseline, N = 179	Wait list, 6 month vs Baseline, N = 83
Mental health symptoms Self-reported - Center for Epidemiologic Studies Depression Scale. No ICC was reported	n = 136 ; % = 76	n = 67 ; % = 80.7
Sample size		
Mental health symptoms Self-reported - Center for Epidemiologic Studies Depression Scale. No ICC was reported	-2.28 (-3.5 to -1.07)	-0.14 (-1.82 to 1.54)
Mean (95% CI)		
Quality of life Self-reported - mental health subscale of the SF-36. No ICC was reported	n = 146 ; % = 81.6	n = 74 ; % = 89.2
Sample size		
Quality of life Self-reported - mental health subscale of the SF-36. No ICC was reported	0.65 (0.56 to 0.75)	0.45 (0.32 to 0.58)
Mean (95% CI)		

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Energy management training course - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Energy management training course - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Quality of life - Energy management training course - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Energy management training course (N = 179)

Brief name	Energy management training course
Rationale/theory/Goal	The intervention uses a multidisciplinary approach rooted in performance psychology, exercise physiology, and nutrition to help maximize energy and promote lifelong behavior change. To accomplish its aim, the intervention blends cognitive behavioural therapy and acceptance and commitment therapy to directly target the participant's thoughts, actions, emotional processing, and social interactions. The intervention had two foundational models: the energy management model and the change process model. According to the energy management model, the program is designed to help employees develop attitudes, knowledge, skills, and behaviours that increase daily energy levels, align with their sense of purpose in life, and improve their overall functioning in and out of work. Psychologically, the change process model guides participants to establish their own purpose in life or direction in life, candidly compare their current life with this desired direction, and create an "action plan" for making and sustaining change after program completion. [pages 119 and 120]

Materials used	Participants who completed the workshop were provided with supplemental educational materials, including the workshop manual, a portable exercise booklet with quick, energizing workouts, and comprehensive online support (e-course) that was made available for the entire follow-up period. [pages 120 and 121]
Procedures used	<ul style="list-style-type: none"> • Multiple sessions were offered to accommodate group size and all participants. • Participants learned techniques to optimize daily energy levels, create short- and long-term goals, and review feedback from important people in their lives through individual reflection, group discussion, didactics, and in vivo exercises. • Supplemental educational materials encouraged participants to work toward their action plan by adopting behavioural changes aligned with personal goals, such as reducing stress, managing energy, and maximizing purpose. <p>[pages 120 and 121]</p>
Provider	3 trained professional coaches [page 120]
Method of delivery	Group-based, in-person intervention [page 119]
Setting/location of intervention	Venue separate from the employees' worksite [page 120]
Intensity/duration of the intervention	2.5 days [page 120]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Other details	None
Wait list (N = 83)	
Brief name	Wait-listed control [page 119]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.40 Day, 2009

Bibliographic Reference

Day, A L; Gillan, L; Francis, L; Kelloway, E K; Natarajan, M; Massage therapy in the workplace: reducing employee strain and blood pressure.; *Giornale italiano di medicina del lavoro ed ergonomia*; 2009; vol. 31 (no. 3supplb); b25-30

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To assess the effects of workplace-based massage therapy on physiological and psychological outcomes.
Country/geographical location	Canada
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government office • Organisation size: large • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: all but two participants had completed some form of post-secondary education
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> No power calculations were reported ITT analysis- not clear Means and standard deviations for outcomes were presented for treatment and control
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> Small sample size Participants sometimes missed sessions, which resulted in missing data across the four weeks further reducing the size of the sample and limiting analyses Several of the participants stated that this was their first experience receiving massage therapy treatment. Therefore, these participants may have been tense, nervous, or apprehensive about receiving the treatment, which would ultimately affect baseline and subsequent blood pressure readings, as well as the subjective outcome measures. Conversely, despite efforts to provide a relaxing environment, some participants appeared to be excited about receiving the massage treatment, which may have increased their blood pressure levels. All participants sat around a boardroom table, leaning into a pillow. This proximity to other individuals may have affected some participants' level of relaxation, which also may affect outcome measures.

	<ul style="list-style-type: none"> The sessions were conducted on Mondays to accommodate the massage therapy students' schedules. Participants reported that Mondays were often one of the busier days within this organization, and the need for participants to schedule their day around attending the sessions each Monday may have actually been a stressor. Massage therapy treatments were provided by massage therapy students rather than registered professionals.
Study limitations (reviewer)	<ul style="list-style-type: none"> Self-reported outcome Most participants were women (92%)
Source of funding	Nova Scotia Health Research Foundation

Study arms

Massage therapy (N = 14)

14 participants were randomised to receive massage therapy. Participants from a government office volunteered to participate.

Usual practice (N = 14)

14 participants were randomised to a control group. Participants from a government office volunteered to participate.

Characteristics

Study-level characteristics

Characteristic	Study (N = 28)
Age	39 (9.5)
Mean (SD)	

Characteristic	Study (N = 28)
Men	n = 2 ; % = 7.1
No of events	
Women	n = 26 ; % = 92.9
No of events	
Ethnicity	n = 28 ; % = 100
White	
No of events	
Socioeconomic- education level	n = 26 ; % = 92.9
Post-secondary education	
No of events	

Outcomes

Study timepoints

- Baseline
- 4 week (Outcomes measured at the end of the 4-week intervention period.)

Employee outcomes

Outcome	Massage therapy, Baseline, N = 14	Massage therapy, 4 week, N = 14	Usual practice, Baseline, N = 14	Usual practice, 4 week, N = 14
Mental wellbeing Self-reported - 20-item Bartone strain scale	1.09 (0.45)	0.73 (0.34)	1.08 (0.39)	0.66 (0.4)
Mean (SD)				

Mental wellbeing - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Massage therapy - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Massage therapy (N = 14)

Brief name	Chair massage [page B28]
Rationale/theory/Goal	Massage therapy may reduce strain symptoms and it may positively affect employee health and well-being. [B28]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • During the four treatment sessions, participants had their baseline blood pressure measured and then received a 20-minute seated chair massage. • For the duration of the massage treatment, participants were seated around a boardroom table, leaned forward at the hip with their head and arms on a pillow and received massage treatment to the back, neck, head, arms, wrists, and hands. • The lights were dimmed while participants received treatment to encourage relaxation. <p>[page B28]</p>
Provider	Seven massage therapy students from a local, professional massage therapy school provided the massages each week under the guidance of massage therapy professors. [page B28]
Method of delivery	Group sessions [B28]
Setting/location of intervention	Workplace - boardroom [page B28]

Intensity/duration of the intervention	Weekly 20-minute sessions for 4 weeks [pages B25 and B28]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Massage was conducted according to a protocol [page B28]
Actual treatment fidelity	Not reported
Other details	None reported

Usual practice (N = 14)

Brief name	Usual practice [page B25]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	During the four control sessions, participants had their blood pressure measured and they completed the questionnaire [page B28]
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.41 de Bloom, 2017

Bibliographic Reference de Bloom, Jessica; Sianoja, Marjaana; Korpela, Kalevi; Tuomisto, Martti; Lilja, Ansa; Geurts, Sabine; Kinnunen, Ulla; Effects of park walks and relaxation exercises during lunch breaks on recovery from job stress: Two randomized controlled trials.; Journal of Environmental Psychology; 2017; vol. 51; 14-30

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	NCT02124837
Study start date	28-Apr-2014
Study end date	06-Oct-2014
Aim	To determine the effectiveness of park walks and relaxation exercises during lunchbreaks on recovery from job stress.
Country/geographical location	Finland
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public and private sector • Industry: occupational health services • Organisation size: not reported • Contract type: mostly permanent contract (92% permanent in spring cohort and 88% permanent in fall cohort) • Seniority: mostly non-managerial (10% supervisory role in spring cohort and 15% supervisory in fall cohort) • Income: mixed (manual/blue collar workers, lower-level white-collar workers, upper-level white-collar workers, top management)
Inclusion criteria	Companies with a near-by park (within a 5-minute walk)
Exclusion criteria	<ul style="list-style-type: none"> • shift work or extremely irregular working hours • serious illness or allergies rendering walking outdoors impossible.
Method of randomisation	Not reported

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • No power calculations were reported • Classical inference statistics were combined with effect sizes • Per-protocol analysis • The final sample did not differ from the dropouts in terms of intervention group or background characteristics (i.e., gender, age, education, occupational status, type of job contract, working hours). However, participants in the final sample experienced less job exhaustion than did dropouts ($M = 2.03$ versus 2.57 on a scale from $0 - 6$; $p < .05$). • As missing data drastically reduced the sample size in repeated measures analyses due to list wise deletion, missing data were imputed using the R package “Mice”. Mice generates multiple imputations by chained equations in which each variable is imputed based on its own specific model. The values of iterations are drawn from the conditional densities for each variable with the help of the Markov Chain Monte Carlo (MCMC) algorithm. A general-purpose semi-parametric predictive mean matching method (pmm) was generated, which preserves optional non-linear relations and accepts only observed data values.
Attrition	Of the initial sample, 48 people dropped out before the study started and five during the study (e.g., due to sickness, travel plans during intervention weeks, change of employer). After data collection 19 people had to be excluded from the data set because either they did not engage in park walking/relaxation (13 people) or their data were largely missing (6 people). The final sample of 153 people represented 56% of the initial sample.
Study limitations (author)	<ul style="list-style-type: none"> • Some spill over from the intervention groups to the control group is possible • The sample consisted mainly of highly educated, female knowledge workers • The intervention period in this study was rather short (two weeks) • Some information may have been missed regarding the context of the intervention (Nielsen & Abildgaard, 2013). A mixed-methods approach integrating quantitative and qualitative information would be an appropriate approach in this respect.

	<ul style="list-style-type: none"> • Different effects of park walking and relaxation were found on recovery experiences and outcomes in spring and fall. It is unclear whether these differences were actually due to the season (or to other factors which varied with the season such as the type of companies taking part). • Numerous studies have demonstrated that employees who need worksite health promotion programs the most are less likely to participate and drop out more frequently than people with lower stress levels and fewer health complaints. The lower exhaustion levels in the final samples compared with the initial sample also point into this direction. • Despite the fact that our post-hoc analyses showed that participants generally enjoyed their lunch break (irrespective of the group they were assigned to), future intervention studies on lunch break activities could add a fourth group which can freely decide which activity they would like to engage in during their break.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • Outcome measures were single-item measures
Source of funding	Academy of Finland

Study arms

Park walking (N = 51)

51 participants were randomised to a park-walking intervention. 15 companies were contacted, and 11 agreed to participate. Out of 2226 people approached through email, 279 replied and met exclusion criteria.

Relaxation exercises (N = 46)

46 participants were randomised to a relaxation intervention. 15 companies were contacted, and 11 agreed to participate. Out of 2226 people approached through email, 279 replied and met exclusion criteria.

Control (N = 56)

56 participants were randomised to a control condition. 15 companies were contacted, and 11 agreed to participate. Out of 2226 people approached through email, 279 replied and met exclusion criteria.

Characteristics

Study-level characteristics

Characteristic	Study (N = 153)
Spring cohort	48.9 (<i>empty data</i>)
Mean (SD)	
Fall cohort	45.5 (<i>empty data</i>)
Mean (SD)	
Gender n calculated from percentage by reviewer	n = 137 ; % = 89.5
No of events	
Spring cohort - women	n = 74 ; % = 89.2
No of events	
Fall cohort - women	n = 63 ; % = 90
No of events	
Manual/blue collar worker	n = 11 ; % = 7.3
No of events	
Lower level white collar worker	n = 81 ; % = 52.9
No of events	

Characteristic	Study (N = 153)
Upper level white collar worker	n = 56 ; % = 36.6
No of events	
Top management	n = 6 ; % = 3.9
No of events	

Outcomes

Study timepoints

- Baseline
- 2 day (Outcomes were measured 2 days after the intervention)

Employee outcomes

Outcome	Park walking, Baseline, N = 51	Park walking, 2 day, N = 51	Relaxation exercises, Baseline, N = 46	Relaxation exercises, 2 day, N = 46	Control, Baseline, N = 56	Control, 2 day, N = 56
Job stress (1-7) Mean and SD for spring and fall cohorts were combined. Self-reported- afternoon - single measure ""Right now, after my lunch break/at the end of my work day/before going to bed, I feel fatigued" Mean (SD)	3.92 (1.6)	3.88 (1.76)	3.95 (1.44)	4.08 (1.35)	3.89 (1.43)	4.15 (1.68)
job satisfaction (1-5) Mean and SD for spring and fall cohorts were	3.45 (0.89)	3.45 (0.79)	3.39 (0.86)	3.54 (0.9)	3.61 (0.64)	3.67 (0.66)

Outcome	Park walking, Baseline, N = 51	Park walking, 2 day, N = 51	Relaxation exercises, Baseline, N = 46	Relaxation exercises, 2 day, N = 46	Control, Baseline, N = 56	Control, 2 day, N = 56
combined. Self-reported- single item - "Today at work I enjoyed working"						
Mean (SD)						

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Park walking - Relaxation exercises - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Lack of clarity around missing data</i>)

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes</i>)

Employee outcomes - job satisfaction - Park walking - Relaxation exercises - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Lack of clarity around missing data</i>)

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes</i>)

Study arms

Park walking (N = 51)

Brief name	Lunchtime park walks [page 13]
Rationale/theory/Goal	Research in environmental psychology recognises the importance of natural environments for people's wellbeing. According to Kaplan's attention restoration theory (1995), natural environments more than urban settings promote psychological distance from one's usual context, effortless attention, immersion in a coherent physical or conceptual environment, and are often compatible with personal purposes. [pages 4 and 5]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • In the month before the study started, participants were invited to attend a two-hour training session at the company location. • After the common training session, the participants assigned to the park walking group took a guided walk on a predetermined route in the nearest park at a slow, low-intensity pace. They were asked to pay attention to their surroundings and to avoid discussion during this 15-minute walk.

	<ul style="list-style-type: none"> The trainers walked the route together with the group during the training and participants were given maps showing the route. In the intervention weeks they could walk either alone or in a group, but were encouraged not to talk to each other. Before and after the park walk participants reported their level of tension on paper. <p>[page 13]</p>
Provider	Work and organizational psychologists (or students at an advanced stage of their studies) who had been trained by the researchers and experts in park walks (environmental psychologists). [page 13]
Method of delivery	Group or individual [page 13]
Setting/location of intervention	Park near workplace [pages 11 and 13]
Intensity/duration of the intervention	15 minutes daily in prescribed lunch break activities for ten consecutive working days [page 1]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Relaxation exercises (N = 46)

Brief name	Relaxation exercises [page 5]
Rationale/theory/Goal	Relaxation techniques are designed to reduce adverse stress reactions by generating a bodily state that is the physiological opposite of stress. These methods were targeted at the most important elements in

	relaxation: muscle relaxation, deep and slow breathing, and acceptance of the here-and-now [pages 5 and 13]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • In the month before the study started, participants were invited to attend a two-hour training session at the company location • Two procedures were used in the relaxation training: 1) a release-only version of progressive muscle relaxation (Öst, 1987) and 2) a deep breathing and acceptance exercise developed by Tuomisto (2007). • The method was taught for one hour. • The participants were advised that each relaxation session during the intervention period should last 15 minutes and they were given written relaxation instructions, too. • Before and after each relaxation exercise, participants reported their level of tension on paper. <p>[pages 13 and 14]</p>
Provider	The trainers were work- and organizational psychologists (or students at an advanced stage of their studies) who had been trained by the researchers and experts in applied relaxation (psychotherapists). [page 13]
Method of delivery	Individual [pages 13 and 14]
Setting/location of intervention	Lunchtime (workplace) [page 13]
Intensity/duration of the intervention	15 minutes daily in prescribed lunch break activities for ten consecutive working days [page 1]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Control (N = 56)

Brief name	Usual practice [page 7]
Rationale/theory/Goal	Employees continued their normal break routines [page 7]
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.42 Dincer, 2020

Bibliographic Reference Dincer, Berna; Inangil, Demet; The effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial.; Explore (New York, N.Y.); 2020

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT04393077
Study start date	May-2020
Aim	To investigate the efficacy of a brief online form of Emotional Freedom Techniques (EFT) in the prevention of stress, anxiety, and burnout in nurses involved in the treatment of COVID patients.
Country/geographical location	Turkey
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: professional (nurses)
Inclusion criteria	<ul style="list-style-type: none"> not having any psychiatric diagnoses not taking any courses about coping with anxiety and stress volunteering to participate in the study
Exclusion criteria	Not reported
Method of randomisation	Online random number generator
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> The analysis was conducted by a researcher who was blind to group assignment Pearson Chi-Square, Mann Whitney U, Kruskal-Wallis H, and Wilcoxon Signed Rank tests were used. All results were evaluated at $p < .05$ and a confidence interval of 95%. Analysis type (ITT) not specified A power analysis was conducted using the GPower 3.1 program, and the estimated effect size was based on results of similar studies. The required sample size with an effect size of 0.5 and alpha level of 0.05 was determined to be 80. The power of the analysis with this sample size is 90.3%.
Attrition	72 participants completed the study out of 80 participants randomised. There was a lack of clarity around attrition.
Study limitations (author)	Not reported

Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • No long-term follow-up
Source of funding	The research was not funded

Study arms

Emotional freedom technique (N = 35)

35 participants received an emotional freedom technique intervention.

Control (N = 37)

37 participants received a no-treatment control.

Characteristics

Arm-level characteristics

Characteristic	Emotional freedom technique (N = 35)	Control (N = 37)
Age		
Mean (SD)	33.54 (9.83)	33.37 (9.58)
Women		
No of events	n = 32 ; % = 91.4	n = 32 ; % = 86.5
Men		
	n = 3 ; % = 8.6	n = 5 ; % = 13.5

Characteristic	Emotional freedom technique (N = 35)	Control (N = 37)
No of events		
High school health education	n = 3 ; % = 8.6	n = 4 ; % = 10.8
No of events		
Associate degree	n = 4 ; % = 11.4	n = 2 ; % = 5.4
No of events		
Bachelor's degree	n = 22 ; % = 62.9	n = 26 ; % = 70.3
No of events		
Master's degree	n = 6 ; % = 17.1	n = 5 ; % = 13.5
No of events		

Outcomes

Study timepoints

- Baseline
- 0 day (Participants completed outcome measures at the end of the intervention.)

Employee outcomes

Outcome	Emotional freedom technique, Baseline, N = 35	Emotional freedom technique, 0 day, N = 35	Control, Baseline, N = 37	Control, 0 day, N = 37
Job stress Self-reported - The Burnout Scale (Capri 2006)	3.62 (0.76)	2.48 (1.06)	3.56 (0.72)	3.43 (0.76)
Mean (SD)				
Mental health symptoms Self-reported - State subscale of the State-Trait Anxiety Inventory (STAI)	67.68 (9.05)	32.25 (4.67)	64.7 (8.05)	64.43 (7.68)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Emotional freedom technique - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Emotional freedom technique - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Emotional freedom technique (N = 35)

Brief name	Brief online form of Emotional Freedom Techniques (EFT) [page 109 - abstract]
Rationale/theory/Goal	The basic principle of EFT is to send activating and deactivating signals to the brain by stimulating points on the skin that have distinctive electrical properties, usually by tapping on them. These points correspond with the acupuncture points that in Traditional Chinese Medicine are believed to regulate the flow of the body's energies. They are stimulated through tapping or other types of touch. Balancing and harmonizing the client's energies is believed to relax and optimize body, mind, and emotions. [page 110]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The intervention was delivered in subgroups of 5 participants. • Each group began by having the participants complete the pre-test SUD, the STAI-I, and the burnout scale via SurveyMonkey. • The EFT session began by presenting the participants with a picture of the acupuncture points and showing them how to gently tap on them using their index and middle fingers. • After this demonstration, the participants followed the basic steps of an EFT session. <p>[pages 111 and 112]</p>
Provider	Researcher (no further details providers) [page 111]
Method of delivery	Online [page 111]

Setting/location of intervention	Participants were asked to stay comfortable in as calm and tranquil an environment as possible during the session. [page 111]
Intensity/duration of the intervention	A single 20-minute session [page 111]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 37)

Brief name	No-treatment control [page109 - abstract]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	After completing the Descriptive Characteristics Form, a SUD rating, the STAI-I, and the burnout scale, participants in the control group were asked to stay comfortable in a calm and tranquil environment for the next 15 minutes. At the end of this period, they were asked to again give a SUD rating and complete the STAI-I and burnout scale. [page 111]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.43 Dyrbye, 2016

Bibliographic Reference

Dyrbye, L.N.; West, C.P.; Richards, M.L.; Ross, H.J.; Satele, D.; Shanafelt, T.D.; A randomized, controlled study of an online intervention to promote job satisfaction and well-being among physicians; *Burnout Research*; 2016; vol. 3 (no. 3); 69-75

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	2012
Study end date	2012
Aim	To determine the impact of a 10-week, individualised, online intervention on wellbeing among physicians.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: Not reported • Income: professional (physicians)
Inclusion criteria	Practicing physicians in the Mayo Clinic Departments of Medicine in Minnesota and Arizona and Mayo Clinic Department of Surgery in Minnesota.
Exclusion criteria	Not reported
Method of randomisation	Participants were randomized to an intervention group or a control group using a computer-generated algorithm. Randomisation was stratified by specialty (Internal Medicine or Surgery), campus (Rochester or Arizona), and baseline response to the single item, “The work I do is meaningful to me” (from the Empowerment at Work Scale (Spreitzer, 1995)).
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Standard summary statistics were used to characterise the sample. Changes in each metric from baseline to end-of-study were analysed using Fisher's Exact and Kruskal-Wallis tests as appropriate. • All tests were 2-sided, and the threshold for statistical significance was set at $p < 0.05$. • ITT analysis • No power calculations were reported
Attrition	Over 90% of participants in each arm completed both the baseline (intervention group: 134/145 [93%] vs control group: 137/145[94%], $p = 0.62$) and end-of-study surveys (intervention group: 137/145 [94%] vs control group: 142/145[98%] , $p = 0.12$).
Study limitations (author)	<ul style="list-style-type: none"> • Although weekly participation rates were high in both arms of the study, there was lower weekly participation rate in the intervention group than in the control group. • The findings may represent a Hawthorne effect as participants were aware they were participating in a physician well-being study. • The study was conducted at a single institution the generalisability of these results to other settings is unknown. • There was no long-term follow-up • It was not possible to know whether participants in the intervention arm actually completed their chosen weekly micro-tasks.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Mayo Clinic Rochester Department of Medicine Program on Physician Wellbeing

Study arms

Online intervention (N = 145)

145 participants were assigned to receive a micro-task online intervention. Physicians were recruited through departmental communications and an announcement at Medical Grand Rounds.

Control (N = 145)

145 participants were assigned to receive a control group. Physicians were recruited through departmental communications and an announcement at Medical Grand Rounds.

Characteristics

Arm-level characteristics

Characteristic	Online intervention (N = 145)	Control (N = 145)
Younger than 30 years	n = 0 ; % = 0	n = 0 ; % = 0
No of events		
31 to 40 years	n = 34 ; % = 25.2	n = 43 ; % = 31.4
No of events		
41 to 50 years	n = 41 ; % = 30.4	n = 44 ; % = 32.1
No of events		
51 to 60 years	n = 40 ; % = 29.6	n = 34 ; % = 24.8
No of events		
Older than 60 years	n = 20 ; % = 14.8	n = 16 ; % = 11.7
No of events		

Characteristic	Online intervention (N = 145)	Control (N = 145)
Men	n = 87 ; % = 64.4	n = 97 ; % = 70.8
No of events		
Women	n = 48 ; % = 35.6	n = 40 ; % = 29.2
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes were measured at 3 months after baseline measures were taken)

Employee outcomes

Outcome	Online intervention, Baseline, N = 145	Online intervention, 3 month, N = 145	Control, Baseline, N = 145	Control, 3 month, N = 145
Job stress Self-reported- emotional exhaustion subscale of Maslach burnout Inventory	n = 134 ; % = 93	n = 137 ; % = 94	n = 137 ; % = 94	n = 142 ; % = 98
Sample size				
Job stress Self-reported- emotional exhaustion subscale of Maslach burnout Inventory	22.3 (10.3)	22.3 (10.9)	22.8 (10.6)	22.7 (11)
Mean (SD)				

Outcome	Online intervention, Baseline, N = 145	Online intervention, 3 month, N = 145	Control, Baseline, N = 145	Control, 3 month, N = 145
Mental health symptoms Self-reported-positive screen - 2-item primary care evaluation of mental disorders No of events	n = 35 ; % = 25.9	n = 30 ; % = 21.9	n = 35 ; % = 25.5	n = 40 ; % = 28.2
Mental health symptoms Self-reported-positive screen - 2-item primary care evaluation of mental disorders Sample size	n = 134 ; % = 93	n = 137 ; % = 94	n = 137 ; % = 94	n = 142 ; % = 98
job satisfaction (1-5) Self-reported- Global Job Satisfaction subscale of the Physician Job Satisfaction Scale Sample size	n = 134 ; % = 93	n = 137 ; % = 94	n = 137 ; % = 94	n = 142 ; % = 98
job satisfaction (1-5) Self-reported- Global Job Satisfaction subscale of the Physician Job Satisfaction Scale Mean (SD)	3.9 (0.6)	4 (0.7)	4 (0.7)	3.9 (0.8)
Quality of life Self-reported- standard linear analogue scale Sample size	n = 134 ; % = 93	n = 137 ; % = 94	n = 137 ; % = 94	n = 142 ; % = 98
Quality of life Self-reported- standard linear analogue scale Mean (SD)	6.8 (2)	7.3 (1.9)	6.8 (1.8)	7.3 (1.7)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Online intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Online intervention-Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Online intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Quality of life - Online intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Online wellbeing intervention (N = 145)

Brief name	Online wellbeing intervention (page 70)
Rationale/theory/Goal	To determine the impact of an individualised online wellbeing intervention on physicians. (page 69)
Materials used	Web-based surveys (page 70)
Procedures used	<ul style="list-style-type: none"> • Brief (3-4 question) surveys were completed by both intervention and control groups. • The intervention group received a menu of 5 or 6 self-directed micro tasks and were asked to complete 1 each week. • Tasks were focused on career satisfaction, mindfulness, positive psychology and covered various domains e.g. fostering team work, recognising personal strengths, work- life balance. <p>(page 70)</p>
Provider	Online (page 70)

Method of delivery	Online (page 70)
Setting/location of intervention	Completed at work (page 70)
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 10 weekly surveys • Each task could be completed within less than 5 minutes during the working day. <p>(page 10)</p>
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Participation in the 10 weekly surveys and the microtasks ranged from 71-85% (mean 83%) (page 73)
Other details	<p>Participants in both intervention and control groups received up to \$250 for their time, pro-rated depending on participation.</p> <p>Completed the baseline and 3-month survey within 4 days - \$25 for each survey.</p> <p>Completion of the weekly surveys within 4 days - \$20</p> <p>Remuneration depended only on timely completion of the surveys, and did not depend on completion of other activities.</p> <p>(page 70)</p>

Online wellbeing intervention

Brief weekly email survey (N = 145)

Brief name	Brief weekly email survey (page 70)
Rationale/theory/Goal	Brief weekly mail surveys were sent to control and intervention groups so that each group received weekly e-mails that required an activity but were not part of the primary outcome analysis. (page 70)
Materials used	Web- based surveys (page 70)
Procedures used	The control group completed brief weekly surveys (3-4 questions) on line (page 70)
Provider	Online (page 70)
Method of delivery	Online (page 70)
Setting/location of intervention	Surveys could be completed at work (page 70)
Intensity/duration of the intervention	10 weeks (page 70)
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Participation in the 10 weekly surveys ranged from 86% to 98% in the control arm (mean 95%). (page 73)

Other details	<p>Participants in both intervention and control groups received up to \$250 for their time, pro-rated depending on participation.</p> <p>Completed the baseline and 3-month survey within 4 days - \$25 for each survey.</p> <p>Completion of the weekly surveys within 4 days - \$20</p> <p>Remuneration depended only on timely completion of the surveys, and did not depend on completion of other activities.</p> <p>(page 70)</p>
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Brief weekly email survey

D.44 El Khamali, 2018

Bibliographic Reference	<p>El Khamali, R.; Mouaci, A.; Valera, S.; Cano-Chervel, M.; Pinglis, C.; Sanz, C.; Allal, A.; Attard, V.; Malardier, J.; Delfino, M.; D'Anna, F.; Rostini, P.; Chevalier, N.; Inthavong, K.; Forel, J.-M.; Baumstarck, K.; Papazian, L.; Reynaud, V.; Garrigues, B.; Berthias, K.; Bruder, N.; Cresta, B.; Guidon, C.; Avarello, J.; Syja, W.; Suard, J.; Wiramus, S.; Albanese, J.; Iride, F.; Brousse, C.; Leone, M.; Aguilard, S.; Gannier, M.; Sylla, P.; Parra, M.; Breuils, S.; Moreau, C.; Vankiersbilck, C.; Vilagines, C.; Loundou, A.; Auquier, P.; Martinez, P.; Coulomb, E.; Sudour, P.; Effects of a multimodal program including simulation on job strain among nurses working in intensive care units a randomized clinical trial; JAMA - Journal of the American Medical Association; 2018; vol. 320 (no. 19); 1988-1997</p>
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Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT02672072

Study start date	08-Feb-2016
Study end date	30-Apr-2018
Aim	To evaluate the effects of a program including simulation in reducing work-related stress and work-related outcomes among ICU nurses.
Country/geographical location	France
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	<p>ICU nurses who were:</p> <ul style="list-style-type: none"> • actively working in an adult ICU • held a registered nurse license • had at least 6 months' work experience in the current ICU
Exclusion criteria	<ul style="list-style-type: none"> • current placement outside ICU • on maternity or sick leave • planning to leave ICU • already completed the simulation intervention prior to the beginning of the trial
Method of randomisation	Randomisation was stratified by ICU site and job experience (6-24 months vs ≥ 24 months). Participants were randomly assigned using a computer-generated randomization list (allocation ratio of 1:1) and a permuted block design (block size range, 4-8).

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Sample size was determined according to the prevalence of job strain. A sample size of 188 participants per group was required to detect an absolute between-group difference of 15 percentage points (a relative reduction of 25%; 60% for the control group and 45% for the intervention group) and included an interim analysis after the inclusion of 50% of the participants with a power level of 80%. A P value threshold of .003 was used for the interim analysis and a P value threshold of .05 was used for the final analysis (version 11 of PASS [Power Analysis and Sample Size] software; J. L. Hintze). Furthermore, a dropout rate of 12 ICU nurses per group was anticipated, which led to a sample size of 200 participants per group. • The analysis was performed on the intention-to-treat population • Data management and analysis were conducted blindly by the biostatistics team • Proportions of isostrain, absenteeism, and turnover at 6 months were compared using the χ^2 test or the Fisher exact test. Scores from the JCQ and COPSOQ were compared between the groups using the Mann-Whitney test. • The between-group differences in psychological demand, decision latitude, and social support were compared using the Mann-Whitney test. Adjusted analyses were performed regarding potential confounding factors (differences observed for baseline characteristics) using logistic regression.
Attrition	<p>Intervention group: 4 out of 101 participants stopped working at the ICU and were unavailable for assessment (4%)</p> <p>Control group: 12 out of 97 participants stopped working at the ICU and were unavailable for assessment (12%)</p>
Study limitations (author)	<ul style="list-style-type: none"> • The trial included only French ICU nurses • The trial looked at the effects of the intervention within the first 6 months of the intervention only • Other means of stress reduction can be implemented such as providing employee wellness programs, employee health screenings, adequate staffing, interdisciplinary debriefing following difficult cases, and support programs with role models, preceptors, or mentors. • The chosen randomization scheme at the nurse level rather than at the ICU level may have contaminated the control group because the nurses receiving the 5-day intervention training course could have passively or actively transmitted their new knowledge to the nurses in the control group who did not receive the training.

	<ul style="list-style-type: none"> • There may have been an unintended negative effect on the control group of nurses who would have witnessed the intervention nurses receiving the 5-day training and teambuilding course. This may have resulted in a feeling of hierarchy or jealousy of others receiving special treatment and may have contributed to job-related distress. • The intervention has to be standardized to be easily replicated in other ICUs located in other countries. • The study did not use an active control
Study limitations (reviewer)	Outcome measures were self reported for employee outcomes
Source of funding	French Ministry of Health

Study arms

Nursing theory and simulation training (N = 101)

101 participants were assigned to receive a 5-day course involving nursing theory recap and situational role-play. Nurses were recruited via research nurses.

Wait list (N = 97)

97 participants were assigned to a wait list. Nurses were recruited via research nurses.

Characteristics

Arm-level characteristics

Characteristic	Nursing theory and simulation training (N = 101)	Wait list (N = 97)
30 years or younger	n = 49 ; % = 49	n = 46 ; % = 47

Characteristic	Nursing theory and simulation training (N = 101)	Wait list (N = 97)
No of events		
31 to 40 years	n = 45 ; % = 45	n = 43 ; % = 44
No of events		
41 years or older	n = 7 ; % = 7	n = 8 ; % = 8
No of events		
Women	n = 61 ; % = 60	n = 54 ; % = 56
No of events		
Men	n = 40 ; % = 40	n = 43 ; % = 44
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured at 6 months after the intervention)

Employee outcomes

Outcome	Nursing theory and simulation training, Baseline, N = 101	Nursing theory and simulation training, 6 month, N = 101	Wait list, Baseline, N = 97	Wait list, 6 month, N = 97
Mental wellbeing (9-36) Self-reported- psychological demands subscale of job content questionnaire	n = 101 ; % = 100	n = 97 ; % = 96	n = 97 ; % = 100	n = 85 ; % = 87.6
Sample size				
Mental wellbeing (9-36) Self-reported- psychological demands subscale of job content questionnaire	26.4 (5.4)	20.9 (4.5)	25.3 (5.5)	24.9 (5.5)
Mean (SD)				

Mental wellbeing - Polarity - Lower values are better

Employer outcomes

Outcome	Nursing theory and simulation training, Baseline, N = 101	Nursing theory and simulation training, 6 month, N = 101	Wait list, Baseline, N = 97	Wait list, 6 month, N = 97
absenteeism Based on administrative data	<i>empty data</i>	n = 1 ; % = 1	<i>empty data</i>	n = 8 ; % = 97
No of events				
absenteeism Based on administrative data	<i>empty data</i>	n = 101 ; % = 100	<i>empty data</i>	n = 97 ; % = 100
Sample size				

Outcome	Nursing theory and simulation training, Baseline, N = 101	Nursing theory and simulation training, 6 month, N = 101	Wait list, Baseline, N = 97	Wait list, 6 month, N = 97
turnover Based on administrative data	<i>empty data</i>	n = 4 ; % = 4	<i>empty data</i>	n = 12 ; % = 12
No of events				
turnover Based on administrative data	<i>empty data</i>	n = 101 ; % = 100	<i>empty data</i>	n = 97 ; % = 100
Sample size				

absenteeism - Polarity - Lower values are better

turnover - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Nursing theory and simulation training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - absenteeism -Nursing theory and simulation training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Low

Employer outcomes - turnover - Nursing theory and simulation training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Study arms

Nursing theory and simulation training (N = 101)

Brief name	
	Nursing theory and simulation training [page 1988 - abstract]

Rationale/theory/Goal	To assess if a multi-faceted education programme for ICU nurses which included simulation scenarios, reduced stress by enabling nurses to cope with stressful situations e.g., cardiac arrest, and work-related stressors, e.g., workload, lack of autonomy. [page 1990]
Materials used	<ul style="list-style-type: none"> • Clinical sheet introducing the clinical scenario, and a simulated patient medical record. • Video recording of the simulation <p>[page 1990]</p>
Procedures used	<ul style="list-style-type: none"> • Nursing theory recap of skills expected in ICU • Participation in simulation scenarios of patients with deteriorating conditions • A 3-stage debriefing session – nurses shared their emotions and described their stress; reflective analysis of why actions were or were not taken using video recordings; reinforcement of learning and future learning objectives. <p>[page 1990]</p>
Provider	Nurse instructors [page 1990]
Method of delivery	Small groups (6 nurses) [page 1989]
Setting/location of intervention	Location is not reported. The intervention took place during paid working hours. [page 1990]
Intensity/duration of the intervention	5-day intervention (3 days in the first week and 2 in the second) [page 1990]
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None to add

Nursing theory and simulation training

Waitlist (N = 97)

Brief name	Waiting list [page 1989]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None to add

Waiting list

D.45 Elder, 2014

Bibliographic Reference

Elder, Charles; Nidich, Sanford; Moriarty, Francis; Nidich, Randi; Effect of transcendental meditation on employee stress, depression, and burnout: a randomized controlled study.; *The Permanente journal*; 2014; vol. 18 (no. 1); 19-23

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Feb-2010
Study end date	Aug-2010
Aim	To evaluate the effects of the Transcendental Meditation program on psychological distress and burnout among staff at a residential therapeutic school for students with severe behavioural problems.

Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: education • Organisation size: medium • Contract type: not reported • Seniority: not reported • Income: mixed (teachers and support staff)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Simple randomization procedures
Method of allocation concealment	The schedule of treatment group allocations was concealed by the study statistician, with individual treatment group assignments revealed to the project manager only when study participants completed baseline testing and were ready to commence treatment.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • A multivariate analysis of covariance, covarying for baseline dependent variables and age, was used to determine overall effects. Univariate F tests were then used to determine specific effects on the main outcomes of the study. All p values were reported as two-tailed. • Intent-to-treat analysis, using composite mean change scores for missing data • Power analysis not reported

Attrition	<ul style="list-style-type: none"> • Intervention: 4-month change scores provided for 17 out of 20 randomised participants (85%) • Control: 4-month change scores provided for 19 out of 20 randomised participants (95%) • The participants who were not post-tested were out of town at the time of test administration and could not be reached.
Study limitations (author)	<ul style="list-style-type: none"> • Potentially limited generalizability because the project was carried out at a single site. • Adherence among participants was high, and results likewise may not be generalizable to other meditation or stress management programs in which there may be potentially less motivation to adhere to a daily home program. • Participants could not be blinded to their treatment assignment, the use of self-report outcome measures introduced the possibility of bias. • Although the wait-list control was an appropriate choice for this project, it is possible that findings could be attributable in part to the additional attention, or group social interaction, experienced by the participants assigned to learn TM before the follow-up data collection. • Health care utilization was not measured • Outcomes were not adjusted for multiple comparisons
Study limitations (reviewer)	No long-term follow-up
Source of funding	<ul style="list-style-type: none"> • Nine East Network • David Lynch Foundation

Study arms

Transcendental meditation (N = 20)

20 participants were randomised to receive a transcendental meditation intervention. Participants were volunteers from a single school.

Wait list (N = 20)

20 participants were randomised to a wait list. Participants were volunteers from a single school.

Characteristics**Arm-level characteristics**

Characteristic	Transcendental meditation (N = 20)	Wait list (N = 20)
Age		
Mean (SD)	33.68 (8.31)	38.6 (10.9)
Gender		
Men - n calculated from percentage by reviewer	n = 10 ; % = 50	n = 9 ; % = 45
No of events		
Ethnicity		
White - n calculated from percentage by reviewer	n = 20 ; % = 100	n = 19 ; % = 95
No of events		

Outcomes**Study timepoints**

- Baseline
- 0 month (Follow-up at endpoint of 4-months intervention.)

Employee outcomes

Outcome	Transcendental meditation, 0 month vs Baseline , N = 20	Wait list, 0 month vs Baseline , N = 20
Job stress (0-40) Self-reported - Perceived Stress Scale (PSS) - data used in meta-analysis	n = 17 ; % = 85	n = 19 ; % = 95
Sample size		
Job stress (0-40) Self-reported - Perceived Stress Scale (PSS) - data used in meta-analysis	-4.65 (5.94)	1.79 (4.63)
Mean (SD)		
Job stress Self-reported - Maslach Burnout Inventory (MBI)	n = 17 ; % = 85	n = 19 ; % = 95
Sample size		
Job stress Self-reported - Maslach Burnout Inventory (MBI)	-5.61 (10.69)	1.58 (12.42)
Mean (SD)		
Mental health symptoms (5-30) Self-reported - Mental Health Inventory-5 from 36-item short-form health survey	n = 17 ; % = 85	n = 19 ; % = 95
Sample size		
Mental health symptoms (5-30) Self-reported - Mental Health Inventory-5 from 36-item short-form health survey	-2.83 (2.96)	-0.32 (3.87)
Mean (SD)		

Job stress - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress (PSS) - Transcendental meditation vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress (MBI) - Transcendental meditation vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Transcendental meditation vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Transcendental meditation (N = 20)

Brief name	Transcendental meditation (TM) [page 19]
Rationale/theory/Goal	The Transcendental Meditation (TM) programme is a widely studied meditation and relaxation programme. This program differs from other meditation programs in terms of how the brain functions during the practice. Focused-attention meditation, corresponding to gamma (20- to 50-Hz) electroencephalographic (EEG) waves, aims to improve one's ability to focus attention during activity, which would be advantageous in dealing with a threat. Open monitoring, or mindfulness, techniques produce theta (4- to 8-Hz) EEG waves. Such techniques aim to cultivate a non-judgmental attitude toward experience. Automatic self-transcending techniques, such as TM, involve the effortless use of a sound without meaning (mantra), which allows the mind to settle to quieter levels of thought. TM increases alpha EEG coherence and synchrony, which provide long-range integration of distal cortical-neural groups necessary for sensory, motor, and cognitive behaviour. [pages 19 and 20]
Materials used	Not reported

Procedures used	<ul style="list-style-type: none"> • The TM technique was taught in a standard 7-step course • Participants attended 2 didactic lectures, followed by an individual interview with the instructor. • After these steps, the instructor provided individual instruction in the technique to each participant. • On each of the 3 days after individual instruction, participants met with the instructor as a group to review and discuss experiences. • Participants were advised to practice the technique twice a day for 15 to 20 minutes at home. • Adherence to the instruction protocol was achieved through regular communication among the two teachers and the principal investigator of the study. <p>[page 20]</p>
Provider	Two certified TM instructors who had previously undergone 6 months of residential training and had more than a dozen years of teaching experience. [page 20]
Method of delivery	<ul style="list-style-type: none"> • Lectures • One-to-one instruction • Group sessions • Individual practice <p>[page 20]</p>
Setting/location of intervention	Location of lectures/ one-to-one instruction/ group sessions not reported. Individual practice at home. [page 20]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 4 months • At home practice was twice a day for 15 to 20 minutes. <p>[page 20]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Standardised TM course sequence [page 20]
Actual treatment fidelity	All participants meditated at least once a day, and 56% of participants meditated regularly at home twice a day. [page 21]
Other details	None

Wait list (N = 20)

Brief name	Wait list [page 20]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants continued with their usual schedule and were not instructed in TM until after the four-month intervention study was concluded. [page 20]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.46 Eriksen, 2002

Bibliographic Reference Eriksen, HR; Ihlebaek, C; Mikkelsen, A; Grønningstatter, H; Sandal, GM; Ursin, H; Improving subjective health at the worksite: a randomized controlled trial of stress management training, physical exercise and an integrated health programme.; Occupational medicine (Oxford, England); 2002; vol. 52 (no. 7); 383-391

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	1996
Study end date	1997
Aim	To evaluate the effect of 12 weeks of 1) stress management training; 2) physical exercise; 3) an integrated health programme in a worksite setting on subjective health complaints.

Country/geographical location	Norway
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: postal service • Organisation size: large • Contract type: mostly full time • Seniority: not reported • Income: not reported
Inclusion criteria	Employees from two postal terminals in the Norwegian postal service.
Exclusion criteria	Cleaning personnel, long-distance drivers, pregnant women, and individuals on leave were not included.
Method of randomisation	Participants were randomised to treatment arms using permuted blocks within strata. A table of randomised numbers was used.
Method of allocation concealment	Allocation was concealed; details were not reported.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis was used and missing values due to participants lost to follow-up were replaced, assuming a zero event rate over the follow-up period, in accordance with the last value principle. • To investigate the effects of the interventions, a full factorial model, type III sum squares general linear model (GLM) for repeated measured was used (Wilks' lambda), and gender and intervention timing were used as covariates. • Based on 90% power at a 5% significance level, 85 employees were needed in each group to detect a differences on mean score on subjective health complaints between the groups. To compensate for possible

	<p>drop-outs and the inclusion of job stress as an additional outcome, the number of individuals in each group was increased.</p> <ul style="list-style-type: none"> • Means and 95% CIs were calculated for baseline characteristics to test potential differences between individuals lost to follow-up and those that participated. Differences between groups were analysed using one-way ANOVA and chi-square tests. • Odds ratios and 95% CIs of subjective effects of the interventions were calculated.
Attrition	<ul style="list-style-type: none"> • Stress management training: 98/162 participants (60%) completed follow-up measures • Physical exercise: 114/189 participants (60%) completed follow-up measures • Integrated health programme: 94/165 participants (57%) completed follow-up measures • Control: 166/344 participants (48%) completed follow-up measures
Study limitations (author)	<ul style="list-style-type: none"> • High attrition • Interventions were offered by a research team from a university, who were outside of the organisation • The study was randomised, and interventions may have been more effective if participants could choose their intervention • The study was conducted in the postal service at a time of turmoil and instability
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcomes were self-reported • Higher attrition in control groups compared with intervention groups
Source of funding	Norwegian Research Council

Study arms

Stress management training (N = 162)

162 participants were randomised to receive stress management training. Participants from 29 post offices and 2 postal terminals were invited to participate.

Physical exercise (N = 189)

189 participants were randomised to receive physical exercise. Participants from 29 post offices and 2 postal terminals were invited to participate.

Integrated health programme (N = 165)

165 participants were randomised to receive an integrated health programme. Participants from 29 post offices and 2 postal terminals were invited to participate.

Control (N = 344)

344 participants were randomised to a control group. Participants from 29 post offices and 2 postal terminals were invited to participate.

Characteristics**Arm-level characteristics**

Characteristic	Stress management training (N = 162)	Physical exercise (N = 189)	Integrated health programme (N = 165)	Control (N = 344)
Age				
Mean (95% CI)	38.9 (37.2 to 40.6)	38.2 (36.7 to 39.7)	38.2 (36.5 to 39.8)	37 (35.8 to 38.1)
Gender				
No of events	n = 66 ; % = 40.7	n = 78 ; % = 41.3	n = 67 ; % = 40.6	n = 125 ; % = 36.3

Characteristic	Stress management training (N = 162)	Physical exercise (N = 189)	Integrated health programme (N = 165)	Control (N = 344)
Socioeconomic- education level Units not reported	12 (11.6 to 12.3)	11.7 (11.4 to 12.1)	11.8 (11.5 to 12.2)	11.9 (11.7 to 12.2)
Mean (95% CI)				

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes measured after 1 year)

Employee outcomes

Outcome	Stress management training, Baseline, N = 162	Stress management training, 1 year, N = 162	Physical exercise, Baseline, N = 189	Physical exercise, 1 year, N = 189	Integrated health programme, Baseline, N = 165	Integrated health programme, 1 year, N = 165	Control, Baseline, N = 339	Control, 1 year, N = 339
Job stress Self-reported - workload subscale of the Cooper job stress questionnaire	<i>empty data</i>	<i>empty data</i>	% = 100	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>	<i>empty data</i>
Sample size								

Outcome	Stress management training, Baseline, N = 162	Stress management training, 1 year, N = 162	Physical exercise, Baseline, N = 189	Physical exercise, 1 year, N = 189	Integrated health programme, Baseline, N = 165	Integrated health programme, 1 year, N = 165	Control, Baseline, N = 339	Control, 1 year, N = 339
Job stress Self-reported - workload subscale of the Cooper job stress questionnaire	6.03 (5.31 to 7.75)	6.21 (5.63 to 6.79)	6.79 (6.14 to 7.44)	6.2 (5.68 to 6.71)	6.35 (5.55 to 7.15)	6.45 (5.89 to 7.02)	6.24 (5.63 to 6.85)	6.31 (5.91 to 6.7)
Mean (95% CI)								
Mental health symptoms Self-reported - pseudoneurology subscale of Subjective Health Complaint Inventory (SHC)	2.05 (1.55 to 2.55)	2.69 (2.22 to 3.16)	2.17 (1.7 to 2.64)	2.33 (1.96 to 2.7)	2.02 (1.53 to 2.52)	2.64 (2.19 to 3.09)	2.38 (1.93 to 2.84)	2.6 (2.29 to 2.92)
Mean (95% CI)								
absenteeism Self-reported - participants were asked to report the frequency and duration of sick leave in the last 30 days	1.41 (0.72 to 2.1)	2.56 (1.11 to 4)	1.38 (0.8 to 1.96)	2.31 (0.89 to 3.74)	2.27 (0.95 to 3.59)	1.23 (0.24 to 2.23)	1.51 (0.99 to 2.03)	2.04 (1.01 to 3.07)
Mean (95% CI)								

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

absenteeism - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management training - Physical exercise - Integrated health programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Stress management training - Physical exercise - Integrated health programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - absenteeism - Stress management training - Physical exercise - Integrated health programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Stress management (N = 162)

Brief name	Stress management training [page 386]
Rationale/theory/Goal	The training was developed to improve the coping ability of the participants through a cognitive behavioural approach. [page 386]
Materials used	30 minute audiotaped instruction [page 386]

Procedures used	<ul style="list-style-type: none"> • Maladaptive cognitions and lifestyle factors were identified, and attempts were made to modify these. • Effective strategies for interpersonal communication and social skills were emphasised and tested with other participants in a protected setting with role play and video recordings. • The relationship between appraisal, coping and health, dealing with job stress, defence mechanisms, the use of self-instruction to moderate emotional arousal, communication and self-assertion, performance anxiety, time management, and sleep hygiene were discussed. • Practical exercises, including progressive relaxation, autogenic training, and visualisation, were covered. • Participants were given homework to practice using audiotapes. <p>[page 386]</p>
Provider	Professional instructors trained in the method [page 384]
Method of delivery	Lectures and group discussion [page 386]
Setting/location of intervention	All interventions were administered during the workday for most participants. When this was impossible, the employees in Bergen were compensated with a corresponding number of reduced working hours. The participants in 1996 had to travel to from their worksite to a different location to participate in the intervention, while in 1997 participants had the facilities at their worksite. [page 386]
Intensity/duration of the intervention	2-hour intervention once a week for 12 weeks (total 24 hours) [page 384]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Intervention was standardised and based on detailed protocols, manuals and prepared teaching materials [page 384]
Actual treatment fidelity	Not reported
Other details	None

Physical exercise (N = 189)

Brief name	Physical exercise [page 384]
Rationale/theory/Goal	The general aim was to improve physical capacity, muscle strength and flexibility. In addition, the programme had a special focus on reducing pain in the neck, back and arm/shoulder by relaxation and circulation exercises. [page 384]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The exercise was dynamic and rhythmical at moderate intensity (70-80%) of maximum heart rate). • Overloads, anaerobic, and static work were avoided. • Special care was taken to avoid injury in general and to make the workout a positive event for the participants. <p>[page 384]</p>
Provider	Professional instructors trained in the method [page 384]
Method of delivery	Group [page 384]
Setting/location of intervention	All interventions were administered during the workday for most participants. When this was impossible, the employees in Bergen were compensated with a corresponding number of reduced working hours. The participants in 1996 had to travel to from their worksite to a different location to participate in the intervention, while in 1997 participants had the facilities at their worksite. [page 386]
Intensity/duration of the intervention	The intervention was administered for 1 hour twice a week for 12 weeks, giving a total of 24 hours [page 384]
Tailoring/adaptation	The level and intensity was modified to meet the capability of each individual and particular group. [page 384]
Unforeseen modifications	Not reported

Planned treatment fidelity	The Norwegian aerobic fitness model, Gymnastikk itiden is a standardised aerobic dancing programme. [page 384]
Actual treatment fidelity	Not reported
Other details	None

Integrated health programme (N = 165)

Brief name	Integrated health programme [page 384]
Rationale/theory/Goal	It consisted of three main components: physical exercise; information about stress, coping, health and nutrition; and practical examination at the worksite. [page 384]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • During each session, the first hour was theoretical and the second comprised physical exercise. • In the theoretical part (10 hours), the relationship between demands and exercise, anatomy, information about low back pain, activation and stress theory, ergonomics, exercise physiology, pain and behaviour, musculoskeletal pain, nutrition related to performance and health and the relationship between physical exercise and musculoskeletal pain were discussed. • Physical exercise sessions consisted of ergonomics, warm-up/aerobic, alternative working positions and strength training, stretching, and relaxation. <p>[pages 384, 385 and 386]</p>
Provider	Professional instructors trained in the method. Two instructors were present at each session. [pages 384 and 385]
Method of delivery	Group [pages 384, 385 and 386]
Setting/location of intervention	All interventions were administered during the workday for most participants. When this was impossible, the employees in Bergen were compensated with a corresponding number of reduced working hours. The participants in 1996 had to travel to from their worksite to a different location to participate in the intervention, while in 1997 participants had the facilities at their worksite. [page 386]

Intensity/duration of the intervention	2 hours once a week for 12 weeks to give a total of 24 hours [page 384]
Tailoring/adaptation	The level and intensity of the exercise programme were individually adapted to meet the capability of each individual. [page 386]
Unforeseen modifications	Not reported
Planned treatment fidelity	Intervention was standardised and based on detailed protocols, manuals and prepared teaching material. the worksite was visited twice during the second and eighth weeks, when the degree of static work, heavy weights, and repetitive motions were analysed. [page 384]
Actual treatment fidelity	Not reported
Other details	None

Control (N = 344)

Brief name	Control [page 384]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable

Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.47 Fang, 2015

Bibliographic Reference

Fang, Ronghua; Li, Xia; A regular yoga intervention for staff nurse sleep quality and work stress: a randomised controlled trial.; Journal of clinical nursing; 2015; vol. 24 (no. 2324); 3374-9

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jan-2013
Study end date	Oct-2013

Aim	To determine the impact of yoga on the quality of sleep and work stress of staff nurses employed by a general hospital in China.
Country/geographical location	China
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: mixed (shift work and non-shift work) • Seniority: mixed (manager and non-manager) • Income: mixed (education level: college or higher and technical secondary school)
Inclusion criteria	Normal communication abilities and willingness to participate in the study.
Exclusion criteria	Acute disease including upper respiratory illness, acute arthritis, acute bronchitis, or cervical spondylosis.
Method of randomisation	Random number table generated by computer
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Normally distributed continuous variables were expressed as mean (SD) and compared by t-test • Categorical data were compared with the chi-squared test • Linear regression was performed to identify independent factors of sleep quality • ITT analysis not reported - appears to be by mITT

	<ul style="list-style-type: none"> No power calculation reported
Attrition	<ul style="list-style-type: none"> Intervention: 54 out of 61 randomised participants (88.5%) received the intervention and performed post-evaluation and follow-up measures. Control: 51 out of 59 randomised participants (86.4%) performed post-evaluation and follow-up measures.
Study limitations (author)	<ul style="list-style-type: none"> Convenience sampling limited the generalisability of the results to nurses Data were obtained from a single hospital in China, which limits the generalisability of the finding to other cultures and geographic regions Self-reported outcome measures were used Only women participated in the study due to the low number of male nurses employed at the hospital
Study limitations (reviewer)	
Source of funding	Not reported

Study arms

Yoga (N = 61)

61 participants were randomised to the yoga intervention group. Participants were selected through convenience sampling.

Usual practice (N = 59)

59 participants were randomised to the non-yoga intervention. Participants were selected through convenience sampling.

Characteristics

Arm-level characteristics

Characteristic	Yoga (N = 61)	Usual practice (N = 59)
Age		
Mean (SD)	35.13 (10.98)	36.05 (9.91)
Gender		
Women	n = 61 ; % = 100	n = 59 ; % = 100
No of events		
College or higher		
No of events	n = 49 ; % = 90.7	n = 47 ; % = 92.1
Technical secondary school		
No of events	n = 5 ; % = 9.3	n = 4 ; % = 7.9

Outcomes**Study timepoints**

- Baseline
- 6 month (Follow-up at 6 months after the yoga intervention)

Employee outcomes

Outcome	Yoga , Baseline, N = 61	Yoga , 6 month, N = 61	Usual practice, Baseline, N = 59	Usual practice, 6 month, N = 59
Job stress (8-48) Self-reported- Questionnaire on Medical Worker's Stress (QMWS) - sample size and percentage calculated by totalling the the subgroup sample sizes	n = 54 ; % = 88.5	n = 54 ; % = 88.5	n = 51 ; % = 86.4	n = 51 ; % = 86.4
Sample size				
Low stress Defined by a score of 32 or less	n = 9 ; % = 16.7	n = 35 ; % = 64.8	n = 8 ; % = 15.7	n = 12 ; % = 23.5
No of events				
High stress Defined by a score greater than 32	n = 45 ; % = 83.3	n = 19 ; % = 35.2	n = 43 ; % = 84.3	n = 39 ; % = 76.5
No of events				
Mental health symptoms (0-21) Self-reported - Pittsburgh Sleep Quality Index (C-PSQI)	n = 54 ; % = 88.5	n = 54 ; % = 88.5	n = 51 ; % = 86.4	n = 51 ; % = 86.4
Sample size				
Mental health symptoms (0-21) Self-reported - Pittsburgh Sleep Quality Index (C-PSQI)	9.98 (1.89)	7.61 (1.25)	10.24 (2.35)	10.31 (2.42)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Low stress - Yoga vs Usual practice**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - Job stress - High stress - Yoga vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Yoga vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Yoga (N = 61)

Brief name	Yoga [page 3374]
Rationale/theory/Goal	Yoga has been a traditional contemplative practice for thousands of years and has emerged as a health maintenance practice and therapeutic intervention in the early 20th century [page 3375]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Participants performed yoga regularly in the hospital yoga workshop under the guidance of a coach • To ensure adequate participation, participants were required to sign in for each session • The programme included physical postures, loosening exercises, breathing exercises and meditation <p>[page 3375]</p>
Provider	Coach [page 3375]
Method of delivery	Workshops [page 3375]

Setting/location of intervention	Workplace [page 3375]
Intensity/duration of the intervention	More than two times every week for 50 to 60 minutes each time [page 3374]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 59)

Brief name	Non-yoga group [page 3375]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Method of delivery	Not applicable

Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.48 Feicht, 2013

Bibliographic Reference Feicht, T; Wittmann, M; Jose, G; Mock, A; von Hirschhausen, E; Esch, T; Evaluation of a seven-week web-based happiness training to improve psychological well-being, reduce stress, and enhance mindfulness and flourishing: a randomized controlled occupational health study.; Evidence-based complementary and alternative medicine : eCAM; 2013; vol. 2013; 676953

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported

Study start date	2012
Study end date	2013
Aim	To determine whether web-based happiness training is effective in improving psychosocial and physiological parameter in an occupational health setting.
Country/geographical location	Germany
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: services/insurance • Size of organisation: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	<ul style="list-style-type: none"> • Regular access to the Internet at home • No vacation of longer than 1 week during the survey period • No prior knowledge of or experience with the online happiness training program
Exclusion criteria	Not reported
Method of randomisation	Stratified randomisation to ensure that where participants worked in smaller offices or shared direct office space, that both participants were allocated to the same group. This was to help prevent spill-over effects.
Method of allocation concealment	Not reported
Unit of allocation	Individual

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Data were analysed following adherence-to-protocol: those participants who completed all tests were evaluated. • Between-group values were compared (intervention vs control) for baseline, post-intervention and follow-up, as well as within-group values for the intervention group at baseline - post-intervention, post-intervention - follow up, and baseline - follow up, using nonparametric tests (some of the data were not normally distributed). • The between-group effects were computed with the Mann-Whitney <i>U</i> test and the within-group effects were computed with the Wilcoxon test. With the nonparametric statistics the rank order values are compared and statistical measures of central tendency such as mean or median are used for descriptive statistics. • Effect sizes were calculated using Cohen's <i>d</i>. • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 85 participants randomised, 77 (91%) completed the pre-test, 72 (85%) completed the post-intervention test, and 68 (80%) performed follow up measure. 54 (64%) participants completed all measures. • Control: Out of 62 participants randomised, 55 (89%) completed the pre-test, 57 (92%) completed the post-intervention test, and 51 (82%) completed the follow up measures. 47 (76%) participants completed all measures.
Study limitations (author)	<ul style="list-style-type: none"> • The sample was made up of voluntary participants who were mostly women • High drop-out rates • An active control was not used • No formal sample size estimations were performed. • There was no adjustment for potential cofounders
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self reported • There was no long term follow up • ITT analysis was not performed
Source of funding	Humor Hilft Heilen Foundation

Study arms

Web-based happiness training (N = 85)

85 participants were randomised to receive happiness training. Participants were from 2 participating departments at an insurance company, where the participating departments were chosen by the company.

Wait list (N = 62)

62 participants were randomised to a wait list. Participants were from 2 participating departments at an insurance company, where the participating departments were chosen by the company.

Characteristics

Arm-level characteristics

Characteristic	Web-based happiness training (N = 85)	Wait list (N = 62)
Age Characteristics for completers only: intervention n = 54; control n = 47	37.61 (7.72)	36.77 (10.42)
Mean (SD)		
Women	n = 41 ; % = 75.9	n = 29 ; % = 61.7
No of events		
Men	n = 13 ; % = 24.1	n = 18 ; % = 38.3
No of events		

Outcomes

Study timepoints

- Baseline
- 4 week (Follow up 4 weeks after training)

Employee outcomes

Outcome	Web-based happiness training, Baseline, N = 85	Web-based happiness training, 4 week, N = 85	Wait list, Baseline, N = 62	Wait list, 4 week, N = 62
Mental wellbeing (0 - 100) Self reported- WHO-Five Well-being Index (WHO-5) Sample size	n = 54 ; % = 63.5	n = 54 ; % = 63.5	n = 47 ; % = 75.8	n = 47 ; % = 75.8
Mental wellbeing (0 - 100) Self reported- WHO-Five Well-being Index (WHO-5) Mean (SD)	13.09 (4.17)	15.04 (4.32)	12.04 (5.61)	10.55 (5.34)
Job stress (0 - 100) Self reported - the Stress Warning Signals Scale Sample size	n = 54 ; % = 63.5	n = 54 ; % = 63.5	n = 47 ; % = 75.8	n = 47 ; % = 75.8
Job stress (0 - 100) Self reported - the Stress Warning Signals Scale Mean (SD)	184.8 (92.27)	133.09 (74.64)	207.6 (112.91)	217.74 (125.26)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Web-based happiness training vs Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcome)</i>

Employee outcomes - Job stress -Web-based happiness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcome)</i>

Study arms

Web-based happiness training (N = 85)

Brief name	Web-based happiness training [page 2]
Rationale/theory/Goal	Positive interventions help to implement and increase happiness-relevant activities. These are “treatment methods or intentional activities aimed at cultivating positive feelings, positive behaviours, or positive cognitions” [page 2]
Materials used	Emails [page 6]
Procedures used	<ul style="list-style-type: none"> • 7-week online training focusing on exercises for achieving a positive psychological state. • Participants attended an introductory event for relevant information.

	<ul style="list-style-type: none"> • In addition to an introductory week and a final week, there are 5 weeks with 1 happiness-relevant topic each (e.g., “joy of luck” or “joy of pleasure”). Each week has 3 exercises. • Participants received an email every week at work, explaining the current topic and the 3 exercises (time required: approximately 10–15 minutes, once a week). • Participants studied documents pertaining to the current topic during working hours, and the performance and documentation of the exercises took place at home during free time. <p>[pages 2 and 6]</p>
Provider	Web-based [page 6]
Method of delivery	Email [page 6]
Setting/location of intervention	Workplaces and home [page 6]
Intensity/duration of the intervention	7 weeks with approximately 10 to 15 minutes per week. [page 6]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	The German happiness training of Dr. Eckart von Hirschhausen [page 2]
Actual treatment fidelity	Not reported
Other details	<ul style="list-style-type: none"> • The training is voluntary, free of charge and can be accessed at http://www.glueck-kommt-selten-allein.de. [page 2]

Wait list (N = 62)

Brief name	Wait list [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants underwent the intervention after the study period [page 3]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.49 Flook, 2013

Bibliographic Reference Flook, Lisa; Goldberg, Simon B; Pinger, Laura; Bonus, Katherine; Davidson, Richard J; Mindfulness for teachers: A pilot study to assess effects on stress, burnout, and teaching efficacy.; Mind, Brain, and Education; 2013; vol. 7 (no. 3); 182-195

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2011
Aim	To adapt MBSR for teachers, explore the feasibility of the training, and measure the effect of mindfulness training on classroom teaching practices, attention, emotional regulation and stress.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Outcome data were presented as mean and SD Independent samples t-tests were conducted to determine if the groups differed at baseline. Paired samples t-tests were conducted on outcome measures to examine within group change over time from pre- to post-test. Cohen's (1988) d was computed using post-test scores and pooled post-test standard deviations using standard methods. Pearson's product moment correlations were used to examine relationships between changes across various measures. Difference scores capturing change over time (post-test minus pre-test) were calculated for all measures. ITT analysis - not reported Power calculations - not reported
Attrition	Not reported

Study limitations (author)	Small sample size with limited power to detect effects and multiple comparisons
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcome measures • Lack of clarity around whether there were any dropouts • No long-term follow up • Participants were mainly women; therefore, findings may not be generalisable to all workplaces
Source of funding	<ul style="list-style-type: none"> • Templeton Foundation • Fetzer Institute, and Impact Foundation • NICHD

Study arms

mMBSR (N = 10)

10 individuals, from 4 schools involved in the study, were randomised to receive a modified Mindfulness-Based Stress Reduction course (mMBSR).

Wait list (N = 8)

8 individuals, from 4 schools involved in the study, were randomised to a wait-list control group.

Characteristics

Study-level characteristics

Characteristic	Study (N = 18)
Gender Female	n = 16 ; % = 89
Sample size	
Ethnicity White	n = 17 ; % = 94
Sample size	
Socioeconomic status - education level Masters degree	n = 4 ; % = 22
Sample size	

Arm-level characteristics

Characteristic	mMBSR (N = 10)	Wait list (N = 8)
Age Mean (SD)	46.7 (6.95)	38.5 (11.49)

Outcomes

Study timepoints

- Baseline
- 0 week (Post-test data were collected over the course of approximately 3 weeks)

Employee outcomes

Outcome	mMBSR, Baseline, N = 10	mMBSR, 0 week, N = 10	Wait list, Baseline, N = 8	Wait list, 0 week, N = 8
Job stress Self-reported- Maslach Burnout Inventory-Educators Survey (MBI-ES) (emotional exhaustion subscale) Mean (SD)	25.9 (9.01)	19.2 (9.08)	20.38 (8.68)	21.63 (10.35)
Mental health symptoms Self-reported- Symptom Checklist 90R (SCL-90-R) Global Severity Index (GSI) Mean (SD)	53.3 (7.47)	45.5 (7.89)	53.88 (4.16)	49.88 (8.61)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - mMBSR vs Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - mMBSR vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

mMBSR (N = 10)

Brief name	modified Mindfulness-Based Stress Reduction course (mMBSR) [page 1]
Rationale/theory/Goal	Mindfulness training has been identified as a promising means for cultivating attention and reducing stress. The aim of the adapted version of MSBR is to make training engaging and accessible to teachers, while addressing concerns relevant to the role of teaching. [page 4]
Materials used	Guided recordings to support practice [page 5]
Procedures used	<ul style="list-style-type: none"> Participants received approximately 26 hours of group practice and instruction made up of a 6-hour immersion course and 2.5 hours per week of classes. Participants were encouraged to practice between 15 to 45 minutes per day for 6 days per week. <p>[page 5]</p>
Provider	MBSR instructors with over 15 years of experience [page 5]
Method of delivery	Classes and practice outside of class [page 5]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	The intervention lasted 8 weeks and involved approximately 26 hours of group practice and instruction. [page 5]

Tailoring/adaptation	The MBSR programme was adapted for teachers by presenting the training program exclusively for educators, extending the number of sessions, providing a variety of guided practice time options varying in length (e.g., 15 mins, 30 mins, 45 mins) and specific school related activities and practices. [page 5]
Unforeseen modifications	None reported
Planned treatment fidelity	modified MBSR training based on the Mindfulness-Based Stress Reduction (MBSR) course developed by Jon Kabat-Zinn at the University of Massachusetts Medical School [page 11]
Actual treatment fidelity	<ul style="list-style-type: none"> Participants reported spending on average 21.7 minutes (SD = 13.8) per day in formal practice and 7.5 minutes (SD = 4.7) per day in informal practice. During the course of the intervention, teachers reported engaging in formal practice 83.7% of days during the eight week course (M = 46.9 days, SD = 7.1) and informal practice 88.7% of days (M = 49.7 days, SD = 4.4). <p>[page 8]</p>
Other details	None

Wait list (N = 8)

Brief name	Wait list control [page 5]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> Participants were assigned to a waiting list [page 5]
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.50 Garbarino, 2020

Bibliographic Reference

Garbarino, Sergio; Tripepi, Giovanni; Magnavita, Nicola; Sleep Health Promotion in the Workplace.; International journal of environmental research and public health; 2020; vol. 17 (no. 21)

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	Jan-2016
Study end date	Dec-2017
Aim	To test whether: (1) there is an association between sleep problems and occupational accidents or near-miss accidents in police officers; (2) a workplace health promotion (WHP) program can improve the quantity and quality of sleep; (3) sleep improvement is associated with reduction of accidents and near-miss.
Country/geographical location	Italy
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: police service • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	All members of the police unit who had been in continuous service from 2009–2016
Exclusion criteria	Only 2 officers were female and, for homogeneity, they were excluded from subsequent analyses.
Method of randomisation	Assignment to the two groups was randomized by drawing lots.
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The characteristics of subgroups A and B were compared using the chi-square test, the Student t-test, and the Mann Whitney–Wilcoxon U test for independent samples. The McNemar test was used to evaluate the existence of differences in dichotomous data presence/absence) before and after the promotion program. Pre-post comparisons of continuous variables were performed with Student’s t-test and Mann Whitney–Wilcoxon U test for paired data. • The effect modification by study groups (A and B) on the time course (i.e., on the magnitude of the differences between the changes observed during the intermediate and the whole follow-up period) of the insomnia symptom score, hours of sleep, sleep satisfaction, and the ESS score was investigated by standard interaction analysis. • Analysis type (for example ITT) was not reported. • Sample size calculations were not reported.
Attrition	A count of 218 out of 242 (90.1%) completed the study. There was a lack of clarity around attrition.
Study limitations (author)	<ul style="list-style-type: none"> • The limited size of the sample • The lack of gender, racial, and ethnic heterogeneity, and the specific characteristics of the police activity carried out by this special unit prevented the results from being applicable for the police profession as a whole. • As no external control group was used, it was not possible to ascertain whether sleep benefits and the accident rate reduction were a consequence of participation in the study or some other confounding factor that was not taken into consideration in our design. • The statistical model used to study the relationship between the various measures of sleep problems and accidents and near-miss suffers a high degree of collinearity between the variables and must therefore be considered indicative. • Measurements were based only on self-reported survey data, where recall bias or observer effect are potential limitations.
Study limitations (reviewer)	None

Source of funding	The research used no external funding
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Study arms

Sleep health promotion (N = 114)

114 participants were randomised to the intervention arm. Participants from the police unit were invited to participate in the study.

Control (N = 104)

104 participants were randomised to the control arm. Participants from the police unit were invited to participate in the study.

Characteristics

Arm-level characteristics

Characteristic	Sleep health promotion (N = 114)	Control (N = 104)
Age		
Mean (SD)	41.6 (6.95)	42.7 (7.72)
Gender		
Men	n = 114 ; % = 100	n = 104 ; % = 100
No of events		

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes were measured after one year)

Employee outcomes

Outcome	Sleep health promotion, Baseline, N = 114	Sleep health promotion, 1 year, N = 114	Control, Baseline, N = 104	Control, 1 year, N = 104
Mental health symptoms Self-reported - Sleep Disorder Score questionnaire Mean (SD)	6.05 (1.85)	5.41 (1.49)	5.96 (1.81)	6.13 (1.86)

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Sleep health promotion - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Sleep health promotion (N = 114)

Brief name	Workplace sleep health promotion programme [page 1 - abstract]
Rationale/theory/Goal	Evidence-based training modules provided police officers with clinically relevant information to help them modify lifestyle habits that could affect their sleep hygiene. Throughout the training course, trainees learnt about basic sleep needs; the importance of sleep for health and safety; how to identify symptoms of sleep disorders; how to get screened for sleep disorders; and how to combat sleepiness and improve sleep hygiene on a day-to-day basis. [page 3]
Materials used	Training materials included a power point presentation with videos of case studies and a manual on sleep hygiene that was distributed to the police officers. [page 3]
Procedures used	<ul style="list-style-type: none"> The initial training content was organized into four areas: (1) the medical importance of sleep; (2) the relationship between sleep and wellbeing; (3) sleep apnoea and other sleep disorders; (4) sleepiness countermeasures and sleep hygiene. Training was designed to be interactive, and trainers encouraged and guided open discussion about sleep-related questions and concerns. During a booster session workers were asked to check if they had understood the principles indicated in the initial part of the training and, above all, if they had put these into practice. All workers were examined by an occupational health specialist, and also a specialist in sleep medicine, at the beginning and end of the observations. He gave workers who had sleep problems (difficulty falling asleep,

	<p>frequent sleep interruptions, or early awakenings) or were dissatisfied with the quantity or quality of sleep, additional counselling and reinforced sleep hygiene indications, without intervening with drugs, nor with non-pharmacological treatment, such as cognitive-behavioural treatment for insomnia.</p> <p>[page 3]</p>
Provider	Team involving a neurophysiologist, a psychologist, a physician, and an occupational health specialist. [page 3]
Method of delivery	Small groups of 10 to 20 trainees [page 3]
Setting/location of intervention	Workplace [page 1 -abstract]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • Initial training: two 4-hour sessions • Booster session: 4 hours <p>[page 3]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 104)

Brief name	Control [page 1 -abstract]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • Participants carried out training activities on general occupational hazards. [page 3] • Participants performed sleep health promotion activities in the first and second year [page 1 - abstract]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.51 Grabbe, 2020

Bibliographic Reference Grabbe, Linda; Higgins, Melinda K; Baird, Marianne; Craven, Patricia Ann; San Fratello, Sarah; The Community Resiliency Model R to promote nurse well-being.; Nursing outlook; 2020; vol. 68 (no. 3); 324-336

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To investigate stress and wellbeing in a sample of hospital-based nurses and determine if a short resiliency intervention focusing on sensory awareness, would impact their capacity to tolerate stress.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract: not reported • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	Nurses employed at two large, urban tertiary care hospitals
Exclusion criteria	Not reported

Method of randomisation	Details not reported
Method of allocation concealment	Details not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Descriptive statistics were computed for all demographics and final instrument scores at each time point (baseline, 1 week, 3 months and 1 year). • Pearson's correlation coefficients were used to analyse the associations between the measured variables at baseline. Missing data due to attrition were assessed using t-tests to compare baseline scores for those who completed one or more follow-up surveys vs. those who only completed the baseline survey. Multilevel linear models were used to model the repeated measures, adjust for missing data due to attrition over time, and compare changes over time between the two groups, followed-up by post hoc tests performed using Sidak pairwise error rate adjustment. • In addition to performing statistical models and tests with reported p-values, effect sizes (Cohen's d) were also computed based on the change scores from baseline to each follow-up time point (Cohen, 1988) to evaluate small (d = 0.2), moderate (d = 0.5), and large (d = 0.8) effect sizes to help determine clinically meaningful improvements. • The percentages of subjects whose scores improved from baseline were also reported. • Analysis type (ITT) not specified. • Analysis was performed using PASS 2019 (Power Analysis and Sample Size Software, 2019). Given that 119 (61%) of the 196 nurses enrolled did not attend a class, the repeated measures model tests were powered at 80% at the 5% level of significance to only detect large group-by-time interaction effect sizes (Cohen's f = 0.40 to 0.48) for a final sample size range of 50 to 70 subjects.
Attrition	<ul style="list-style-type: none"> • Intervention: 59 participants were lost to follow-up out of 99 participants randomised • Control: 60 participants were lost to follow-up out of 97 participants randomised

Study limitations (author)	<ul style="list-style-type: none"> • It may be that these individuals self-selected for the study and attended the class because they were stressed by their work and were looking for ways to improve their well-being; alternatively, stressed nurses may not have had the energy to participate. • Of the 196 nurses who consented and completed the pre-test, only 77 attended a class which lowered the statistical power to detect significant differences between the groups' improvement over time for only large group-by-time effects. • The maximum number of nurses at any class was eight, and often only two actually came (with several cancelling or not showing up). • The study depended on self-reported measurements about nurse individual well-being, resilience, secondary traumatic stress, burnout, and somatic symptom characteristics. • Although one of the study's strengths was its high participation rate in multiple follow-up surveys, the sample size was small, and may not have been representative of the general population of registered nurses, of multiple specialty areas, or of geographical location. • Some participants did not complete specific post-tests, although 45 completed all 4 time-point surveys. • There was one slight area of overlap in content between the intervention and control groups was mindful eating which could be regarded as a confounding variable.
Study limitations (reviewer)	None
Source of funding	Sigma Theta Tau and the Mundito Foundation

Study arms

Community Resiliency Model (N = 99)

99 participants were randomised to the intervention arm. Nurses were recruited via email invitation.

Control (N = 97)

97 participants were randomised to the control arm. Nurses were recruited via email invitation.

Characteristics

Study-level characteristics

Characteristic	Study (N = 77)
Gender	n = 77 ; % = 95
Women - Characteristics for completers only	
No of events	

Arm-level characteristics

Characteristic	Community Resiliency Model (N = 99)	Control (N = 97)
Age		
Mean (SD)	44.6 (13.4)	45.9 (13)

Outcomes

Study timepoints

- 12 month (After the intervention)

Employee outcomes

Outcome	Community Resiliency Model, 12 month, N = 99	Control, 12 month, N = 97
Mental wellbeing Using the WHO-5 Well-being Index (WHO-5)	n = 25 ; % = 25.3	n = 26 ; % = 26.8
Sample size		
Mental wellbeing Using the WHO-5 Well-being Index (WHO-5)	70.24 (16.74)	62.46 (18.93)
Mean (SD)		
Job stress Using the Copenhagen Burnout Inventory (CBI),	n = 25 ; % = 25.3	n = 26 ; % = 26.8
Sample size		
Job stress Using the Copenhagen Burnout Inventory (CBI),	43.9 (18.32)	38.22 (20.26)
Mean (SD)		

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Mental wellbeing - Community Resiliency Model vs Control (12 months follow-up)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-report outcomes</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Job stress - Community Resiliency Model vs Control (12 months follow-up)

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Self-report outcomes</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-report outcome</i>)

Study arms

Community Resiliency Model (N = 99)

Brief name	Community Resiliency Model (CRM) [page 325]
Rationale/theory/Goal	CRM is a simple, innovative, self-care program that provides a biological perspective on mental health and stress reactions. Mental well-being is enhanced through the use of sensory awareness skills. CRM is not therapy, but is based on the well-established psychotherapy approach of Somatic Experiencing, which uses body sensation perception to treat trauma-related symptoms. [page 325]
Materials used	Free CRM “ichill” app [page 328]
Procedures used	<ul style="list-style-type: none"> • Participants in the intervention group attended a 3- hour class CRM psychoeducation/sensory awareness skills training class. • Classes used lecture, active engagement, discussion, demonstration, and participation. • Participants could access the free CRM “ichill” app after the class. <p>[page 328]</p>

Provider	Certified CRM Teachers trained by California's Trauma Resource Institute [pages 328 and 329]
Method of delivery	Classes with between 2 and 8 participants [page 334]
Setting/location of intervention	Shared hospital university space [page 329]
Intensity/duration of the intervention	3-hour class [page 328]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	<ul style="list-style-type: none"> • All participants earned 3 continuing education unit (CEU) certificates. • Participants were given a variety of time options to take their class. Nurses were enrolled and attended classes between May, 2017, and May, 2018. • No specific incentives were provided for completing post-tests at subsequent time points, aside from early notification of research results and the potential benefit of making a contribution to the profession. <p>[page 329]</p>

Control (N = 97)

Brief name	Nutrition education control [page 324 - abstract]
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Rationale/theory/Goal	Identification of “comfort foods,” “teach back” of the brain model by participants, skills stations, and various active experiences, such as mindful eating. [page 328]
Materials used	“My Plate” app [page 328]
Procedures used	<ul style="list-style-type: none"> • Participants attended a 3-hour class on nutrition/healthy eating. • Participants learned to use the user-friendly, free “My Plate” app. • Classes used lecture, active engagement, discussion, demonstration, and participation. <p>[page 328]</p>
Provider	Certified Health Coach with assistance and consultation with a registered dietician [page 329]
Method of delivery	Classes with between 2 and 8 participants [page 334]
Setting/location of intervention	Shared hospital university space [page 329]
Intensity/duration of the intervention	3-hour class [page 328]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	<ul style="list-style-type: none"> • All participants earned 3 continuing education unit (CEU) certificates.

- Participants were given a variety of time options to take their class. Nurses were enrolled and attended classes between May, 2017, and May, 2018.
- No specific incentives were provided for completing post-tests at subsequent time points, aside from early notification of research results and the potential benefit of making a contribution to the profession.

[page 329]

D.52 Grant, 2010

Bibliographic Reference

Grant, Anthony M; Green, L. S; Rynsaardt, Josephine; Developmental coaching for high school teachers: Executive coaching goes to school.; Consulting Psychology Journal: Practice and Research; 2010; vol. 62 (no. 3); 151-168

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To explore the impact of coaching on goal attainment, mental health, workplace well-being, and resilience.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: mixed

	<ul style="list-style-type: none"> Income: professional (teachers)
Inclusion criteria	All teaching staff including the principal, deputy principal, heads of houses, and more junior teaching staff were invited to participate in the program.
Exclusion criteria	Not reported
Method of randomisation	Participants were randomised following completion of baseline measures. Details of randomisation were not reported.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> No power calculations were reported Participants who did not complete all the questionnaires or did not attend all the coaching sessions were excluded from analysis. Data were analysed using a 2 X 2 repeated measures analysis of variance (ANOVA) consisting of one between-subjects factor (group) and one within-subject factor (time) to analyse the data for Time 1 and Time 2. Paired sample t tests were used to analyse the LSI data. Where assumptions of normal distribution were not met, the Wilcoxon signed-ranks test was used. Given the relatively small sample sizes, the experiment-wise error rate was not controlled for and this should be borne in mind when interpreting the results. Cohen's d was given as a measure of effect size.
Attrition	<p>Because of unexpected changes in work demands, new appointments, or sick leave, six individuals (12%) were not able to complete all of the questionnaires or</p> <p>attend all coaching sessions within the specified timeframe. Data from these individuals have been dropped from the analysis.</p>

Study limitations (author)	<ul style="list-style-type: none"> • Participants were teachers in an independent Australian high school, and as such they may have characteristics different from teachers in the public sector or in other countries and cultures. Thus, the findings of this study may not necessarily generalise to other populations. • Outcome measures are self-report and could be subject to a demand characteristics effect where participants may have felt obliged to report a positive outcome. • It may be that the effects found in this study were due to the supportive nature of the coach–coachee relationship rather than the goal-directed nature of the coaching process itself.
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms

Developmental coaching (N = 23)

23 participants from the intervention group completed outcome measures. 50 study participants were randomised. All teaching staff from a single school were invited to participate.

Wait list (N = 21)

21 participants from the control group completed outcome measures. 50 study participants were randomised. All teaching staff from a single school were invited to participate.

Characteristics

Study-level characteristics

Characteristic	Study (N = 44)
Age	43.21 (<i>empty data</i>)
Mean (SD)	
Women	n = 31 ; % = 70.5
No of events	
Men	n = 13 ; % = 70.5
No of events	

Outcomes

Study timepoints

- Baseline
- 10 month (Outcomes were measured at 10 months after the final coaching session)

Employee outcomes

Outcome	Developmental coaching, Baseline, N = 23	Developmental coaching, 10 month, N = 23	Wait list, Baseline, N = 21	Wait list, 10 month, N = 21
Mental wellbeing				
Self-reported- Workplace Wellbeing Index (WWI)	125.92 (21.49)	132.65 (19.46)	123.38 (27.29)	117.89 (30.14)
Mean (SD)				

Outcome	Developmental coaching, Baseline, N = 23	Developmental coaching, 10 month, N = 23	Wait list, Baseline, N = 21	Wait list, 10 month, N = 21
Job stress Self-reported- Stress subscale of Depression, Anxiety and Stress scale (DASS) Mean (SD)	15.3 (10.55)	8.37 (5.64)	13.23 (10.36)	14.57 (10.5)
Mental health symptoms Self-reported- depression subscale of Depression, Anxiety and Stress scale (DASS) Mean (SD)	6.3 (8.57)	3 (5.66)	7.42 (9.23)	5.8 (9.67)
Resilience Self-reported- 18-item version of the Cognitive Hardiness Scale Mean (SD)	111.5 (11.29)	112.73 (10.64)	108.66 (11.52)	104.57 (12.04)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Developmental coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity around missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes)</i>

Employee outcomes - Job stress - Developmental coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity around missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Developmental coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity around missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes)</i>

Employee outcomes - Resilience - Developmental coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity around missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, lack of clarity around missing outcome data and self-reported outcomes)</i>

Study arms

Developmental coaching (N = 23)

Brief name	Developmental coaching [page 151 - title]
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Rationale/theory/Goal	The coaching used a cognitive-behavioural, solution-focused approach and was informed by theories of self-leadership and transformational leadership. [page 151 - abstract]
Materials used	Multirater feedback measures [page 155]
Procedures used	<ul style="list-style-type: none"> • All participants attended an introductory meeting. • The process consisted of multirater feedback on participants' existing leadership styles followed by 10 individual leadership coaching sessions over a 20-week period. • In line with the goal-directed nature of the coaching program, and to ensure that the coaching conversations stayed focused on the designated goals, the GROW (i.e., Goal, Reality, Options, Way forward) model was used to structure each coaching session. • As multirater feedback can be emotionally disturbing, in line with best practice, participants were contacted within 48 hr after the initial session to monitor their reactions to the feedback. <p>[pages 155, 156 and 157]</p>
Provider	Experienced professional coaches - all coaches had tertiary-level postgraduate qualifications in coaching psychology. [page 157]
Method of delivery	Individual coaching sessions [page 155]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	10 coaching sessions were held over a 20-week period. Coaching sessions were scheduled at 1- to 2-week intervals. [page 156]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	To ensure program fidelity and in line with best practice for reflective practitioners, all coaches kept detailed notes of each coaching session and completed a structured self-reflection journal following each coaching session. Coaches noted what had worked well in the session, what needed to be improved, and whether or not there were any difficulties (e.g.,

	coachee engagement, perceived resistance to change, goal clarification issues) that needed to be discussed in supervision (for details of reflective practice in coaching, see Hay, 2007). These notes were then reviewed in formal supervision sessions. Supervision was provided by a doctoral-level psychologist with extensive experience in developmental and leadership coaching and coaching psychology. [page 157]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 21)

Brief name	Wait list [page 155]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	All participants attended an introductory meeting. [page 155]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.53 Griffith, 2008

Bibliographic Reference

Griffith, Jay M; Hasley, Joseph P; Liu, Hong; Severn, Daniel G; Conner, Latoya H; Adler, Lawrence E; Qigong stress reduction in hospital staff.; Journal of alternative and complementary medicine (New York, N.Y.); 2008; vol. 14 (no. 8); 939-45

Study details

Trial registration number	Not reported
Aim	To investigate the effectiveness of a qigong training programme in reducing stress in hospital staff.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported

	<ul style="list-style-type: none"> • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	<ul style="list-style-type: none"> • Medical problems that would limit their ability to perform exercise of mild-to-moderate intensity • Individuals that used another mind-body practice more frequently than once per week
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Between-group comparisons of demographic characteristics, baseline measures, and changes in measures from baseline to study completion were analysed by pre-planned t tests. • Regression analyses were used to evaluate the impact of practice duration and initial Perceived Stress Scale (PSS) scores on changes in PSS scores. • ITT analysis - not reported • No power calculations reported
Attrition	<ul style="list-style-type: none"> • Intervention: 9 out of 25 participants (36%) did not complete the study. Five participants withdrew for unknown reasons, 3 withdrew for personal reasons, and 1 withdrew due to medical disqualification.

	<ul style="list-style-type: none"> Control: 4 out of 25 participants (16%) did not complete the study. two participants were lost to follow-up, 1 began an outside mind-body practice, and 1 withdrew due to medical disqualification.
Study limitations (author)	<ul style="list-style-type: none"> Small sample size may have generated type II errors in quality of life and vital sign measures A longer intervention period may have resulted in greater differences between intervention and control groups
Study limitations (reviewer)	Self-reported outcomes
Source of funding	<ul style="list-style-type: none"> Department of Veteran Affairs National Institutes of Mental Health Department of Defense

Study arms

Qigong (N = 25)

25 participants were randomised to the qigong treatment group. Participants from a single medical centre self-selected following distribution of recruitment materials including flyers and emails.

Wait list (N = 25)

25 participants were randomised to the wait-list control group. Participants from a single medical centre self-selected following distribution of recruitment materials including flyers and emails.

Characteristics

Arm-level characteristics

Characteristic	Qigong (N = 25)	Wait list (N = 25)
Age		
Mean (SD)	52 (9)	50 (10)
Men		
No of events	n = 4 ; % = 25	n = 5 ; % = 23
Women		
No of events	n = 12 ; % = 75	n = 17 ; % = 77

Outcomes

Study timepoints

- Baseline
- 6 week (Follow-up at 6 weeks after the beginning of the study)

Employee outcomes

Outcome	Qigong, 6 week vs Baseline, N = 25	Wait list, 6 week vs Baseline, N = 25
Mental wellbeing		
Self-reported - Role emotional subscale of SF-36	n = 16 ; % = 64	n = 21 ; % = 84
Sample size		
Mental wellbeing		
Self-reported - Role emotional subscale of SF-36	14.6 (24.1)	19.1 (34.3)
Mean (SD)		

Outcome	Qigong, 6 week vs Baseline, N = 25	Wait list, 6 week vs Baseline, N = 25
Job stress (0-40) Self-reported - Perceived stress scale (PSS)	n = 16 ; % = 64	n = 21 ; % = 84
Sample size		
Job stress (0-40) Self-reported - Perceived stress scale (PSS)	-4.5 (6.6)	0.4 (4.9)
Mean (SD)		
Mental health symptoms Self-reported - Mental health subscale of SF-36	n = 16 ; % = 64	n = 21 ; % = 84
Sample size		
Mental health symptoms Self-reported - Mental health subscale of SF-36	73.3 (17.3)	69.1 (24.5)
Mean (SD)		
Quality of life Self-reported- General health subscale of SF-36	n = 16 ; % = 64	n = 21 ; % = 84
Sample size		
Quality of life Self-reported- General health subscale of SF-36	1.9 (18.4)	3.6 (15.8)
Mean (SD)		

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Higher values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Qigong vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes - Job stress - Qigong vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes -Mental health symptoms - Qigong vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Employee outcomes - Quality of life - Qigong vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Attrition and self-reported outcomes)</i>

Study arms

Qigong (N = 25)

Brief name	Qigong practice [page 939]
Rationale/theory/Goal	The medical qigong set utilized in this study emphasizes precise movements intended to create a sensation of pressure or stretching of muscle and/or connective tissue at targeted acupuncture points. [page 942]
Materials used	<ul style="list-style-type: none"> • DVD demonstrating instructor performing the exercises • Manual that outlined the acupuncture meridians and rationale for the exercises <p>[page 940]</p>
Procedures used	<ul style="list-style-type: none"> • Participants attended a 1-hour noon qigong class twice weekly • Participants were asked to practice independently for 30 minutes on non-class days • During class sessions, subjects practiced movements until they experienced a sensation of stretching or pressure in the targeted acupuncture points.

	<ul style="list-style-type: none"> The qigong movements were synchronized with specific breathing patterns, and subjects were instructed to inhale and exhale fully at a comfortable rate, with a target respiratory rate of 6 breaths or fewer per minute. <p>[page 940 and 941]</p>
Provider	Senior apprentice in qigong with over 17 years experience in qigong [page 940]
Method of delivery	<ul style="list-style-type: none"> Group classes At-home practice <p>[page 940]</p>
Setting/location of intervention	Workplace and at home [page 940]
Intensity/duration of the intervention	<ul style="list-style-type: none"> 6-week intervention 1-hour group classes twice per week and 30 minutes of individual practice on non-class days <p>[page 940]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	The qigong exercises employed were The Basic Eight®, a medical qigong set consisting of 8 exercises designed by qigong grandmaster Hong Liu to activate 14 of the meridians commonly employed by acupuncturists: the lung, large intestine, stomach, spleen, heart, small intestine, urinary bladder, kidney, heart governor, triple heater, gallbladder, liver, and conception and governing vessels. [page 941]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 25)

Brief name	Wait list [page 940]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.54 Griffiths, 2016

Bibliographic Reference Griffiths, Kathleen M; Bennett, Kylie; Walker, Jennie; Goldsmid, Susan; Bennett, Anthony; Effectiveness of MH-Guru, a brief online mental health program for the workplace: A randomised controlled trial.; Internet interventions; 2016; vol. 6; 29-39

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	ANZCTR N 12613001083785
Study start date	Jul-2014
Study end date	May-2015
Aim	To determine whether an online psychoeducation programme is effective in increasing anxiety and depression literacy, decreasing negative attitudes to these conditions, providing advice to supervisors and colleagues to assist co-workers with mental ill-health and promoting help seeking.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large

	<ul style="list-style-type: none"> • Contract type: mixed (permanent and non-permanent) • Seniority: mixed (managers and non-managers) • Income: mixed (mixed education levels)
Inclusion criteria	Employees aged at least 18 years
Exclusion criteria	There were no exclusion criteria
Method of randomisation	Participants were randomised prior to completing baseline measures. Randomisation was performed via automated computer-generated random number assignment that employed a stratified block design procedure. Stratification variables were gender and management/general staff status.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Differences in the baseline characteristics of post-test and follow-up survey completers and non-completers were examined for each demographic, clinical and outcome variable data using parametric (ANOVAs, t-test) and non-parametric (Pearson chi-square) tests to investigate attrition bias and explore potential threats to internal study validity. • Outcome data were analysed on an intent-to-treat basis • Continuous outcome data were analysed by SPSS 22 (IBM Corp, 2013) using linear mixed model repeated-measures analysis (MMRM) and an unstructured covariance matrix. A mixed models analysis was used to accommodate missing data. • Data were assumed to be missing at random. • Custom contrasts were used to compare the difference between the intervention and the control group in change over time from baseline to post-test and also from baseline to 6-month follow-up. • Dichotomous outcome data (self-reported help seeking behaviour) were analysed by SPSS 22 (IBM Corp, 2013) using Generalised Estimating Equations (GEE) and an unstructured working correlation matrix. • The magnitude of each effect size was described in accordance with the guidelines suggested by Cohen (1988).

	<ul style="list-style-type: none"> A priori it was calculated that a sample size of 352 employees was required to achieve a between group effect size of 0.3 following the intervention with power of 0.80, and an alpha of 0.05. Assuming 60% attrition at post-test, it was calculated that a total of 880 employees (440 per condition) were required for randomisation.
Attrition	<ul style="list-style-type: none"> Intervention: out of 255 randomised participants, 187 (73.3%) participants completed post-intervention tests, and 125 (49.0%) participants completed 6-month follow-up. Control: out of 252 randomised participants, 199 (79.0%) participants completed post-intervention tests, and 154 (61.1%) participants completed 6-month follow-up.
Study limitations (author)	<ul style="list-style-type: none"> High attrition at 6 months Failure to separate out information and treatment help seeking outcomes Absence of a measure of treatment help-seeking behaviour for the 6-month period prior to the final follow-up It is also possible that participants in the MH-Guru group counted information from the MH-Guru program when responding to the question: "In the last two weeks, have you sought information or treatment for depression or anxiety". Randomisation was not conducted at the organisational level, however there was no evidence of contamination Study population was self-selected The study focused on a single government organisation Statistical analyses included multiple comparisons which may have generated spuriously significant results due to type 1 error.
Study limitations (reviewer)	<ul style="list-style-type: none"> Self-reported outcomes
Source of funding	NHMRC, ANU, ACT Government, Australian Commonwealth Department of Health

Study arms

Psychoeducational programme (N = 255)

255 participants were randomised to the intervention group. Participants self-selected from a single organisation following distribution of recruitment materials.

Wait list (N = 252)

255 participants were randomised to the control group. Participants self-selected from a single organisation following distribution of recruitment materials.

Characteristics

Arm-level characteristics

Characteristic	Psychoeducational programme (N = 255)	Wait list (N = 252)
Age		
Mean (SD)	44.4 (11.2)	44.6 (11.5)
Men		
No of events	n = 74 ; % = 29	n = 59 ; % = 23.4
Women		
No of events	n = 180 ; % = 70.6	n = 193 ; % = 76.6
Socioeconomic - educational level		
Tertiary educated	n = 182 ; % = 71.4	n = 175 ; % = 69.4
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured at 6 months after the intervention)

Employee outcomes

Outcome	Psychoeducational programme, Baseline, N = 255	Psychoeducational programme, 6 month, N = 255	Wait list, Baseline, N = 252	Wait list, 6 month, N = 252
Uptake of support services Generalised Help-Seeking Questionnaire	n = 255 ; % = 100	n = 121 ; % = 47.5	n = 252 ; % = 100	n = 154 ; % = 61.1
Sample size				
Uptake of support services Generalised Help-Seeking Questionnaire	14.9 (3.8)	17.5 (2.4)	14.9 (3.6)	14.8 (4)
Mean (SD)				
Mental health literacy (0-12) The Depression Literacy Scale (D-Lit)	n = 255 ; % = 100	n = 122 ; % = 47.8	n = 252 ; % = 100	n = 154 ; % = 61.1
Sample size				
Mental health literacy (0-12) The Depression Literacy Scale (D-Lit)	43.8 (13.4)	45.6 (13.6)	41.9 (13)	42.2 (13.2)

Outcome	Psychoeducational programme, Baseline, N = 255	Psychoeducational programme, 6 month, N = 255	Wait list, Baseline, N = 252	Wait list, 6 month, N = 252
Mean (SD)				

Uptake of support services - Polarity - Higher values are better

Mental health literacy - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Uptake of support services - Psychoeducational programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in intervention group)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (Outcome measures were self-reported)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (Missing outcome data and self-reported outcomes)

Employee outcomes - Mental health literacy - Psychoeducational programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in intervention group)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (Outcome measures were self-reported)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	High (Missing outcome data and self-reported outcomes)

Study arms

Psychoeducational programme (N = 255)

Brief name	Psychoeducational programme - Mental Health (MH-Guru) [page 30]
Rationale/theory/Goal	MH-Guru was designed to increase anxiety and depression literacy, decrease negative attitudes to these conditions, provide advice to supervisors and colleagues to assist co-workers with mental ill-health and promote help seeking. [page 30]
Materials used	Online - simple multi-media, interactive format containing graphics and in-program exercises [page 30]
Procedures used	<ul style="list-style-type: none"> • MH-Guru comprises two modules, the first focused on depression and the second on generalised anxiety disorder. • Each module is comprised of information about the condition including its prevalence, symptoms, how to identify if a person is depressed, a symptom checker, treatments, risk factors, myth busting, advice to supervisors, advice to colleagues of a person with depression/anxiety and sources of help. • The program is presented in a simple multi-media, interactive format containing graphics and in-program exercises. Video vignettes of consumers with lived experience of depression or anxiety reinforce the program content and were incorporated as a proxy form of contact since. • Participants were invited to complete one module of MH-Guru per week. • Participants could seek technical support from the ANU research team. The protocol required the trial manager to contact an in-house clinical psychologist should a participant contact them in distress <p>[page 30]</p>
Provider	the programme was scripted by the researcher and was developed by Australian National University. [page 30]

Method of delivery	Online [page 30]
Setting/location of intervention	Participants were advised that their employer had agreed that they could complete the surveys and intervention during work hours. However, they were also provided the option of completing the study at home, if they preferred. [page 30]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • Intervention completed over 2 weeks • 2 modules each taking approximately 30 minutes to complete <p>[page 30]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	No
Other details	None

Wait list (N = 252)

Brief name	Wait list [page 30]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable

Procedures used	Participants were offered the opportunity to complete the MH-Guru programme after the 6-month trial period [page 30]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.55 Harris, 2016

Bibliographic Reference

Harris, Alexis R; Jennings, Patricia A; Katz, Deirdre A; Abenavoli, Rachel M; Greenberg, Mark T; Promoting stress management and wellbeing in educators: Feasibility and efficacy of a school-based yoga and mindfulness intervention.; Mindfulness; 2016; vol. 7 (no. 1); 143-154

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Aim	To investigate the feasibility and efficacy of a new yoga-based CI, CALM (Community Approach to Learning Mindfully), as a support for educator wellbeing.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed
Inclusion criteria	Participants were eligible if they were not currently pregnant or under a doctor's orders to refrain from physical activity.
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Analysis of covariance (ANCOVA) models tested intervention impacts with the following covariates: pre-test level of each outcome variable, gender, and years teaching. • Two-tailed significance with an alpha level of 0.05 was used, but given the reduced power from a small sample, $\alpha=0.10$ was used to indicate noteworthy trends. • Analyses followed an intent-to-treat design, and all participants were included in the analyses regardless of their participation in the intervention. • Effect sizes (Cohen's d) and confidence intervals were calculated according to Smithson (2003) using the t test of the intervention parameter in each ANCOVA model. • Sample size calculations were not reported
Attrition	<ul style="list-style-type: none"> • Intervention: no attrition • Control: 1 participant did not complete post-test out of 29 participants in the control group.
Study limitations (author)	<ul style="list-style-type: none"> • The sample was relatively small and homogenous in terms of race and SES and confined to only two schools in a relatively advantaged district. • Intervention assignment was by school, rather than by individuals, both to protect against contamination effects as well as follow our logic model, which conceptualized whole building supports for wellbeing. While including a control group was a strength in the study, the two-school design limits generalizability, poses a violation of the ANCOVA assumption of the independence of groups, and does not allow for the use of multi-level modelling to account for the nesting of teachers in schools. • The study used a waitlist control rather than an active control condition.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	1440 Foundation and the Penn State Children, Youth, and Families Consortium

Study arms**Yoga and mindfulness (N = 34)**

1 school was randomised to the intervention arm.

Wait list (N = 30)

1 school was randomised to the control arm.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 64)
Age	43 (12.53)
Mean (SD)	
Gender	n = 56 ; % = 88
Women - n calculated from % by reviewer	
No of events	
Ethnicity	n = 63 ; % = 98
White - n calculated from % by reviewer	
No of events	
Socioeconomic - annual household income	80,000 to 89,000
Mean (\$)	
Custom value	

Outcomes

Study timepoints

- Baseline
- 6 month (Baseline measures were collected in Fall of year 1, and follow-up measures were collected in Spring of year 1.)

Employee outcomes

Outcome	Yoga and mindfulness, Baseline, N = 34	Yoga and mindfulness, 6 month, N = 34	Wait list, Baseline, N = 30	Wait list, 6 month, N = 30
Mental wellbeing Self-reported - Positive affect subscale of PANAS. No ICC reported	n = 34 ; % = 100	n = 34 ; % = 100	n = 30 ; % = 100	n = 29 ; % = 96.7
Sample size				
Mental wellbeing Self-reported - Positive affect subscale of PANAS. No ICC reported	3.51 (0.64)	3.7 (0.69)	3.15 (0.74)	3.24 (0.77)
Mean (SD)				
Job stress Self-reported - Perceived stress scale. No ICC reported	n = 34 ; % = 100	n = 34 ; % = 100	n = 30 ; % = 100	n = 29 ; % = 96.7
Sample size				
Job stress Self-reported - Perceived stress scale. No ICC reported	1.42 (0.87)	1.15 (0.84)	1.44 (0.88)	1.34 (0.92)
Mean (SD)				

Outcome	Yoga and mindfulness, Baseline, N = 34	Yoga and mindfulness, 6 month, N = 34	Wait list, Baseline, N = 30	Wait list, 6 month, N = 30
Mental health symptoms Self-reported - the PROMIS sleep-related impairment scale. No ICC reported	n = 34 ; % = 100	n = 34 ; % = 100	n = 30 ; % = 100	n = 29 ; % = 96.7
Sample size				
Mental health symptoms Self-reported - the PROMIS sleep-related impairment scale. No ICC reported	18.71 (7.03)	17.47 (6.1)	20.6 (7.03)	20 (7.29)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Employee outcomes - Mental wellbeing - Yoga and mindfulness - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (Positive affect was higher in the intervention group at baseline)
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Some concerns (Positive affect was higher in the intervention group at baseline)

Section	Question	Answer
		<i>the intervention group at baseline)</i>
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Self-reported outcomes and issues with randomisation)</i>

Employee outcomes - Job stress - Yoga and mindfulness - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Positive affect was higher in the intervention group at baseline)</i>
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Some concerns <i>(Positive affect was higher in the intervention group at baseline)</i>

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Self-reported outcomes and issues with randomisation)</i>

Employee outcomes - Mental health symptoms - Yoga and mindfulness - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Positive affect was higher in the intervention group at baseline)</i>
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Some concerns <i>(Positive affect was higher in the intervention group at baseline)</i>

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Self-reported outcomes and issues with randomisation</i>)

Study arms

Yoga and mindfulness (N = 34)

Brief name	School-Based Yoga and Mindfulness Intervention [page 143 - abstract]
Rationale/theory/Goal	The intervention was manualized, and each week involved a different thematic focus (e.g., present-centred awareness, balance, acceptance, contentment) with variations on the theme in each of the four daily sessions. [page 145]
Materials used	Participants received weekly personal practice cards that provided examples of when and how specific brief strategies might be used during the school day to manage stress and support wellbeing. These personal practice cards included written instructions for one specific focal practice taught during the week's classes. They also included a summary of the curriculum focus for the week (the conceptual theme, the focal movement skills, and breathing practice) and a written reflection connecting the conceptual theme to professional wellbeing. [page 146]
Procedures used	<ul style="list-style-type: none"> Intervention sessions were scripted and a typical session included (a) 3 min of centring and setting an intention for the practice; (b) 2 min of breathing practices; (c) 7–10 min of movement/posture practice; (d) revisiting the

	<p>breathing practice; (e) 4 min of a relaxation/meditation practice (varied focus on relaxation, mindfulness, self-care, compassion, loving-kindness, and gratitude); and (f) 1-min closing practice involving setting an intention for the workday. In addition, the focal skills and intentions for each session, e.g., “beginner’s mind,” present-centred awareness, acceptance, etc., were integrated into the instruction of the movement/posture practices.</p> <ul style="list-style-type: none"> • To increase accessibility for participants of all fitness levels and to allow for participation in work clothes, options were always given for mat or chair-based practice. • Participants were always provided both a mat and a chair. • Movement practices usually included a gentle warm-up sequence of postures coordinated with breath, modified sun salutations, and additional postures that varied weekly depending on the focal practice for the week (e.g., standing poses, balance poses, back bends). Breathing exercises also rotated weekly and included practices such as diaphragmatic breathing, “three-part breath,” and alternate nostril breathing. The intention was to provide instruction and experience in a variety of practices so that participants would have a menu of options from which to build their own personal practice. • Participants were not expected to attend every session but were encouraged to attend at least 2 days/week and to use practices outside of the sessions. <p>[pages 145 and 146]</p>
Provider	A certified yoga instructor with experience in other meditation practices. [page 145]
Method of delivery	Group sessions [page 145]
Setting/location of intervention	Workplace [page 145]
Intensity/duration of the intervention	64 intervention sessions, each lasting approximately 20 minutes, for four days/week for 16 weeks [page 145]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Participants were paid for assessments [page 145]

Wait list (N = 30)

Brief name	Wait list [page 145]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the intervention in year 2 [page 145]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	Participants were paid for assessments [page 145]

D.56 Hartfiel, 2012

Bibliographic Reference

Hartfiel, N; Burton, C; Rycroft-Malone, J; Clarke, G; Havenhand, J; Khalsa, S B; Edwards, R T; Yoga for reducing perceived stress and back pain at work.; Occupational medicine (Oxford, England); 2012; vol. 62 (no. 8); 606-12

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jan-2011
Study end date	Jun-2011
Aim	To determine the effectiveness of a yoga-based intervention for reducing perceived stress and back pain at work.

Country/geographical location	UK
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: local government • Organisation size: large • Contract type: not reported • Seniority: mixed (managers and non-managers) • Income: mixed (local authority officers, health/education/social care professionals, managers and admin staff)
Inclusion criteria	Participants with bothersomeness scores of 2 or more for stress and/or back pain
Exclusion criteria	<ul style="list-style-type: none"> • Participants already practising yoga or yoga-related activities once per week • Participants with 'at risk' health conditions (e.g. recent surgery, spinal disc problems, first trimester pregnancy)
Method of randomisation	Participants were stratified and randomised by the UK-registered Bangor Trials Unit (NWORTH)
Method of allocation concealment	Participants were randomised by NWORTH
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Outcomes were reported as means and SE for individuals who completed both baseline and follow-up tests • Prior to analysis, all data were checked for homogeneity of variances and homogeneity of regression lines. Normality was examined using Q-Q plots and Box-plots. • Pairwise deletion was used to treat the very small number of missing values from each of the outcome measures. Using baseline scores as covariates, effects of the intervention were determined using analysis of variance

	<p>(ANOVA), and multiple linear regression when appropriate, for end-programme scores of PSS, RMDQ and all 10 domains of PANAS-X.</p> <ul style="list-style-type: none"> • Significance was assessed at $P < 0.05$. The effect of the yoga intervention on all domains was corrected by using a false discovery rate (FDR) approach ($Q < 0.05$) • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Of the 74 participants, 59 (80%) completed both the baseline and end-programme questionnaires • Intervention: 33 out of 37 randomised participants completed both questionnaires (89%) • Control: 26 out of 37 randomised participants completed both questionnaires (70%)
Study limitations (author)	<ul style="list-style-type: none"> • Sample was self-selected, and therefore it was representative of employees interested in workplace yoga. • Hawthorne and/or placebo effects in the yoga group may have influenced the results • Observed improvement in domain scores for the yoga group may have been caused by such non-specific factors such as participation in a new group and the resulting group social support, positive interactions with the instructor and/or a high degree of participant effort and investment, as well as by the yoga intervention itself. • No restrictions were placed on the activities of either the yoga or the control groups during the intervention period, and we did not collect any data on treatment interventions received outside work. Thus, the possibility cannot be excluded that (unregulated) activities of the participants during the study period may have influenced their end-programme scores. • The difference in dropout rates between the yoga group (11%) and the control group (30%) may have also influenced the results • The study addressed only short-term changes
Study limitations (reviewer)	Self-reported outcomes
Source of funding	Technology Strategy Board and the Welsh Government

Study arms

Yoga (N = 37)

37 participants were randomised to the yoga group. Participants self-selected via information provided at health promotion events.

Wait list (N = 37)

37 participants were randomised to the control group. Participants self-selected via information provided at health promotion events.

Characteristics

Arm-level characteristics

Characteristic	Yoga (N = 37)	Wait list (N = 37)
Age Characteristics for participants that completed both questionnaires only (yoga: n = 33; control n = 26) Mean (SD)	46.1 (11.5)	43.6 (11.5)
Women % calculated by reviewer from n No of events	n = 29 ; % = 88	n = 24 ; % = 92
Men % calculated by reviewer from n No of events	n = 4 ; % = 12	n = 2 ; % = 8

Outcomes

Study timepoints

- Baseline
- 0 week (Follow-up at end of the 8-week yoga programme)

Employee outcomes

Outcome	Yoga, Baseline, N = 37	Yoga, 0 week, N = 37	Wait list, Baseline, N = 37	Wait list, 0 week, N = 37
Mental wellbeing Self-reported - PANAS-X - SD calculated from SE by reviewer	n = 33 ; % = 89.2	n = 33 ; % = 89.2	n = 26 ; % = 70.3	n = 26 ; % = 70.3
Sample size				
Mental wellbeing Self-reported - PANAS-X - SD calculated from SE by reviewer	210.2 (27.11)	233.4 (28.03)	203.1 (35.59)	205.8 (32.63)
Mean (SD)				
Mental wellbeing Self-reported - PANAS-X - SD calculated from SE by reviewer	210.2 (4.72)	233.4 (4.88)	203.1 (6.98)	205.8 (6.4)
Mean (SE)				
Job stress Self-reported - PSS - SD calculated from SE by reviewer	n = 33 ; % = 89.2	n = 33 ; % = 89.2	n = 26 ; % = 70.3	n = 26 ; % = 70.3
Sample size				
Job stress Self-reported - PSS - SD calculated from SE by reviewer	24 (5.46)	21.3 (5.32)	25.7 (8.26)	25.4 (6.63)
Mean (SD)				

Outcome	Yoga, Baseline, N = 37	Yoga, 0 week, N = 37	Wait list, Baseline, N = 37	Wait list, 0 week, N = 37
Job stress Self-reported - PSS - SD calculated from SE by reviewer Mean (SE)	24 (0.95)	21.3 (0.93)	25.7 (1.62)	25.4 (1.3)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Yoga vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Yoga vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Yoga (N = 37)

Brief name	Dru yoga [page 607]
Rationale/theory/Goal	Dru Yoga was the chosen intervention because it is a particularly safe and therapeutic form of yoga that can be practised by most people. Dru Yoga is characterized by graceful movements, directed breathing and relaxation techniques that include affirmation and visualization. [page 607]
Materials used	DVD including activation exercises (4 min), energy block release movements (10 min) and a guided relaxation (4 min) [page 607]
Procedures used	<ul style="list-style-type: none"> • The Dru Yoga classes in this intervention were divided into four stages: activation exercises, energy block release sequences, postures and relaxation • 8 week programme of yoga classes at lunchtime and after work - participants were invited to attend one 50 minute yoga class per week • Participants were invited to practice at home at least twice per week using the 20 minute DVD <p>[page 607]</p>
Provider	Not reported
Method of delivery	Group classes and home practice [page 607]
Setting/location of intervention	<ul style="list-style-type: none"> • Location of group sessions not reported • Individual practice at home <p>[page 607]</p>
Intensity/duration of the intervention	8-week programme with one 50 minute class per week and 20-minute home practice twice a week [page 607]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	DVD and classes were free of charge [page 607]

Wait list (N = 37)

Brief name	Wait list [page 607]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the 8-week intervention in May/June 2011 [page 607]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.57 Hartfiel, 2011

Bibliographic Reference Hartfiel, Ned; Havenhand, Jon; Khalsa, Sat Bir; Clarke, Graham; Krayner, Anne; The effectiveness of yoga for the improvement of well-being and resilience to stress in the workplace.; Scandinavian journal of work, environment & health; 2011; vol. 37 (no. 1); 70-6

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Dec-2007
Study end date	May-2008
Aim	To examine the effectiveness of yoga in enhancing emotional well-being and resilience to stress among university employees.

Country/geographical location	UK
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Size or organisation: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	<ul style="list-style-type: none"> • Participants with “at risk” health conditions (e.g., recent surgery, first trimester pregnancy) • Participants practicing yoga once per week or more • Participants who attended <6 classes were excluded from the analysis.
Method of randomisation	Participants were randomised using www.randomizer.org
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Per-protocol analysis- participants who attended <6 classes were excluded from the analysis. • Prior to analysis, all data were checked for homogeneity of variances and normality using Q-Q plots and box plots • Baseline and end-program data were compared using a two-way ANOVA on all six domains of the POMS-Bi and the two domains of the IPPA. The significance of the interaction term from these analyses was assessed using a sequential Bonferroni correction on the entire set of domains.

	<ul style="list-style-type: none"> • SPSS 14.2 used pairwise deletion to treat the very small number of missing values (0.1% of all responses) from the POMS-Bi and IPPA questionnaires • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention: 20 out of 24 randomised participants (83%) • Control: 20 out of 24 participants (83%)
Study limitations (author)	<ul style="list-style-type: none"> • No restrictions were placed on the activities of the control group during the study period • Self-selected sample • Small sample sizes • Few men • Did not evaluate the long-term effects of yoga on wellbeing
Study limitations (reviewer)	Per-protocol analysis was conducted
Source of funding	Not reported

Study arms

Yoga (N = 24)

24 participants were randomised to receive the yoga intervention. Participants self-selected from the intranet an flyers.

Wait list (N = 24)

24 participants were randomised to the control. Participants self-selected from the intranet an flyers.

Characteristics

Arm-level characteristics

Characteristic	Yoga (N = 24)	Wait list (N = 24)
Age Characteristics for completers only	40.6 (11.4)	38 (9.58)
Mean (SD)		
Women % calculated from n by reviewer	n = 17 ; % = 85	n = 19 ; % = 95
No of events		
Men % calculated from n by reviewer	n = 3 ; % = 15	n = 1 ; % = 5
No of events		

Outcomes**Study timepoints**

- Baseline
- 0 week (Follow-up at the end of the 6-week programme)

Employee outcomes

Outcome	Yoga, Baseline, N = 24	Yoga, 0 week, N = 24	Wait list, Baseline, N = 24	Wait list, 0 week, N = 24
Mental wellbeing Self-reported - of Positive Psychological Attitudes (IPPA) - life purpose satisfaction	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3

Outcome	Yoga, Baseline, N = 24	Yoga, 0 week, N = 24	Wait list, Baseline, N = 24	Wait list, 0 week, N = 24
Sample size				
Mental wellbeing Self-reported - of Positive Psychological Attitudes (IPPA) - life purpose satisfaction	4.56 (0.94)	5.19 (0.87)	4.14 (1.18)	4.29 (1.15)
Mean (SD)				
Job stress Self-reported - Profile of Mood States Bipolar (POMS-Bi) - energized-tired subscale	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3
Sample size				
Job stress Self-reported - Profile of Mood States Bipolar (POMS-Bi) - energized-tired subscale	2.05 (0.49)	2.89 (0.52)	2.2 (0.61)	2.42 (0.65)
Mean (SD)				
Mental health symptoms Self-reported - Profile of Mood States Bipolar (POMS-Bi) - Elated-depressed subscale	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3	n = 20 ; % = 83.3
Sample size				
Mental health symptoms Self-reported - Profile of Mood States Bipolar (POMS-Bi) - Elated-depressed subscale	2.55 (0.53)	3.2 (0.33)	2.57 (0.52)	2.75 (0.56)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Higher values are better

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Yoga vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis was conducted)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Per-protocol analysis)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - Job stress - Yoga vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis was conducted)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Per-protocol analysis)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Yoga vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis was conducted)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Per-protocol analysis)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Study arms

Yoga (N = 24)

Brief name	Dru yoga [page 71]
Rationale/theory/Goal	Dry Yoga was the chosen intervention because it is a particularly safe, accessible and therapeutic form of yoga that can be practiced by most people. [page 71]
Materials used	<ul style="list-style-type: none"> • Dru Yoga CD, which included a 35-minute home practice session • Home practice form to record the frequency and duration of sessions performed at home

	[page 71]
Procedures used	<ul style="list-style-type: none"> • Participants were asked to attend at least one of three 60-minute lunchtime classes per week for 6 weeks • Participants were given a CD for home practice • The Dru Yoga consisted of flowing movements, directed breathing, and relaxation techniques that included affirmation and visualisation
	[pages 71 and 72]
Provider	Senior Dru Yoga instructor [page 71]
Method of delivery	Group classes and at-home practice [page 71]
Setting/location of intervention	Setting of classes not reported and home practice [page 71]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 6 week programme • At least one 60 minute session per week and home practice
	[page 71]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	All classes were free of charge for the participants [page 71]

Wait list (N = 24)

Brief name	Wait list [page 71]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • Participants did not receive the intervention, instructions or restrictions on activity during the study period • Upon completion of the study, participants received the 6-week yoga intervention
	[page 71]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.58 Haslam, 2013

Bibliographic Reference Haslam, Divna M; Sanders, Matthew R; Sofronoff, Kate; Reducing work and family conflict in teachers: A randomised controlled trial of Workplace Triple P.; School Mental Health: A Multidisciplinary Research and Practice Journal; 2013; vol. 5 (no. 2); 70-82

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the efficacy of a workplace parenting intervention aimed at reducing work-family conflict and improving work and family functioning in teachers.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: Not reported • Contract type: mixed (full time and part time) • Seniority: not reported • Income: professional (teachers)

Inclusion criteria	Teachers with at least one child of their own between 2 -12 years of age, who were seeking information about balancing work and family.
Exclusion criteria	<p>Candidates were excluded from participation if</p> <ul style="list-style-type: none"> • they had a current psychiatric diagnosis as assessed by a psychiatrist or psychologist • their child was suffering from a developmental disorder • they were not currently employed for two or more days per week • they did not intend to work for the duration of the study • they did not have a child in the required age range
Method of randomisation	Completion of the survey by persons with a unique identification code triggered a specifically designed computer randomiser program that allocated each participant to either the waitlist control condition or the Workplace Triple P condition (WPTP).
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Based on the effect sizes reported in Martin and Sanders (2003) a sample size of 46 was needed to detect significant difference ($p = .05$) thus the study has sufficient power. • Completer analyses and intent-to-treat analyses were conducted. Intent-to-treat analyses were conducted including all participants who were randomized at the beginning of the trial. • Short-term intervention effects were assessed using a series of 2-group MANCOVAs (for conceptually related variables) and ANCOVAs (for single construct variables) with postintervention scores as dependent variables and pre-intervention scores included as covariates.
Attrition	<ul style="list-style-type: none"> • Intervention: 9/55 participants were lost to follow-up (16.4%) • Control: 9/52 participants were lost to follow-up (17.3%)

	<ul style="list-style-type: none"> • Completers were compared to non-completers using t-tests on a range of demographic variables as well as all the key dependent variables. There were no significant differences between completers and non-completers.
Study limitations (author)	<ul style="list-style-type: none"> • Self-reported measures
Study limitations (reviewer)	Long-term effects were not measured in both intervention and control groups
Source of funding	<ul style="list-style-type: none"> • Australian Research Council • Australian Rotary Health Research Fund

Study arms

Workplace parenting intervention (N = 55)

55 participants were allocated to receive a workplace parenting intervention. Participants were recruited via briefings conducted at staff meetings.

Wait list (N = 52)

52 participants were allocated to a wait list. Participants were recruited via briefings conducted at staff meetings.

Characteristics

Study-level characteristics

Characteristic	Study (N = 107)
Age	40.6 (6.1)
Mean (SD)	
Gender	n = 82 ; % = 76.6
Women	
No of events	
Ethnicity	n = 100 ; % = 93.6
White	
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Workplace parenting intervention, Baseline, N = 55	Workplace parenting intervention, 0 week, N = 55	Wait list, Baseline, N = 52	Wait list, 0 week, N = 52
Mental wellbeing (0 - 100)	n = 46 ; % = 83.6	n = 46 ; % = 83.6	n = 42 ; % = 80.8	n = 42 ; % = 80.8
Self-reported- Teaching efficacy scale (TES)				
Sample size				

Outcome	Workplace parenting intervention, Baseline, N = 55	Workplace parenting intervention, 0 week, N = 55	Wait list, Baseline, N = 52	Wait list, 0 week, N = 52
Mental wellbeing (0 - 100) Self-reported- Teaching efficacy scale (TES)	76.36 (11.66)	83.12 (9.86)	75.17 (12.91)	76.72 (12.99)
Mean (SD)				
Job stress Self-reported- Teacher Occupational Stress Factor Questionnaire	n = 45 ; % = 81.8	n = 45 ; % = 81.8	n = 38 ; % = 73.1	n = 38 ; % = 73.1
Sample size				
Job stress Self-reported- Teacher Occupational Stress Factor Questionnaire	71.91 (23.32)	62.71 (19.59)	64.82 (18.25)	69.5 (17.99)
Mean (SD)				
Mental health symptoms Self-reported- depression subscale of the Depression Anxiety Stress scale (DASS)	n = 46 ; % = 83.6	n = 46 ; % = 83.6	n = 43 ; % = 82.7	n = 43 ; % = 82.7
Sample size				
Mental health symptoms Self-reported- depression subscale of the Depression Anxiety Stress scale (DASS)	7.01 (6.36)	4.73 (5.24)	8.54 (8.41)	9.91 (10.12)
Mean (SD)				
job satisfaction Self-reported- job satisfaction subscale of the Work and Life Attitudes Survey	n = 46 ; % = 83.6	n = 46 ; % = 83.6	n = 43 ; % = 82.7	n = 43 ; % = 82.7
Sample size				

Outcome	Workplace parenting intervention, Baseline, N = 55	Workplace parenting intervention, 0 week, N = 55	Wait list, Baseline, N = 52	Wait list, 0 week, N = 52
job satisfaction Self-reported- job satisfaction subscale of the Work and Life Attitudes Survey	71.11 (13.01)	74.58 (14.53)	72.85 (11.49)	72.39 (11.46)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Workplace parenting intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Workplace parenting intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Workplace parenting intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Workplace parenting intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Workplace parenting intervention (N = 55)

Brief name	Workplace Triple P [page 2 - abstract]
Rationale/theory/Goal	The intervention aims to reduce stress and improve work-family conflict in teachers balancing work and parenting responsibilities. The underlying principle of the program was that parents who are better able to predict and manage problems and stress will be more likely to remain calm and feel in control while juggling the demands of family and work roles. [pages 3 and 14]

Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Participants attended the WPTP group program and then received three telephone consultations designed to encourage self regulation and to enhance parents' use of skills acquired during the intervention. • Participants were taught a range of parenting strategies to encourage desirable behaviour and to help promote self-regulation in children and decrease problem behaviour. • Although Triple P is a parenting intervention and the strategies presented were introduced as parenting strategies teachers were also prompted to consider whether they could adapt any strategies for classroom use. • A second set of techniques related to stress prevention and management were also presented. These included standard stress inoculation strategies such as identifying and challenging unhelpful thoughts, progressive muscle relaxation, diaphragmatic breathing and diet and exercise tips. <p>[pages 13 and 14]</p>
Provider	Registered psychologists [page 14]
Method of delivery	Group programme and individual telephone consultations [page 13]
Setting/location of intervention	The group section of the program was delivered either in local schools or at the Parenting and Family Support Centre at The University of Queensland. Two schools provided the intervention during paid work-time however the rest of the teachers attended outside school hours. [page 13]
Intensity/duration of the intervention	Two full days one week apart [page 13]
Tailoring/adaptation	not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Following each session the practitioner completed detailed protocol adherence forms. Thirty per cent of groups also had an observer present who completed a second protocol adherence checklist. Telephone consultations were assessed for adherence by the practitioner completing a detailed protocol adherence forms. [page 14]

Actual treatment fidelity	<ul style="list-style-type: none"> • Following each session the practitioner completed detailed protocol adherence forms - analysis indicated 100% compliance to the program content. • Thirty per cent of groups also had an observer present who completed a second protocol adherence checklist - these showed 100% compliance. • Telephone consultations were assessed for adherence by the practitioner completing a detailed protocol adherence forms -analysis indicated 96% adherence. <p>[page 14]</p>
Other details	None

Wait list (N = 52)

Brief name	Wait list [page 12]
Rationale/theory/Goal	Not applicable
Materials used	Not reported
Procedures used	Participants were then able to complete the WPTP intervention following Time 2 assessments [page 14]
Provider	Not applicable
Method of delivery	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.59 Hasson, 2005

Bibliographic Reference

Hasson, D; Anderberg, UM; Theorell, T; Arnetz, BB; Psychophysiological effects of a web-based stress management system: a prospective, randomized controlled intervention study of IT and media workers [ISRCTN54254861].; BMC public health; 2005; vol. 5; 78

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Aim	To determine whether a web-based stress management and health promotion tool was effective in improving mental and physical wellbeing and biological stress markers.
Country/geographical location	Sweden
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private

	<ul style="list-style-type: none"> • Industry: IT and media • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed
Inclusion criteria	<ul style="list-style-type: none"> • Minimum group size of 10 individuals • access to economic production data
Exclusion criteria	Not reported
Method of randomisation	Participating departments were, within each company, randomised by lottery to either intervention or control group. Each company had at least one intervention and one reference group.
Method of allocation concealment	Not reported
Unit of allocation	Unit/department
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis was conducted • No ICC was reported • All variables were assessed for normality using Kolmogorov-Smirnov test. • Changes over time (time, group and group × time) were assessed using two-way analysis of covariance (ANCOVA). • Differences between the groups were then assessed using a Mann-Whitney U test. • Logistic regression was used to model the probability of improvement in the significant Δ variables (dependent variables). • No power calculations were reported

Attrition	There were no significant differences in dropout rates between the groups (6.9% in the intervention group vs. 9.8% in the reference group, p between groups = n.s.).
Study limitations (author)	<ul style="list-style-type: none"> • Outcomes were measured via the online tool. This differs from the way that other studies, at the time the article was published, had collected outcome data. • The study period of six months might not be enough to cover long-term effects. • An intervention that focuses solely on individuals might have less ability to produce a lasting effect compared to interventions that also consider organizational aspects. • Incorrect e-mail addresses to some participants complicated or made communication impossible. • The researchers did not have access to exact numbers for potential participants in the study.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self reported outcomes
Source of funding	Alecta (insurance company)

Study arms

Stress management programme (N = 129)

129 participants from 12 departments/units were randomised to the intervention group.

Usual practice (N = 174)

174 participants from 10 departments/units were randomised to the reference group.

Characteristics

Arm-level characteristics

Characteristic	Stress management programme (N = 129)	Usual practice (N = 174)
30 years or younger	n = 31 ; % = 24	n = 46 ; % = 27
No of events		
31 to 45 years	n = 44 ; % = 34	n = 72 ; % = 41
No of events		
46 years or older	n = 54 ; % = 42	n = 56 ; % = 32
No of events		
Men	n = 75 ; % = 58	n = 112 ; % = 64
No of events		
Women	n = 54 ; % = 42	n = 56 ; % = 32
No of events		
less than 25,000	n = 24 ; % = 18	n = 39 ; % = 22
No of events		
Between 25,000 and 40,000	n = 76 ; % = 59	n = 106 ; % = 61
No of events		
More than 40,000	n = 27 ; % = 21	n = 27 ; % = 16
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured at the end of the 6-month intervention)

Employee outcomes

Outcome	Stress management programme vs Usual practice, 6 month vs Baseline, N1 = 174, N2 = 129
Job stress Self-reported- visual analogue scale - 'Can you manage your stress in general?' Sample size	n1 = 156 ; %1 = 89.7, n2 = 121 ; %2 = 93.8
Job stress Self-reported- visual analogue scale - 'Can you manage your stress in general?' Odds ratio/95% CI	2.36 (1.22 to 4.58)
Mental health symptoms Self-reported- visual analogue scale - How is your quality of sleep in general? Sample size	n1 = 156 ; %1 = 89.7, n2 = 121 ; %2 = 93.8
Mental health symptoms Self-reported- visual analogue scale - How is your quality of sleep in general? Odds ratio/95% CI	1.64 (0.85 to 3.14)

Job stress - Polarity - Higher values are better

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Stress management programme - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Stress management programme - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Study arms

Stress management programme (N = 129)

Brief name	Web-based tool for health promotion and stress management [page 4]
Rationale/theory/Goal	The intervention was made up of web-based cognitive exercises, aimed at decreasing unwanted stress and promoting health and recovery through health promotion initiatives. [page 4]

Materials used	<ul style="list-style-type: none"> • A diary for monitoring • Chat function • Online intervention where most exercises were presented in three different modes: <ul style="list-style-type: none"> ○ on the web-site as plain text ○ as a downloadable PDF-file (sometimes including descriptive images) ○ as a flash animation, guiding the participant with image and sound through the exercise. <p>[page 4]</p>
Procedures used	<ul style="list-style-type: none"> • A web-based tool for health promotion and stress management was developed and offered all participants real-time monitoring of perceived current health and stress status, a diary and information about stress and health. • Participants in the intervention group were offered web-based cognitive exercises, aimed at decreasing unwanted stress and promoting health and recovery through health promotion initiatives. The exercises included techniques for relaxation, time management, cognitive reframing. • Participants had access to a chat function <p>[page 4]</p>
Provider	Online [page 4]
Method of delivery	Online [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 6 month intervention [page 1] • Exercises lasted 1 to 60 minutes [page 4]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 174)

Brief name	Reference group [page 4]
Rationale/theory/Goal	Not applicable
Materials used	<ul style="list-style-type: none"> • A diary for monitoring • Online tool <p>[page 4]</p>
Procedures used	A web-based tool for health promotion and stress management was developed and offered all participants real-time monitoring of perceived current health and stress status, a diary and information about stress and health. [page 4]
Provider	Online [page 4]
Method of delivery	Online [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.60 Hilcove, 2020

Bibliographic Reference

Hilcove, Kelly Marceau, Catherine Thekdi, Prachi Larkey, Linda Brewer, Melanie A. Jones, Kerry; Holistic Nursing in Practice: Mindfulness-Based Yoga as an Intervention to Manage Stress and Burnout; JOURNAL OF HOLISTIC NURSING; 2020

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To examine the effects of a MB yoga intervention on perceived stress and burnout in nurses and HCPs compared to a control group.

Country/geographical location	Us
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (nurses, nursing assistants, therapists, physicians, and social workers)
Inclusion criteria	Employees who provided direct patient care (including but not limited to nurses, nursing assistants, therapists, physicians, and social workers), older than 18 years.
Exclusion criteria	<ul style="list-style-type: none"> • The presence of joint or muscle problems that limited mobility (e.g., advanced arthritis, herniated disk, or past injuries that prevent painless or safe movement) • Having routinely practiced yoga or any other MB intervention in the past 6 months • Currently on medication that might interact with the results of salivary cortisol measures, including prednisone, cortisone, or steroid-based medicine
Method of randomisation	Computerized randomization tool
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The power analysis software G*Power 3 (Faul et al., 2007) was used to determine the appropriate sample size. With a planned sample size of 60 participants (n¼30/group), the power to detect a significant change over time between the intervention and control group was 0.87 (a¼.05) given a within subjects difference of 0 for the control group and 0.5 standard deviations for the intervention group based on previous research (Raghavendra et al., 2009). The reason for selecting 80 subjects was to account for possible attrition which was minimal for this study (2.5%). • Descriptive statistics were examined at baseline for equivalence of group values in the levels of perceived stress, burnout, vitality, sleep quality, serenity, and mindfulness between the intervention and control group mean scores. A qualitative analysis of the journal entries was not conducted, as these were meant to enhance personal self-awareness among participants. • To examine the effects of the intervention, a one-way analysis of variance (ANOVA) was conducted to test for significant differences in changes between the intervention and control groups.
Attrition	<ul style="list-style-type: none"> • Intervention: 41 participants completed the study out of 41 participants randomised to the intervention group. • Control: 37 participants completed the study out of 39 participants randomised to the control group.
Study limitations (author)	<ul style="list-style-type: none"> • All assessment measures in this study were self-report tools. • The study was designed to focus on the short-term effects of a MB yoga program with a specific population of health care providers.
Study limitations (reviewer)	None
Source of funding	HonorHealth

Study arms

Mindfulness-based yoga (N = 41)

41 participants were randomised to the intervention arm. Participants were invited to participate via email and print.

Control (N = 39)

39 participants were randomised to the control arm. Participants were invited to participate via email and print.

Characteristics**Arm-level characteristics**

Characteristic	Mindfulness-based yoga (N = 41)	Control (N = 39)
Age Completers only	24 to 69	24 to 64
Range		
Age Completers only	42.4 (<i>empty data</i>)	42.5 (<i>empty data</i>)
Mean (SD)		
Men	n = 2 ; % = 4.88	n = 2 ; % = 4.88
No of events		
Women	n = 39 ; % = 95.12	n = 35 ; % = 94.59
No of events		
White	n = 38 ; % = 92.68	n = 32 ; % = 86.49
No of events		
Asian	n = 3 ; % = 7.32	n = 1 ; % = 2.7
No of events		

Characteristic	Mindfulness-based yoga (N = 41)	Control (N = 39)
African-American	n = 0 ; % = 0	n = 2 ; % = 5.41
No of events		
Declined to say	n = 0 ; % = 0	n = 2 ; % = 5.41
No of events		

Outcomes

Study timepoints

- Baseline
- 6 week (Outcomes were measured following the 6-week intervention)

Employee outcomes

Outcome	Mindfulness-based yoga, Baseline, N = 41	Mindfulness-based yoga, 6 week, N = 41	Control, Baseline, N = 39	Control, 6 week, N = 39
Job stress Self-reported - Perceived stress scale	n = 40 ; % = 97.6	n = 40 ; % = 97.6	n = 36 ; % = 92.3	n = 37 ; % = 94.9
Sample size				
Job stress Self-reported - Perceived stress scale	1.85 (0.61)	1.42 (0.47)	1.83 (0.56)	1.75 (0.56)
Mean (SD)				

Outcome	Mindfulness-based yoga, Baseline, N = 41	Mindfulness-based yoga, 6 week, N = 41	Control, Baseline, N = 39	Control, 6 week, N = 39
Mental health symptoms Self-reported - single item, Global Sleep Quality from the Pittsburgh Sleep Quality Index	n = 41 ; % = 97.6	n = 39 ; % = 95.1	n = 37 ; % = 94.9	n = 37 ; % = 94.9
Sample size				
Mental health symptoms Self-reported - single item, Global Sleep Quality from the Pittsburgh Sleep Quality Index	1.46 (1.78)	0.85 (0.59)	1.41 (0.72)	1.24 (0.64)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mindfulness-based yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Mindfulness-based yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based yoga (N = 41)

Brief name	Mindfulness-based yoga [page 35]
Rationale/theory/Goal	This practice draws from the mental and spiritual disciplines of Raja Yoga, where inwardly focused attention and meditative awareness can be used when on the yoga mat and applied in everyday life. [page 35]
Materials used	Each participant was provided with a DVD and CD of the yoga routine and breathing exercises [page 35]
Procedures used	<ul style="list-style-type: none"> • The MB yoga intervention was a beginner level program, starting with seated centring, brief teaching about yoga, focused attention on the breath, and yogic breath practice. • Participants were invited to scan their bodies from head to toe and to observe how they felt before and after each class, facilitating increased self-awareness and self-reflection. These were followed by several minutes of guided, gentle stretching, a series of traditional Hatha Yoga movements, and postures selected for ease and continued mindfulness focus. • After each pose, participants were invited to close their eyes and pay attention to the sensations felt in their bodies, reinforcing the practice of self awareness. • Participants were encouraged to journal and log their weekly yoga practice as personal accountability tools, which were submitted weekly. <p>[page 35]</p>
Provider	Not reported
Method of delivery	Group sessions [page 34]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Weekly sessions over a period of 6 weeks [page 34]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 39)

Brief name	Control [page 34]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants did not receive the intervention between the pre- and post assessments. [page 34]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.61 Hinman, 1997

Bibliographic Reference

Hinman, Martha; Ezzo, Lori; Hunt, Darla; Mays, Alicia; Computerized exercise program does not affect stress levels of asymptomatic VDT users; Journal of Occupational Rehabilitation; 1997; vol. 7 (no. 1); 45-51

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Aim	To determine whether a computerised exercise programme could affect the physical and/or psychological stress of office workers who use video display terminals.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: university • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Per-protocol analysis- three participants were eliminated from the exercise group due to total non-compliance • A multivariate t-test was used to determine whether there was a statistically significant difference in pre-post levels of the four PSQ scores between the exercise and control groups • PSQ scores for two separate compliance groups (over 33% compliance and under 33% compliance) were compared using a multivariate t-test. • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention: 24/27 participants (88.9%) were included in analyses • Control: 26/26 participants (100%) were included in analyses
Study limitations (author)	<ul style="list-style-type: none"> • Low compliance rate • Sample included non-symptomatic, female office workers; therefore, the results should not be generalised to male office workers, recreational VDT users, or workers who are experiencing stress-related symptoms. • The study only focused on the effect of the exercise on workers' stress levels, and other factors such as productivity, fatigue, circulation, posture, and cumulative trauma were not analysed. • the exercise protocol was not specifically tailored to meet the needs of each subject.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Per-protocol analysis • Self-reported outcomes
Source of funding	Not reported

Study arms

Computerised exercise programme (N = 27)

24 participants were randomised to receive a computerised exercise programme. Participants from the schools of Nursing and Allied Health Sciences and the University of Texas Medical Branch volunteered to participate.

Control (N = 26)

24 participants were randomised to a control group. Participants from the schools of Nursing and Allied Health Sciences and the University of Texas Medical Branch volunteered to participate.

Characteristics**Arm-level characteristics**

Characteristic	Computerised exercise programme (N = 27)	Control (N = 26)
Age Characteristics for completers only	36 (<i>empty data</i>)	39.3 (<i>empty data</i>)
Mean (SD)		

Outcomes**Study timepoints**

- Baseline
- 8 week (Outcomes were measured at the end of the 8-week intervention)

Employee outcomes

Outcome	Computerised exercise programme, Baseline, N = 27	Computerised exercise programme, 8 week, N = 27	Control , Baseline, N = 26	Control , 8 week, N = 26
Job stress Self-reported - psychological strain subscale of Personal Strain Questionnaire (PSQ)	n = 24 ; % = 88.9	n = 24 ; % = 88.9	n = 26 ; % = 100	n = 26 ; % = 100

Outcome	Computerised exercise programme, Baseline, N = 27	Computerised exercise programme, 8 week, N = 27	Control , Baseline, N = 26	Control , 8 week, N = 26
Sample size				
Job stress Self-reported - psychological strain subscale of Personal Strain Questionnaire (PSQ)	50.13 (11.24)	46.42 (10.25)	51.96 (9.28)	48.89 (7.89)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Computerised exercise programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Study arms

Computerised exercise programme (N = 27)

Brief name	Computerised exercise programme [page 45 – Title]
Rationale/theory/Goal	The software programme includes sets of stretching, circulatory, and relaxation exercises that are purported to reduce stress, increase productivity, prevent fatigue, improve circulation, and decrease the likelihood of repetitive strain injuries. [page 48]
Materials used	Computer network [page 48]
Procedures used	<ul style="list-style-type: none"> • The morning session consisted of general warm-up, back, wrist, and finger exercises • The afternoon session focused on neck, leg, shoulder, relaxation, and circulation exercises. • Participants were to access the exercise programme through a local computer network at times that were most convenient to them. • Exercise sessions did not replace regular break times. • Subjects were allowed to pause the programme, as needed, to answer telephone calls or attend to other tasks. <p>[page 48]</p>
Provider	Online [page 48]
Method of delivery	Online [page 48]

Setting/location of intervention	Workplace [page 48]
Intensity/duration of the intervention	Fifteen-minute exercise breaks were taken twice a day for 8 weeks [page 48]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Each participant kept a compliance checklist throughout the 8 weeks [page 48]
Actual treatment fidelity	Compliance rates for workers ranged from 3.8 to 100%, with an average rate of 39.5%. [page 48]
Other details	None

Control (N = 24)

Brief name	Control [page 47]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.62 Hoogendijk, 2018

Bibliographic Reference

Hoogendijk, C; Tick, N. T; Hofman, W. H. A; Holland, J. G; Severiens, S. E; Vuijk, P; van Veen, A. F. D; Direct and indirect effects of Key2Teach on teachers' sense of self-efficacy and emotional exhaustion, a randomized controlled trial.; Teaching and Teacher Education; 2018; vol. 76; 1-13

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NTR3811
Study start date	2013
Study end date	2015
Aim	To examine the effects of Key2Teach on teachers' sense of self-efficacy and emotional exhaustion related to students with externalizing problem behaviour.
Country/geographical location	The Netherlands
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Teachers could only participate if they taught in grades 3 to 6 for at least 2.5 days per week, and at least two teachers had to participate in each school.
Exclusion criteria	Schools were excluded from participation if other behavioural interventions were being implemented at that time.
Method of randomisation	No details reported

Method of allocation concealment	Not reported
Unit of allocation	Student-teacher dyads
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intent-to-treat design was used • Due to reasons of feasibility, power and expected dropout inclusion ended when a number of 150 teachers was reached • T-tests were conducted to evaluate baseline differences in study condition and demographic variables • The effects of Key2Teach were analysed using Structural Equation Modelling • Missing data were minimized by using electronic software for the questionnaires
Attrition	<ul style="list-style-type: none"> • Intervention: 44/53 participants (83%) completed outcome measures at 5-month follow-up. • Control: 38/50 participants (76%) completed outcome measures at 5-month follow-up.
Study limitations (author)	<ul style="list-style-type: none"> • None of the teachers in the sample had such high levels of emotional exhaustion that there could be diagnosed with burnout. Improvements as a result of Key2Teach may thus be hard to detect. • Limitations around internal consistency of some of the measures including the low alpha of the subscale Student Engagement of the TSES . • Researchers did not test for measurement invariance, due to insufficient sample size. • The focus of the intervention is not directly related to the outcomes measured. • Outcome measures were only provided by teachers
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	SIA Taskforce for Applied Research in the Netherlands

Study arms

Professional coaching (N = 53)

53 participants were assigned to receive the Key2Teach professional coaching intervention. Primary schools located within one hour of the main research location received a digital invitation to take part in the study.

Usual practice (N = 50)

50 participants were assigned to a control. Primary schools located within one hour of the main research location received a digital invitation to take part in the study.

Characteristics

Study-level characteristics

Characteristic	Study (N = 103)
Age	23.5 to 62.67
Range	
Age	39.24 (<i>empty data</i>)
Mean (SD)	
Gender	n = 79.3 ; % = 77
Women	
No of events	

Outcomes

Study timepoints

- Baseline
- 5 month (Outcomes measured 5 months after end of intervention)

Employee outcomes

Outcome	Professional coaching, Baseline, N = 53	Professional coaching, 5 month, N = 53	Usual practice, Baseline, N = 50	Usual practice, 5 month, N = 50
Mental wellbeing Self-reported- Self-efficacy student engagement	n = 53 ; % = 100	n = 42 ; % = 79.2	n = 49 ; % = 98	n = 35 ; % = 70
Sample size				
Mental wellbeing Self-reported- Self-efficacy student engagement	3.78 (0.39)	3.89 (0.39)	3.8 (0.36)	3.93 (0.38)
Mean (SD)				
Job stress Self-reported- emotional exhaustion subscale of Maslach Burnout Inventory	n = 53 ; % = 100	n = 42 ; % = 79.2	n = 49 ; % = 98	n = 35 ; % = 70
Sample size				
Job stress Self-reported- emotional exhaustion subscale of Maslach Burnout Inventory	2.53 (0.75)	2.37 (0.7)	2.97 (0.9)	3.06 (1.23)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Professional coaching - Usual practice**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - Job stress - Professional coaching - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Professional coaching (N = 53)

Brief name	Key2Teach [page 1 - abstract]
Rationale/theory/Goal	Key2Teach is developed as an extension of existing interventions, designed to improve a conflictual relationship between a teacher and a student with externalising problem behaviour. [page 3]
Materials used	<ul style="list-style-type: none"> • Video clips of classroom situations • Bug-in-ear technology <p>[page 3]</p>

Procedures used	<ul style="list-style-type: none"> • Key2Teach is a teacher-focused coaching intervention consisting of four building blocks and two phases. • Phase one consists of four sessions and is designed to provide the teacher with insight into his or her own representation of the teacher-student relationship and how this influences the actual interactions with the student. • During two sessions, the teacher and coach discuss behaviour, thoughts and feelings of the teacher and student based on a video clip of a classroom situation that is prepared by the coach. At the end of the first phase, the teacher and coach articulate a temporary working hypothesis that forms the starting-point for the coaching in phase 2. • Phase two (eight sessions) aims to improve dysfunctional interaction patterns between teacher and students with externalising problem behaviour through focusing on the interaction skills of the teacher. The teacher is provided with direct opportunities to practice interaction skills. To achieve this goal, the coach makes use of video interaction guidance (VIG) and synchronous coaching. • During these sessions, the coach is situated at the back of the classroom during a lesson. Using bug-in-ear technology, the coach immediately provides the teacher with a relevant keyword when there is an opportunity to practice the previously discussed interaction skills. These lessons are videotaped. Afterwards, teacher and coach discuss the lessons, using VIG. <p>[page 3]</p>
Provider	<p>All coaches were already certified School-Video Interaction Guidance (S-VIG) coaches before they were trained to use the Key2Teach intervention. Coaches were trained by the research team to use the Key2Teach method using a standardised protocol (Van Veen et al., 2015). For this training, coaches</p> <p>attended three four-hour training sessions and eight (first cohort) to four (second cohort) four-hour meetings. Training was provided by members of the research team and key members/leading coaches who took part in developing the protocol of the intervention. [page 7]</p>
Method of delivery	Individual coaching [page 3]
Setting/location of intervention	Classes were recorded in workplace [page 3]
Intensity/duration of the intervention	12 sessions with durations of between 30 and 60 minutes. [page 4 - Table 1]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Coaches were trained by the research team to use the Key2Teach method using a standardised protocol (Van Veen et al., 2015). [page 7]
Actual treatment fidelity	Forty-three of all 53 teachers in the experimental condition attended all twelve sessions. Because they reported having a lack of time as a result of the approaching end of the school year, one teacher attended eleven sessions and five teachers attended ten sessions. Two teachers attended only two sessions, and two teachers attended four sessions, but these four teachers dropped out of the study after the first phase. [page 6]
Other details	None

Usual practice (N = 50)

Brief name	Control [page 1 - abstract]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.63 Huang, 2020

Bibliographic Reference

Huang, H.; Zhang, H.; Xie, Y.; Wang, S.-B.; Cui, H.; Li, L.; Shao, H.; Geng, Q.; Effect of Balint group training on burnout and quality of work life among intensive care nurses: A randomized controlled trial; *Neurology Psychiatry and Brain Research*; 2020; vol. 35; 16-21

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	May-2016
Study end date	Nov-2016
Aim	To examine whether the Balint group training intervention could relieve burnout and improve the quality of work life for ICU nurses.
Country/geographical location	China
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: mixed (included contract workers) • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	<ul style="list-style-type: none"> • Working in an ICU as a licensed nurse for at least one year • Working in hospitals with at least 1000 beds and 100 ICU nurses; • Nurses have no difficulty in communication with others • Nurses who agreed to participate in the present study.
Exclusion criteria	<ul style="list-style-type: none"> • Participants who have neuropsychiatric disorders • Participants in pregnancy or lactation • Participants who incomplete or invalid questionnaire

Method of randomisation	Random number generator
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All normally distributed continuous variables were compared by t-test. • The dependent variables were the difference in burnout (continuous variable) and QNWL among ICU nurses before and after Balint group intervention. • The independent variables included gender, age, education level, personal income, working time, marital status and number of offspring. • A p-value of ≤ 0.05 was considered statistically significant • Intent-to-treat analysis • G*Power software (University of Dusseldorf, Germany, version 3.1) was used to calculate the optimal sample size for each of the two groups. The following parameters were entered: alpha error probability = 0.05, power = 0.8, effect size = 0.55 and allocation ratio (n_2/n_1) = 1, computed for independent sample t-test for two groups. The sample size was estimated as 63 for each group. Accounting for participant dropouts, the optimal sample size for each group was determined to be 76.
Attrition	<ul style="list-style-type: none"> • Intervention: 6 participants withdrew out of 76 participants randomised • Control: 0 participants withdrew out of 76 randomised
Study limitations (author)	<ul style="list-style-type: none"> • The participants of this study were recruited from ICUs in Guangzhou city of China, which may limit the generalization of the findings to other situations and locations • The current study excluded nurses with illness and those who had left their job due to pressure-related problems. Therefore, the “healthy worker effect” cannot be excluded. • The current study did not explore possible negative aspects of Balint group that may arise with intervention dropouts.

Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • No long-term outcomes were measured
Source of funding	Guangdong Science and Technology Project and Guangzhou Science and Technology Project

Study arms

Balint (N = 76)

76 participants were randomised to the Balint intervention group. Participants were selected through random sampling at the organisation.

Control (N = 76)

76 participants were randomised to the control group. Participants were selected through random sampling at the organisation.

Characteristics

Arm-level characteristics

Characteristic	Balint (N = 76)	Control (N = 76)
18 to 25	n = 21 ; % = 27.6	n = 20 ; % = 26.3
No of events		
26 to 30	n = 39 ; % = 51.3	n = 40 ; % = 52.6
No of events		

Characteristic	Balint (N = 76)	Control (N = 76)
31 to 40		
No of events	n = 22 ; % = 28.9	n = 21 ; % = 27.6
Men		
No of events	n = 21 ; % = 27.6	n = 20 ; % = 26.3
Women		
No of events	n = 55 ; % = 72.4	n = 56 ; % = 73.7
5,000 to 8,000		
No of events	n = 16 ; % = 21.1	n = 20 ; % = 26.3
More than 8,000		
No of events	n = 60 ; % = 78.9	n = 56 ; % = 73.7

Outcomes

Study timepoints

- Baseline
- 8 week (Outcomes were measured post-intervention.)

Employee outcomes

Outcome	Balint, Baseline, N = 76	Balint, 8 week, N = 76	Control, Baseline, N = 76	Control, 8 week, N = 76
Job stress Self-reported - Maslach burnout Inventory	69.96 (6.67)	58.33 (7.38)	70.07 (6.78)	70.5 (7.01)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Balint - No intervention

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms**Balint (N = 76)**

Brief name	Balint [page 17]
Rationale/theory/Goal	Balint groups training, including the case reports and group discussions, attempted to throw light on the doctor-patient relationship through case presentations by group members and group discussions facilitated by experienced trainers. [page 17]
Materials used	Not reported
Procedures used	The intervention involved case reported and group discussion [page 17]
Provider	Senior Balint trainers from Guangdong Balint Society [page 17]
Method of delivery	Group session [page 17]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Eight weekly 1.5-hour sessions [page 17]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Control (N = 76)

Brief name	Control [page 17]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received no intervention [page 17]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.64 Huang, 2019

Bibliographic Reference Huang, Lei; Harsh, Jennifer; Cui, Haisong; Wu, Jiaxin; Thai, Jessica; Zhang, Xu; Cheng, Liming; Wu, Wenyuan; A Randomized Controlled Trial of Balint Groups to Prevent Burnout Among Residents in China.; *Frontiers in psychiatry*; 2019; vol. 10; 957

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Oct-2016
Study end date	May-2017
Aim	To examine the effectiveness and feasibility of Balint groups in preventing burnout among residents in training programs in China.
Country/geographical location	China

Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: first-year residents • Income: professional
Inclusion criteria	First-year resident physicians
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Independent t-tests were conducted to check for baseline differences between arms • Mean estimates were reported • Paired t-tests were conducted to test for differences between pre and post-test data. • Independent t-tests were conducted to test for differences between intervention and control groups • Analysis type (ITT) not specified • No sample size calculations were reported
Attrition	All 36 participants completed burnout and job satisfaction measures pre and post-intervention

Study limitations (author)	<ul style="list-style-type: none"> • Small sample size, which hindered precision, power, and generalizability and may have led to the lack of statistically significant results. • Results of this study may also be confounded by the large proportion of female subjects although a randomly controlled design was used. • Cases presented in the Balint group sessions were based on participants volunteering to report physician–patient cases they had experienced it and a group consensus to further discuss the case. As such, there was no standardized method of determining if a case was truly suitable for discussing. • 6 months may be a short time period to evaluate measurable changes in job satisfaction and personal accomplishment. • The Balint group experience cannot be fully assessed by quantitative instruments.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Priority of Shanghai Key Discipline of Medicine; Shanghai Municipal Key Clinical Specialty (2018); Psychosomatic Medicine Project of Key Developing Disciplines of Shanghai Municipal Health Commission; Tongji University Postgraduate Educational Research and Reform Project in 2018; Key Projects of the Ministry of Education in 2019 under “The 13th Five-year Plan” for National Educational Science

Study arms

Balint (N = 18)

18 participants were randomised to the Balint arm. All first-year resident physicians were recruited.

Wait list (N = 18)

18 participants were randomised to the control arm. All first-year resident physicians were recruited.

Characteristics

Arm-level characteristics

Characteristic	Balint (N = 18)	Wait list (N = 18)
Age		
Mean (SD)	23.89 (0.9)	23.44 (0.92)
Men		
No of events	n = 6 ; % = 33.33	n = 5 ; % = 27.77
Women		
No of events	n = 12 ; % = 66.67	n = 13 ; % = 72.22

Outcomes**Study timepoints**

- Baseline
- 6 month (Outcomes were measured at the end of the intervention period)

Employee outcomes

Outcome	Balint, Baseline, N = 18	Balint, 6 month, N = 18	Wait list, Baseline, N = 18	Wait list, 6 month, N = 18
Job stress				
Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	16.89 (4.83)	15 (5.11)	15.83 (5.53)	22.17 (9.48)
Mean (SD)				

Outcome	Balint, Baseline, N = 18	Balint, 6 month, N = 18	Wait list, Baseline, N = 18	Wait list, 6 month, N = 18
job satisfaction Self-reported - short version of the Minnesota Satisfaction Questionnaire (MSQ) Mean (SD)	71.56 (5.91)	72.17 (5.59)	70.72 (6.52)	70.11 (6.67)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Balint - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Outcome measures were self-reported)</i>

Employee outcomes - job satisfaction - Balint - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Outcome measures were self-reported)</i>

Study arms**Balint (N = 18)**

Brief name	Balint [page 4]
Rationale/theory/Goal	Balint is a group training method, which aims to help physicians better understand their role in the physician–patient relationship and also assists them in improving interpersonal skills. In Balint sessions, participants discuss their personal experiences with patients and specifically discuss their perceptions of interactions with patients. A group leader facilitates discussion. The group experiences enable physicians to better handle difficult working relationships, improve empathy and communication skills, better understand their professional identity, rediscover the joy of being a physician, increase job satisfaction, and may prevent increasing levels of physician burnout. [page 3]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The Balint group intervention in this study was a standardized training model. • Participants participated in a Balint group program, which included 2 lectures and 10 small group discussion sessions (at 17:30–18:30 every Wednesday). • Eight to 12 resident participants and one to two group leaders were involved in each Balint group session. • A volunteer before each meeting prepared a case, which showcased a challenging doctor–patient encounter. Each participant in the discussion groups could volunteer to report his/her case. The volunteer briefly described the case, then other participants and the group leader decided whether to choose the reported case as that day's topic. • The group leader facilitated the entire Balint session. Discussions were largely case-focused and highlighted the emotions and attitudes aroused by participants from the presentation. Medical or technical facts were avoided. <p>[page 4]</p>
Provider	All group leaders in this training program were formally trained and qualified by the “Asia-link Program” [page 4]
Method of delivery	Group sessions [page 4]
Setting/location of intervention	Not reported

Intensity/duration of the intervention	10 sessions each lasting 1 hour [page 4]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	<ul style="list-style-type: none"> Residents were provided a snack and coffee before the Balint group. All residents were provided a certificate of completion upon completion of the required Balint group sessions. [page 3] To guarantee that residents were available for 10 sessions (taking into account their time-consuming duties, overtime work, and leave for personal reasons) 20 different Balint session options were provided based on participants' reports of the most convenient meeting times. [page 4]

Wait list (N = 18)

Brief name	Wait list [page 4]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants completed the same Balint group program form after the study was completed [page 4]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable`
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.65 **Hugh-Jones, 2018**

Bibliographic Reference

Hugh-Jones, Siobhan; Rose, Sally; Koutsopoulou, Gina Z; Simms-Ellis, Ruth; How Is Stress Reduced by a Workplace Mindfulness Intervention? A Qualitative Study Conceptualising Experiences of Change.; *Mindfulness*; 2018; vol. 9 (no. 2); 474-487

Study details

Study design	Interview study
Aim	To generate a data-driven, provisional model of how positive benefits were gained by a workplace mindfulness-based intervention
Country/geographical location	UK
Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: public • Industry: Education (university) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Participants who had taken part in a university-led mindfulness training course
Exclusion criteria	None reported
Statistical method(s) used to analyse the data	<p>Semi-structured, audio-recorded interviews were conducted on university premises.</p> <p>An abbreviated form of grounded theory was used to analyse the data using the following steps.</p> <ul style="list-style-type: none"> • first stage of open coding, which involved line-by-line labelling of text segments, from which provisional descriptive categories or, where data permitted, interpretative categories were generated. Provisional categories were then compared, modified and/or renamed as more data was coded. • Axial coding was the second stage of analysis, and involved exploring category connections across the data set, being attentive to what may be underpinning their connection and what phenomena might be central to the experience. • The final analytic stage was theoretical development, which positioned conceptual themes in relation to each other in a way that fitted participants' accounts as closely as possible.

	An independent researcher, who had not attended the intervention, was appointed to conduct the interviews and complete initial coding. The emergent analysis was then discussed with the other authors collectively, and in progressive stages, in order to refine emergent conceptual themes and their position in the final model. Developments in categories and themes were systematically logged and audit trails produced from the first stage coding to the final model.
Attrition	No dropouts
Study limitations (author)	<p>The retrospective narratives produced via interviews in the present study are likely to have involved recollection, reconstruction and co-construction.</p> <p>Variation in duration since programme completion and interview participation; it is possible that participants infused their recollection of the programme with practices and benefits they had in fact secured post-programme.</p> <p>Participants had opted into both the programme and to the interview study, and it is likely participants were positively biased.</p>
Study limitations (reviewer)	None to add
Source of funding	University of Leeds

Study arms

Mindfulness (N = 21)

Characteristics

Study-level characteristics

Characteristic	Study (N = 21)
Age (years)	26 to 61
Range	
Female	n = 15 ; % = 71.4
Sample size	
Male	n = 6 ; % = 28.6
Sample size	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes
Research Design	Was the research design appropriate to address the aims of the research?	Yes
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes
Data collection	Was the data collected in a way that addressed the research issue?	Yes
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Yes
Ethical Issues	Have ethical issues been taken into consideration?	Yes

Section	Question	Answer
Data analysis	Was the data analysis sufficiently rigorous?	Yes
Findings	Is there a clear statement of findings?	Yes
Research value	How valuable is the research?	The research has some value
Overall risk of bias and relevance	Overall risk of bias	Low
Overall risk of bias and relevance	Relevance	Relevant

D.66 Hunter, 2018

Bibliographic Reference

Hunter, Louise; Snow, Sarah; Warriner, Sian; Being there and reconnecting: Midwives' perceptions of the impact of Mindfulness training on their practice.; Journal of clinical nursing; 2018; vol. 27 (no. 56); 1227-1238

Study details

Study design	Interview study
Trial registration number	Not reported
Aim	To explore how midwives who attended a Mindfulness course perceived that it impacted on their professional practice, particularly in regard to any stress that they might experience at work.
Country/geographical location	UK

Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: Large • Contract type: mix of full-time and part-time • Seniority: not reported • Income: not reported
Inclusion criteria	Had to have attended a mindfulness course (inside or outside of work)
Exclusion criteria	None reported
Statistical method(s) used to analyse the data	<p>Interpretive Phenomenological Analysis (IPA), an approach which aims to understand the significance of particular events or experiences to individuals.</p> <p>An interview schedule consisting of open questions and prompts was developed.. The schedule began by asking participants to talk about what they remembered about their mindfulness training, in particular what they found useful or challenging, and whether they still used any of the practices. It then moved on to ask them to reflect on whether and how the course had affected their perception of themselves as a practitioner, whether they now dealt with stress or stressful events differently, and any ways it had impacted on their relationships with colleagues or the women in their care. Interviews were conducted at a place and time of the participant's choosing.</p> <p>Interviews were audio-recorded and transcribed verbatim. An inductive process was then undertaken whereby each transcript was read a number of times and a commentary of interesting, significant or recurring points was developed in the margin of the transcript. These comments were then used to identify themes. The process was highly iterative to ensure that each theme was grounded in the data. In order to give the reader an insight into the participants' backgrounds and experiences, a summary profile of each transcript was produced, identifying salient points and giving some information about each participant. Participants were invited to comment on their profile.</p> <p>NVivo 10 software was used to generate and combine themes across transcripts, noting divergences as well as convergences. Themes were clustered into superordinate themes which were critically interrogated by all three authors, who then met to discuss and agree a more in-depth interpretation of the data.</p>

Attrition	None
Study limitations (author)	<ul style="list-style-type: none"> • This study was conducted on a single site, and participants were self-selecting and so the findings may not be transferable to other settings • Despite steps being taken to reduce the influence of the principle investigator on the findings, they may nonetheless be influenced by her particular worldview.
Study limitations (reviewer)	Lack of detail on participant characteristics
Source of funding	Not reported

Study arms

Mindfulness (N = 9)

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes
Research Design	Was the research design appropriate to address the aims of the research?	Yes
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes
Data collection	Was the data collected in a way that addressed the research issue?	Yes

Section	Question	Answer
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Yes
Ethical Issues	Have ethical issues been taken into consideration?	Yes
Data analysis	Was the data analysis sufficiently rigorous?	Yes
Findings	Is there a clear statement of findings?	Yes
Research value	How valuable is the research?	The research has some value
Overall risk of bias and relevance	Overall risk of bias	Low
Overall risk of bias and relevance	Relevance	Relevant

D.67 Hwang, 2019

Bibliographic Reference

Hwang, Yoon-Suk Goldstein, Harvey Medvedev, Oleg N. Singh, Nirbhay N. Noh, Jae-Eun Hand, Kirstine; Mindfulness-Based Intervention for Educators: Effects of a School-Based Cluster Randomized Controlled Study; MINDFULNESS; 2019; vol. 10 (no. 7); 1417-1436

Study details

Study design	Cluster randomised controlled trial
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Trial registration number	Not reported
Study start date	01-Apr-2017
Aim	To investigate the effectiveness of an 8-week mindfulness-based intervention designed to improve educator wellbeing and implemented concurrently in multiple school sites.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (teaching and non-teaching roles)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	<ul style="list-style-type: none"> • 12 schools were randomly assigned to either group 1 (i.e. six schools) or group 2 (i.e. six schools) and were stratified by school levels (e.g. primary school, special school). • 8 schools were regionally grouped and then randomly assigned to either an intervention group (i.e. two special schools, one primary school and one high school) or a control group (i.e. three primary schools and one high school).
Method of allocation concealment	Randomisation was performed independently

Unit of allocation	School (cluster)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Preliminary analyses examined baseline group differences and reported in participants. • Overall, missing data comprised about 6% and were identified mainly at the scale level (e.g., a participant did not complete a particular scale or subscale). In such cases, imputation was not possible and participants with missing scale data were excluded from specific scale-related analyses. • Preliminary analyses were conducted to examine normality assumptions for all variables. • Multiple linear regression models were used to determine intervention effects with each of the educator measures at T2 and T3 as an outcome variable. • No sample size calculations were reported • Analysis type (for example ITT) was not specified
Attrition	<ul style="list-style-type: none"> • Of the 85 participants from the intervention group, 83 completed the post-intervention survey, and 55 participants completed 6-week follow-up measures • Of the 100 participants from the control group, 83 completed the post-intervention survey, and 69 participants completed 6-week follow-up measures.
Study limitations (author)	<ul style="list-style-type: none"> • The high attrition rate and absence of an active control group reduced the power of analysis. • Randomization of schools rather than individual educators resulted in unequal sample sizes. • School-based cluster randomization conducted differently in two states also provided more special schools assigned to the intervention group than to the control group. • There was limited comparability between the two groups. • Authors were unable to provide inter-rater reliability data for the video-recorded data. • The quality of delivery across facilitators may have played a role in the intervention effects.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • There were no 5-month follow-up data for the control group. • Participants were mostly women, which may limit generalisability.

Source of funding	Teachers Health Foundation
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Study arms

Mindfulness (N = 85)

10 schools with 85 teachers

Teaching as usual (N = 100)

10 schools with 100 teachers

Characteristics

Arm-level characteristics

Characteristic	Mindfulness (N = 85)	Teaching as usual (N = 100)
Age		
Mean (SD)	42.34 (12.6)	43.7 (10.69)
Women		
No of events	n = 71 ; % = 83.5	n = 89 ; % = 89
Men		
No of events	n = 14 ; % = 16.5	n = 11 ; % = 11

Outcomes

Study timepoints

- 6 week (After the intervention)

Employee outcomes

Outcome	Mindfulness, 6 week, N = 85	Teaching as usual, 6 week, N = 100
Job stress Using the Perceived Stress Scale (PSS)-10 - custom value is sample size adjusted using ICC of 0.69 (from Miller 2020) Sample size	n = 55 ; % = 64.7	n = 69 ; % = 69
Job stress Using the Perceived Stress Scale (PSS)-10 - custom value is sample size adjusted using ICC of 0.69 (from Miller 2020) Custom value	12	15
Job stress Using the Perceived Stress Scale (PSS)-10 - custom value is sample size adjusted using ICC of 0.69 (from Miller 2020) Mean (SD)	29.59 (3.81)	31.33 (3.9)
Mental health symptoms Using the Pittsburgh Sleep Quality Index (PSQI) Sample size	n = 55 ; % = 64.7	n = 69 ; % = 69
Mental health symptoms Using the Pittsburgh Sleep Quality Index (PSQI)	12 (5.66)	13.84 (6.67)

Outcome	Mindfulness, 6 week, N = 85	Teaching as usual, 6 week, N = 100
Mean (SD)		

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Job stress - Mindfulness vs Care as usual (6 weeks follow-up)

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (Self-reported outcome)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Mental health symptoms - Mindfulness vs Care as usual (6 weeks follow-up)

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Self-reported outcome</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns

Section	Question	Answer
		<i>(Self-reported outcome)</i>

Study arms

Mindfulness (N = 85)

Brief name	Mindfulness-based training programme [page 1421]
Rationale/theory/Goal	The aim of the program is to provide educators with support for self-management of stress as well as increases in mindfulness, self-awareness, and emotional regulation. The program introduces a range of experiential, physical and everyday exercises, such as mindful yoga, walking, eating, and breathing, along with empathetic listening, all of which are conducive to the cultivation of mindfulness and compassion and the promotion of self-care. [page 1421]
Materials used	At the beginning, all participants received a program booklet explaining key concepts (e.g., mindfulness and self-compassion) and practices (e.g., body scan and remembering kindness). [page 1421]
Procedures used	<ul style="list-style-type: none"> • A typical session consists of approximately 45 min of experiential and physical practice, 15 min of debriefing and sharing personal experiences, 10 min of reflection activities, 10 min of discussion and 10 min of facilitator-led didactic activities. During the 8-week training period. • Participants received weekly emails that reminded them of what they had learned and practiced in previous sessions, along with links to audio recordings of guided meditations and video clips presenting theoretical information. <p>[page 1421]</p>
Provider	13 facilitators with more than 5 years of practice experience, who had previously trained in implementing other mindfulness-based programs (e.g., mindfulness-based stress reduction) and were working professionally as mindfulness facilitators. Of the 13 facilitators, five were former teachers and five had corporate training backgrounds. In addition, six facilitators were practicing or had trained as psychologists, psychotherapists, or counsellors. [page 1421]
Method of delivery	The program adopts individual, didactic and group formats [page 1421]

Setting/location of intervention	Intervention was provided after school hours at school sites [page 1421]
Intensity/duration of the intervention	Eight 90-min weekly training sessions [page 1421]
Planned treatment fidelity	The eight training sessions of one participating school were video-recorded and rated by the first author, using checklists for mindfulness intervention fidelity with 11 questions (yes/ no) concerning fidelity areas of study design, training treatment delivery, treatment receipt, treatment enactment and effectiveness. [page 1421]
Actual treatment fidelity	The completed checklists demonstrated 100% intervention fidelity. [page 1421]
Other details	Participants received no compensation for the training. [page 1421]

Teaching as usual (N = 100)

Brief name	Teaching as usual [page 1419]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable

Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.68 Imamura, 2014

Bibliographic Reference Imamura, Kotaro; Kawakami, Norito; Furukawa, Toshi A; Matsuyama, Yutaka; Shimazu, Akihito; Umanodan, Rino; Kawakami, Sonoko; Kasai, Kiyoto; Effects of an Internet-based cognitive behavioral therapy (iCBT) program in Manga format on improving subthreshold depressive symptoms among healthy workers: a randomized controlled trial.; PloS one; 2014; vol. 9 (no. 5); e97167

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	UMIN Clinical Trials Registry (UMIN-CTR) (ID: UMIN000006210)

Study start date	Sep-2011
Aim	To determine whether an Internet-based computerised cognitive behavioural therapy (iCBT) program can decrease the risk of DSM-IV-TR major depressive episodes (MDE) during a 12-month follow-up of a randomized controlled trial of Japanese workers.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: information technology • Organisation size: large • Contract type: not reported • Seniority: mixed (managers and non-managers) • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	<ul style="list-style-type: none"> • diagnosed with a major depressive disorder in the past month (using the web-based self-administered version of the WHO Composite International Diagnostic Interview 3.0) • diagnosed with lifetime bipolar disorder (WHO-CIDI 3.0) • sick leave totalling 15 days due to personal health problems during the past 3 months • receiving medical treatment for mental health problems during the past month
Method of randomisation	Stratified permuted-block randomization. Participants were stratified into four strata based on two factors, a K6 score [55 or <5; Kessler's Psychological Distress Scale at the baseline survey and the company (A or B) to which each participant belonged.
Method of allocation concealment	Enrolment was conducted by a clinical research coordinator, and assignment was undertaken by an independent research assistant. The stratified permuted-block random table was password protected and blinded to the researcher. Only the research assistant had access to the table during random allocation.

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • In order to detect an effect size of 0.30 or greater at an alpha error rate of 0.05 and a beta error rate of 0.10, the estimated sample size was 235 participants per arm. With the anticipated dropout rate of 30%, the necessary sample size was 336 participants per arm. • An intention-to-treat (ITT) analysis was conducted. • Effect sizes and 95% CIs were calculated using Cohen's d among those who completed the questionnaire at baseline and at a follow-up. • A mixed-model for repeated measures conditional growth model analyses were conducted using a group (intervention and control) * time (baseline, three-month, and six-month follow-up) interaction as an indicator of intervention effect.
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 381 participants, 239 completed 12-month follow-up measures (62.7%) • Control: Out of 381 participants, 272 completed 12-month follow-up measures (71.4%)
Study limitations (author)	<ul style="list-style-type: none"> • Participants were recruited from two IT companies in Japan so findings may not be generalisable to other organisations. • Most participants were males, working as professionals, and university graduates (with good computer literacy), and had their own PCs in their offices or homes so findings may not be generalisable to other organisations. • The rate of completing lessons and homework was low. • The dropout rates were 37.3% in the intervention group and 28.6% in the control group. This may cause a selection bias, particularly if the intervention group participants with higher levels of depression were more likely to quit the program. • The participants in the control group received e-mails providing stress management tips. This may weaken the intervention effect. • There was the possibility that participants in the control group could have information about the iCBT program from participants in the intervention group at same workplace. This contamination may weaken the intervention effect. • All outcomes in the present study were measured by self-report, which may be affected by the perception of participants or situational factors at work.

Source of funding	Ministry of Education, Culture, Sports, Science and Technology Japan Society for the Promotion of Science.
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Study arms

internet CBT programme (N = 381)

381 participants were assigned to receive an internet-based CBT programme. Participants were recruited from two companies by invitation email

Control (N = 381)

381 participants were assigned to a control group. Participants were recruited from two companies by invitation email

Characteristics

Arm-level characteristics

Characteristic	internet CBT programme (N = 381)	Control (N = 381)
Age		
Mean (SD)	38 (9.2)	37.2 (8.8)
Men		
No of events	n = 325 ; % = 85.3	n = 314 ; % = 82.4
Women		
No of events	n = 56 ; % = 14.7	n = 67 ; % = 17.6

Characteristic	internet CBT programme (N = 381)	Control (N = 381)
High school	n = 43 ; % = 11.3	n = 34 ; % = 8.9
No of events		
Some college	n = 60 ; % = 15.7	n = 70 ; % = 18.4
No of events		
University	n = 245 ; % = 64.3	n = 242 ; % = 63.5
No of events		
Graduate school	n = 33 ; % = 8.7	n = 35 ; % = 9.2
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured at 6 months)

Employee outcomes

Outcome	internet CBT programme, Baseline, N = 381	internet CBT programme, 6 month, N = 381	Control, Baseline, N = 381	Control, 6 month, N = 381
Mental health symptoms Self-reported- Beck Depression Inventory-II (BDI-II)	n = 381 ; % = 100	n = 272 ; % = 71.4	n = 381 ; % = 100	n = 320 ; % = 84

Outcome	internet CBT programme, Baseline, N = 381	internet CBT programme, 6 month, N = 381	Control, Baseline, N = 381	Control, 6 month, N = 381
Sample size				
Mental health symptoms Self-reported- Beck Depression Inventory-II (BDI-II)	11.9 (8)	11.3 (9.6)	11.8 (8)	12.1 (8.7)
Mean (SD)				

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - internet CBT programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in intervention group)

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Missing outcome data and self-reported outcomes</i>)

Study arms

internet CBT programme (N = 381)

Brief name	Internet CBT program: Useful mental health solutions series for business [Imamura 2014, page 3]
Rationale/theory/Goal	Based on cognitive-behavioural therapy [Imamura 2014, page 1]
Materials used	Lessons, web-access, homework and feedback [Imamura 2014, page 3]
Procedures used	Participants completed six weekly lessons and homework within the iCBT program. They were allowed to complete the six lessons within 10 weeks after the baseline survey. Participants were sent e-mail reminders to complete each lesson and/or to submit homework if they had not already done so. CBT components included were self-monitoring skills, cognitive restructuring skills, assertiveness, problem-solving skills, and relaxation skills. [Imamura 2014, page 3]
Provider	Online content and feedback provided by clinical psychologists [Imamura 2014, page 3]
Method of delivery	Online [Imamura 2014, page 3]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Six weekly lessons to be completed within 10 weeks of baseline survey [Imamura 2014, page 3]
Tailoring/adaptation	Adapted to MANGA [Imamura 2014, page 3]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	none

Control (N = 381)

Brief name	Control group [Imamura 2014, page 3]
Rationale/theory/Goal	Not applicable
Materials used	Email message with short tips on non-CBT stress management. [Imamura 2014, page 3]
Procedures used	Participants in the control group were provided a chance to learn the iCBT program after their 6-month follow-up. [Imamura 2014, page 3]
Provider	Not reported

Method of delivery	Email [Imamura 2014, page 3]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.69 Jeffcoat, 2012

Bibliographic Reference Jeffcoat, Tami; Hayes, Steven C; A randomized trial of ACT bibliotherapy on the mental health of K-12 teachers and staff.; Behaviour research and therapy; 2012; vol. 50 (no. 9); 571-9

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Study start date	Mar-2007
Study end date	Oct-2007
Aim	To determine whether acceptance and commitment therapy bibliotherapy focused on transdiagnostic processes is practical and effective in preventing and alleviating a range of mental health distresses.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector - private • Industry: education • Size of organisation: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (teachers, administrators, counsellors, psychologists, behavioural analysts, librarians, custodians, nurses, technicians, and specialists)
Inclusion criteria	<ul style="list-style-type: none"> • At least 18 years of age • Able to read English • Able to access the internet regularly • Had to complete baseline measures
Exclusion criteria	Not reported
Method of randomisation	After submission of baseline measures, but before scoring, participants were randomly assigned by study staff to the work book or waitlist group in order of a truly random (non algorithmic) series of zeroes and ones generated by atmospheric noise and drawn from Random.org.

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis • A total of 236 school district personnel enrolled, which was about twice the size needed to detect an effect size of .6 (about the average ACT effect size at 90% power. • Adjusted means for outcome and process measures for the two conditions for each measurement occasion were presented (There were no significant pre-score differences on any measure.) • Hierarchical Linear Modelling (HLM) and Mixed Model Repeated Measures (MMRM) approaches were used to analyse parametric longitudinal outcomes using an intent-to-treat sample • Effect sizes (converted to Cohen's d) for F-tests were derived as suggested by Rosenthal and Rosnow (1991; see also Verbeke & Molenberghs, 2000).
Attrition	<ul style="list-style-type: none"> • Intervention: all 121 participants randomised to the intervention group received the intervention. 18 participants (14.9%) were lost at post test (some participants reported lack of time and some had left the school district). A total of 30 participants (24.8%) dropped out before follow up (some participants reported lack of time, some had left the school district and other did not recontact the researchers). • Control: 115 participants were allocated to the wait list. 6 participants (5.2%) were lost at post test (some participants reported lack of time and some had left the school district). A total of 20 participants (17.4%) dropped out before follow up (some participants reported lack of time, some had left the school district).
Study limitations (author)	<ul style="list-style-type: none"> • The sample was over 90% female, which may limit the generality of these results. • No data were collected from participants about possible concurrent mental health treatment or the details of their academic schedule. • Self-selected study population may have special characteristics that might have altered the results.
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow up • Self-reported outcome measures

	<ul style="list-style-type: none"> 1.7% (2 of 115) those in the waitlist condition obtained the workbook without being provided it by researchers. One of these participants reported reading and doing the exercises in the workbook, and another skimmed the content and exercises. None of the primary outcomes were changed by eliminating these participants, and thus they were retained due to the intent to treat analytic strategy.
Source of funding	Not reported

Study arms

Acceptance and Commitment Therapy (ACT) (N = 121)

121 participants were randomised to receive the intervention following pre-assessment. Participants self selected from emails and flyers sent by the District Wellness Office.

Wait list (N = 115)

115 participants were randomised to the wait list. Participants self selected from emails and flyers sent by the District Wellness Office.

Characteristics

Study-level characteristics

Characteristic	Study (N = 236)
Age	30 to 60
Range	
Gender	n = 215 ; % = 91
Women	

Characteristic	Study (N = 236)
No of events	
Teaching positions	
No of events	n = 147 ; % = 63
Counsellors, psychologists and behaviour analysts	
No of events	n = 21 ; % = 9
Other- including librarians, custodians, nurses, technicians and specialists	
No of events	n = 8 ; % = 19.5
Administrators	
No of events	n = 8 ; % = 3.5

Outcomes

Study timepoints

- Baseline
- 10 week (Follow up 10 weeks after the intervention)

Employee outcomes

Outcome	Acceptance and Commitment Therapy (ACT), 10 week vs Baseline, N = 121	Wait list, 10 week vs Baseline, N = 115
<p>Mental wellbeing Self reported - General health questionnaire 12 (GHQ-12) - estimates and SE from mixed model repeated measure approaches - sample size corresponds to n at follow-up</p> <p>Sample size</p>	n = 81 ; % = 66.9	n = 95 ; % = 82.6
<p>Mental wellbeing Self reported - General health questionnaire 12 (GHQ-12) - estimates and SE from mixed model repeated measure approaches - sample size corresponds to n at follow-up</p> <p>Custom value</p>	Estimate = -6.49; SE = 0.68	Estimate = -1.64; SE = 0.65
<p>Job stress Self reported - The stress subscale of the Depression Anxiety Stress Scales (DASS-21) - estimates and SE from mixed model repeated measure approaches - data for participants who showed mild stress at pre-test - sample size corresponds to n at follow-up</p> <p>Sample size</p>	n = 37 ; % = 30.6	n = 38 ; % = 33
<p>Job stress Self reported - The stress subscale of the Depression Anxiety Stress Scales (DASS-21) - estimates and SE from mixed model repeated measure approaches - data for participants who showed mild stress at pre-test - sample size corresponds to n at follow-up</p> <p>Custom value</p>	estimated Mdiff = -12.98, SE = 1.56	Estimated Mdiff = -7.04; SE = 1.38
<p>Mental health symptoms - Anxiety Self reported - The anxiety subscale of the Depression Anxiety Stress Scales (DASS-21) estimates and SE from mixed model repeated measure approaches -data for participants who showed mild anxiety at pre-test - sample size corresponds to n at follow-up</p> <p>Sample size</p>	n = 26 ; % = 22.5	n = 28 ; % = 24.3

Outcome	Acceptance and Commitment Therapy (ACT), 10 week vs Baseline, N = 121	Wait list, 10 week vs Baseline, N = 115
<p>Mental health symptoms - Anxiety Self reported - The anxiety subscale of the Depression Anxiety Stress Scales (DASS-21) estimates and SE from mixed model repeated measure approaches -data for participants who showed mild anxiety at pre-test - sample size corresponds to n at follow-up</p> <p>Custom value</p>	Estimate = -5.96; SE = 1.68	Estimate = 3.37; SE = 1.45

Mental wellbeing - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Anxiety - Polarity - Lower values are better

Employee outcomes

Outcome	Wait list vs Acceptance and Commitment Therapy (ACT), 10 week vs Baseline, N1 = 121, N2 = 115
<p>Mental wellbeing Self reported - General health questionnaire 12 (GHQ-12) - estimates and SE from mixed model repeated measure approaches - sample size corresponds to n at follow-up</p> <p>Sample size</p>	n1 = 81 ; %1 = 66.9, n2 = 95 ; %2 = 82.6
<p>Mental wellbeing Self reported - General health questionnaire 12 (GHQ-12) - estimates and SE from mixed model repeated measure approaches - sample size corresponds to n at follow-up</p> <p>Custom value</p>	Estimated mean difference = 4.86; 95% CIs = 3.00 to 6.71

Outcome	Wait list vs Acceptance and Commitment Therapy (ACT), 10 week vs Baseline, N1 = 121, N2 = 115
<p>Job stress Self reported - The stress subscale of the Depression Anxiety Stress Scales (DASS-21) - estimates and SE from mixed model repeated measure approaches - data for participants who showed mild stress at pre-test - sample size corresponds to n at follow-up</p> <p>Sample size</p>	<p>n1 = 37 ; %1 = 30.6, n2 = 38 ; %2 = 33</p>
<p>Job stress Self reported - The stress subscale of the Depression Anxiety Stress Scales (DASS-21) - estimates and SE from mixed model repeated measure approaches - data for participants who showed mild stress at pre-test - sample size corresponds to n at follow-up</p> <p>Custom value</p>	<p>Estimated mean difference = 5.94; p5% CIs = 1.80 to 10.09</p>
<p>Mental health symptoms - Anxiety Self reported - The anxiety subscale of the Depression Anxiety Stress Scales (DASS-21) estimates and SE from mixed model repeated measure approaches -data for participants who showed mild anxiety at pre-test - sample size corresponds to n at follow-up</p> <p>Sample size</p>	<p>n1 = 26 ; %1 = 22.5, n2 = 28 ; %2 = 24.3</p>
<p>Mental health symptoms - Anxiety Self reported - The anxiety subscale of the Depression Anxiety Stress Scales (DASS-21) estimates and SE from mixed model repeated measure approaches -data for participants who showed mild anxiety at pre-test - sample size corresponds to n at follow-up</p> <p>Custom value</p>	<p>Estimated mean difference = 9.33, 95% CIs = 4.90 to 13.76</p>

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Higher values are better

Mental health symptoms - Anxiety - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Acceptance and Commitment Therapy (ACT) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Employee outcomes - Job stress - Acceptance and Commitment Therapy (ACT) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Employee outcomes - Mental health symptoms - Anxiety - Acceptance and Commitment Therapy (ACT) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Employee outcomes - Mental wellbeing - Acceptance and Commitment Therapy (ACT) vs Wait list - tBaseline - vs - t10

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Employee outcomes - Job stress - Acceptance and Commitment Therapy (ACT) vs Wait list - tBaseline - vs - t10

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Employee outcomes - Mental health symptoms - Anxiety - Acceptance and Commitment Therapy (ACT) vs Wait list - tBaseline vs t10

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(unadjusted mean/SD was not presented)</i>
Overall bias	Risk of bias judgement	High <i>(Attrition, self-reported outcome and risk of bias in selection of reported result)</i>

Study arms

Acceptance and commitment therapy (N = 121)

Brief name	ACT bibliotherapy - Get Out of Your Mind & Into Your Life (Hayes & Smith, 2005) [page 572]
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Rationale/theory/Goal	<p>Bibliotherapy would be especially applicable to worksite populations if it could be shown to move transdiagnostic processes that have broad preventive and ameliorative impact for a wide variety of mental health problems. Psychological flexibility processes such as</p> <p>increased acceptance, mindfulness, and values-based action seem to qualify as examples of common core processes that predict a variety of mental health outcomes Acceptance and Commitment Therapy (ACT) appear to work in part by modifying such processes. [pages 571 and 572]</p>
Materials used	<ul style="list-style-type: none"> • Workbook • Online quizzes • Emails • Discussion/message board <p>[page 573]</p>
Procedures used	<ul style="list-style-type: none"> • Participants received their books distributed to their worksite mailboxes in sealed unmarked envelopes. • During the 8-week period in which participants were to read the book, they had access to 6 10-point quizzes that could be completed sequentially online at each participant's pace within those two months. • Standardized email feedback was given following quiz completion. • A discussion/message board became available. • Quizzes were incentivized by a fifty dollar lottery prize for each quiz. • Participants were offered recertification in-service credit if they completed all of the quizzes with 60% or better scores for each quiz <p>[page 573]</p>
Provider	Book Get Out of Your Mind & Into Your Life (Hayes & Smith, 2005) [page 572]
Method of delivery	Book and online quizzes [page 672 and 673]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8 weeks [page 573]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	14% of those in the first workbook group who completed post measures reported reading less than half the book. 24% of them said they read about half of the content and engaged in about half of the exercises. 62% reported being fully engaged in reading content and doing exercises. [page 573]
Other details	None

Wait list (N = 115)

Brief name	Wait list [page 573]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received the intervention after the follow-up period. [page 573]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable

Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.70 Jennings, 2019

Bibliographic Reference Jennings PA; Doyle S; Oh Y; Rasheed D; Frank JL; Brown JL; Long-term impacts of the CARE program on teachers' self-reported social and emotional competence and well-being.; Journal of school psychology; 2019; vol. 76

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2012

Aim	To determine the effectiveness of a mindfulness-based intervention designed to reduce stress in teachers.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (almost all teachers had a Master's/specialist degree or higher)
Inclusion criteria	<ul style="list-style-type: none"> • Principals in participating schools agreed to support enrolment and participation of at least four teachers, facilitate scheduling of research activities, and support distribution of study information to parents. Principals also agreed to release teachers for professional development days and to cover the cost of a substitute for one training day. • Teachers were identified based on the following criteria: K-5, general education, lead teacher in the classroom, taught the same students for the entirety of the school day, and had classrooms that were not gender segregated.
Exclusion criteria	Not reported
Method of randomisation	The RCT used a 2-level (teachers/classrooms, schools) multi-site cluster randomized trial design with intervention at level 2 (teachers) and schools serving as naturally occurring blocks. After baseline data collection, teachers were randomized to CARE or waitlist control by school and grade for each cohort. A block randomization method was employed to ensure groups of approximately equal sample size within schools.
Method of allocation concealment	Not reported
Unit of allocation	Individual

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Likely ITT analysis • A power analysis was published in the online supplementary materials from Jennings et al (2017) • Interrater reliability (IRR) was calculated using the 867 (32.7%) observations that were double-coded across pre- and post-test. IRR was calculated using a one-way random intraclass correlation (ICC). ICCs fell in the good to excellent range (.60 –.93) for all CLASS dimension and domain scores across pre- and post-test. [for post-intervention measures only] • The Little's missing completely at random (MCAR) test was conducted. MCAR tests resulted in nonsignificant chi-square statistics for all outcome measures, suggesting that missing data could be considered as missing at random. • No differences were found between groups on baseline outcome measures even after controlling for multiple pairwise contrasts • Three-level hierarchical linear growth models were employed to examine the effects of CARE on changes in teachers' well-being and social-emotional competence over three points in time (pre, post, follow-up).
Attrition	<ul style="list-style-type: none"> • Intervention: 17 participants dropped out between pre-test and follow-up (14% calculated by reviewer) • Control: 12 participants dropped out between pre-test and follow-up (11% calculated by reviewer)
Study limitations (author)	<ul style="list-style-type: none"> • School and teachers in the study sample participated voluntarily, meaning that the findings may not be generalisable to teachers mandated to training. • The magnitudes of the effects are generally small. • Self-reported outcomes
Study limitations (reviewer)	<ul style="list-style-type: none"> • Participants were mostly female, meaning that findings can not be generalised to all workplaces.
Source of funding	Institute of Educational Sciences

Study arms

Mindfulness-based intervention (N = 118)

118 participants were randomised to receive the mindfulness intervention. Participants were from schools that had been recruited to the study.

Wait list (N = 106)

106 participants were randomised to a wait list. Participants were from schools that had been recruited to the study.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 224)
Age	22 to 73
Range	
Age	40 (<i>empty data to empty data</i>)
Median (IQR)	
Women	n = 209 ; % = 93
No of events	
Men	n = 15 ; % = 7
No of events	
White	n = 74 ; % = 33
No of events	

Characteristic	Study (N = 224)
Hispanic	n = 69 ; % = 31
No of events	
African American/Black	n = 59 ; % = 26
No of events	
Asian	n = 10 ; % = 5
No of events	
Mixed racial background	n = 12 ; % = 5
No of events	
Socio economic - educational level	n = 214 ; % = 96
Master's/specialist or doctoral degree	
No of events	

Outcomes

Study timepoints

- Baseline
- 9.5 month (Follow up at 9.5 months)

Employee outcomes

Outcome	Mindfulness-based intervention, Baseline, N = 118	Mindfulness-based intervention, 9.5 month, N = 118	Wait list, Baseline, N = 106	Wait list, 9.5 month, N = 106
Mental wellbeing Self reported - 3 scales from the Teachers' Sense of Efficacy Questionnaire-Short Form Mean (SD)	3.55 (0.43)	3.66 (0.46)	3.55 (0.42)	3.57 (0.45)
Mental health symptoms Self reported - 6 scales: PHQ-8, GAD-7, PANAS, PROMIS, MBI-ES, PPS Mean (SD)	2.57 (0.73)	2.16 (0.66)	2.67 (0.76)	2.45 (0.71)

Mental wellbeing - Polarity - Higher values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Mindfulness-based intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Mental health symptoms - Mindfulness-based intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

Mindfulness-based intervention (N = 118)

Brief name	CARE (Cultivating Awareness and Resilience in Education) programme [page 186]
Rationale/theory/Goal	CARE is a mindfulness-based intervention designed to promote the social and emotional competence teachers need to manage stress and promote positive classroom interactions and student learning. [page 188]
Materials used	A workbook and audio recordings of mindfulness awareness practices to facilitate home practice [page 190]
Procedures used	<ul style="list-style-type: none"> • Material was taught over five 6-hour days. Program activities included didactic and experiential practices to promote emotional awareness and emotion regulation in the context of the classroom, mindful awareness of breath, body, and emotion, mindful walking and stretching, and listening and caring practices. • Each participant was scheduled for three one-to-one support calls over the course of the programme. Coaches followed a scripted protocol designed as a semi-structured interview based in motivational interviewing. • Adherence to the curriculum and quality of the facilitation were monitored by coders <p>[pages 188,190 and 191]</p>
Provider	<ul style="list-style-type: none"> • Team of 3 facilitators who met minimum requirements of a master's degree, two years of experience with the programme, and a personal mindfulness practice [pace 190] • Programme fidelity coders familiar with the CARE programme objectives and had at least 4 hours of coder training using observational tools [page 191]
Method of delivery	Group classes, one-to-one support calls and home practice [pages 190 and 191]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Total of 30 taught hours (five 6-hour days) delivered over the course of a school day. [page 188]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	<ul style="list-style-type: none"> • Almost all of the teachers (90%) attended at least four of the session days (M=4.49). • Adherence was high with an average of 88% (range=86–91%) of manualized facilitation activities completed. • Learning objectives were completed at an adequate to exemplary level (M=3.43, range=3.29–3.65 on a 0–4 scale). • Facilitation quality was also rated high (M=3.77, range=3.70–3.87 on a 0–4 scale). <p>[pages 190 and 191]</p>
Other details	Teachers were compensated for 6 h of training for one weekend day at the district approved training rate of \$19.12 an hour. Schools were compensated for substitute teachers for two program days that occurred during school hours; schools covered the cost for one day. There was no compensation for district professional development days. [page 191]

Wait list (N = 106)

Brief name	Wait list [page 186]
Rationale/theory/Goal	Not applicable

Materials used	Not applicable
Procedures used	Teachers received standard professional development activities as assigned by their schools for the first school year and were offered CARE in the spring of the following school year after all data collection was complete. [page 190]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.71 Johnson, 2020

Bibliographic Reference Johnson, Judith; Simms-Ellis, Ruth; Janes, Gillian; Mills, Thomas; Budworth, Luke; Atkinson, Lauren; Harrison, Reema; Can we prepare healthcare professionals and students for involvement in stressful healthcare events? A mixed-methods evaluation of a resilience training intervention.; BMC health services research; 2020; vol. 20 (no. 1); 1094

Study details

Study design	Interview study
Trial registration number	Not reported
Study start date	Nov-2018
Study end date	Jun-2019
Aim	Mixed-methods evaluation of a resilience coaching intervention designed to enhance healthcare professional and student preparedness for involvement in stressful healthcare events, particularly adverse events. A secondary aim was to investigate the issue of timing of delivery by comparing feasibility between student groups who received the intervention as part of their curriculum and qualified professional groups.
Country/geographical location	UK
Setting	Healthcare - Healthcare students and Healthcare professionals. Workshops were delivered in locations suitable to each group, including National Health Service (NHS) trust sites and on university premises.
Inclusion criteria	The eligibility criteria for participating in each workshop was being a health professional within that discipline or completing an education programme leading to a particular qualification.
Exclusion criteria	Not specified

Statistical method(s) used to analyse the data	<p>Interviews were transcribed verbatim. The initial analysis was completed by two researchers with backgrounds in nursing and psychology respectively, independently</p> <p>conducted line-by-line coding of the transcripts. Researchers took an inductive approach to derive key concepts and phrases regarding experiences and perceptions of the</p> <p>intervention. Through a series of discussions initial themes were developed from the coding. Refinement of themes and subthemes evolved over subsequent discussions through the course of the analysis until full agreement was reached on the final themes. A third researcher with a background in clinical psychology then assessed the</p> <p>themes for face validity.</p>
Attrition	Not reported
Study limitations (author)	<p>Not reported for qualitative element specifically. Authors highlighted the study may be limited by a lack of fidelity measurement as they did not monitor the coaching</p> <p>phone calls for fidelity to the model.</p>
Study limitations (reviewer)	Generalizability of the findings may be limited due to the small sample size and single intervention and workplace setting/sector (Healthcare).
Source of funding	NIHR Yorkshire and Humber Patient Safety Translational Research Centre [Funding Agency #1] under grant PSTR C-2016-006 and the NIHR CLAHRC Yorkshire and Humber [Funding Agency#2] under grant NIHR IS-CLA-0113-10020.
Theme 1	<p>Tension between mandatory and voluntary delivery</p> <p>All participants acknowledged a benefit for the intervention there were differing opinions regarding <i>whether the training would have the same impact if it was mandatory for staff</i> .</p> <p>Some suggested voluntary attendance in this study had led to an atmosphere in the room that enhanced the experience of the intervention for participants</p>

	<p>Some felt strongly that resilience should be a mandatory skillset for health professionals and requires basic training, where others raised concerns regarding the implications of mandatory training.</p> <ul style="list-style-type: none"> • <i>P1 (Paramedic) - I do feel that erm it should be mandatory because, at least initially in the basic training it should be covered and then further training can be voluntary</i> • <i>P2 (Paediatric Trainee doctor)- The challenges of getting time off at such short notice to do it [brief pause] so if it was built into a training programme where people were you know hospitals were forced to give people time off</i> • <i>P6 (Paramedic) – I think there’s a danger of, if people were told they had to go on the course I think that would be unhelpful and they would be a bad influence in the room. For those who wanted to do it</i>
<p>Theme 2</p>	<p>The importance of experience and reference points for learning</p> <p>A number of interviewees highlighted the need to have some experience of the health system and adverse events to draw upon to get the most out of the intervention.</p> <p>Participants who had been in health care for some time were possibly more easily able to reference past events and consider how they might apply the knowledge and skills gained.</p> <ul style="list-style-type: none"> • <i>P1 (Paramedic)– [having extensive health service experience] helped me and it I hope it helped er the other attendees</i> • <i>P3 (Midwife) – I related it to me, related it to real life you know as I said, all the case studies that we discussed, I’ve been through I’ve done it you know so I think the majority of the sort of midwives there would’ve been through one of, you know, one of the same adverse incidents</i>
<p>Theme 3</p>	<p>Valuing peer learning and engagement</p> <p>Participants converged on the value of a small group structure in the initial workshop element of the intervention, citing the benefits of stimulating discussion and engagement of all attendees.</p> <p>The mix of didactic and small group content, and the duration of session was positively received.</p> <ul style="list-style-type: none"> • <i>P7 (Obstetrics and Gynecology Trainee doctor) – It was good that it was a relatively small group it meant that people could be a bit more open...and discuss really...It encourages discussion points doesn’t it?... plenty of time</i>

	<p><i>to discuss what was your view...plenty of chance to kind of interact with the facilitator and the other members of the group.</i></p> <ul style="list-style-type: none"> • <i>P2 (Paediatric Trainee doctor) – Good I actually like the didactic bits because they were broken up, they were very relevant, very practical erm and then the discussion points</i> • <i>P3 (Midwife) – I’m really impressed with the sort of, the way the study day was yeah, you know it wasn’t too long... it was split up nicely, we did team work</i> • <i>P4 (Sonographer/Mammographer student) – She kept the interest for the time... your kind of concentration can sometimes wander. I didn’t find that that happened because I think the way they broke it down was quite good into sort of sections...</i>
<p>Theme 4</p>	<p>Opportunities to tailor learning</p> <p>The coaching phone call was critical to the consolidation of knowledge and for attendees to understand how they might apply their new-found skills in their personal context.</p> <p>The phone call component was identified in most interviews as a central and impactful aspect of the intervention. Some participants reported that they did not anticipate the impact the phone call would have on them and that this required careful planning to ensure they chose a suitable location and time for the discussion.</p> <ul style="list-style-type: none"> • <i>P1 (Paramedic) – I found the follow-up phone call personally very useful because I learnt things about myself that I hadn’t even considered</i> • <i>P2 (Paediatric Trainee doctor) - Yeah that [the phone call] would probably be my only thing so that made me a little uncomfortable afterwards... it was a really helpful discussion, but it was probably more private than the situation I was in</i> • <i>P5 (Midwife) – I think the phone call... gives you the opportunity to [brief pause] to have your say on a more personal level</i>

Study arms

Tailored resilience coaching (N = 66)

n=23 participated in the qualitative analysis. Tailored resilience coaching intervention comprising a workshop and one-to-one coaching session addressing the intrinsic challenges of healthcare work in health professionals and students. The resilience training intervention comprised a 3.5 h group workshop and 1 h one-to-one coaching phone call with a facilitator.

Characteristics

Study-level characteristics

Characteristic	Study (N = 66)
Age	35.4 (11.3)
Mean (SD)	
Gender (% Female)	84.1
Nominal	
Ethnicity	66
Nominal	
White %	80.3
Nominal	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes <i>(Mixed-methods evaluation of a resilience coaching intervention designed to enhance healthcare professional and student preparedness for involvement in stressful healthcare events, particularly adverse events. A secondary aim was to investigate the issue of</i>

Section	Question	Answer
		<i>timing of delivery by comparing feasibility between student groups who received the intervention as part of their curriculum and qualified professional groups.)</i>
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes <i>(Qualitative element explored participant experiences and perceptions of the intervention via interviews with a randomly selected sample of participants from each uni-disciplinary cohort to ensure all professional groups attending the training were included.)</i>
Research Design	Was the research design appropriate to address the aims of the research?	Yes <i>(Qualitative data collection explored i) participants' perceptions of the concept of resilience in healthcare and ii) what they thought worked well and what did not work well, to establish ways in which the intervention may be improved.)</i>
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes <i>(A purposive sampling method was used to recruit participants from a range of healthcare disciplines and also to sample both student and qualified groups. The study aimed to recruit from a range of healthcare disciplines, it was not possible to recruit from all key healthcare groups due to lack of access to participants (e.g., nurses). Interviews were undertaken with a randomly selected sample of participants from each uni-disciplinary cohort to ensure all professional groups attending the training were included.)</i>
Data collection	Was the data collected in a way that addressed the research issue?	Yes <i>(The qualitative interviews sought out four participants from each group who were randomly selected to participate in a qualitative interview. Where groups only comprised four participants all four were invited to the telephone interview. When the study authors were unable to collect data from participants at a specific time point, we still contacted them at the next time point. The justification for using telephone interviews was not specified and there is no evidence of method modification.)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Yes <i>(Qualitative interviews were conducted by independent qualitative researchers who were not involved in intervention delivery. The rationale for this is not specified and the authors do not speak to points regarding an examination of their own role, potential bias and influence but the independent nature of the researchers potentially reduces bias.)</i>

Section	Question	Answer
Ethical Issues	Have ethical issues been taken into consideration?	Yes <i>(All participants provided written informed consent prior to participation, with participant and data anonymity procedures outlined. The study was approved by the University of Leeds, School of Psychology Ethics Committee (PSC-509/29 November 2019) and received relevant NHS approvals (REC reference 19/HRA/0391).)</i>
Data analysis	Was the data analysis sufficiently rigorous?	Yes <i>(Interviews were transcribed verbatim. The initial analysis was completed by two researchers with backgrounds in nursing and psychology respectively, independently conducted line-by-line coding of the transcripts. Researchers took an inductive approach to derive key concepts and phrases regarding experiences and perceptions of the intervention. Through a series of discussions initial themes were developed from the coding. Refinement of themes and subthemes evolved over subsequent discussions through the course of the analysis until full agreement was reached on the final themes. A third researcher with a background in clinical psychology then assessed the themes for face validity.)</i>
Findings	Is there a clear statement of findings?	Yes <i>(The findings are outlined explicitly with themes outlined and verbatim quotes underpinning the themes. Evidence for and against themes are outlined where appropriate. The mixed methods approach did triangulate quantitative findings with qualitative findings.)</i>
Research value	How valuable is the research?	The research is valuable <i>(UK based but potentially limited as focused in one setting and one sector.)</i>
Overall risk of bias and relevance	Overall risk of bias	Low <i>(Clear aim that is appropriate for investigation via qualitative methods which sought to explore participant experiences and perceptions of the intervention. The purposive sampling followed by random selection for qualitative interview by telephone seems appropriate. The analytical approach utilizing independent and topic specialist researchers seemed appropriate and reduces potential bias. The findings are presented as themes with underpinning verbatim quotes.)</i>

Section	Question	Answer
Overall risk of bias and relevance	Relevance	Highly relevant (UK based; Healthcare and public sector. Potential reduced generalizability.)

D.72 Kakinuma, 2010

Bibliographic Reference Kakinuma, Mitsuru; Takahashi, Masaya; Kato, Noritada; Aratake, Yutaka; Watanabe, Mayumi; Ishikawa, Yumi; Kojima, Reiko; Shibaoka, Michi; Tanaka, Katsutoshi; Effect of brief sleep hygiene education for workers of an information technology company.; *Industrial health*; 2010; vol. 48 (no. 6); 758-65

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Study start date	Jun-2007
Study end date	Jul-2007
Aim	To investigate the effects of sleep hygiene education for workers of an information technology (IT) company.
Country/geographical location	Japan
Setting	Workplace:

	<ul style="list-style-type: none"> • Sector: private • Industry: information technology • Organisation size: large • Contract type: Not reported • Seniority: not reported • Income: professional (system engineers)
Inclusion criteria	Workers of an information technology company
Exclusion criteria	Shift workers
Method of randomisation	Participants were randomly assigned by department group using a tabular list.
Method of allocation concealment	Randomisation was conducted by an industrial hygienist who was not directly involved in the study.
Unit of allocation	Department group
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • No power calculations were reported • No ICC was reported • Analysis included subjects who completely answered all of the age, sex, and outcome measurements. • Student's t-test and the chi-square test were performed on the baseline data to assess differences between the sleep hygiene education and wait list group. • Efficacy of the intervention was determined by comparing the two groups for changes in outcomes 4 weeks after education. • Analysis of covariance (ANCOVA), adjusted for covariates which were significantly different between treatment arms at baseline, was used to compare changes between the two groups.
Attrition	Of the 307 subjects in the departments pre-assigned to the education group, 270 (87.9%) consented to participate in the study, and 194 (70.8%) of the 274 participants in the departments pre-assigned to the wait list group consented to

	participate. 214 (79.3%) of the 270 participants who attended the education sessions answered the post-education self-reported questionnaire, and 177 (91.2%) of the 194 participants in the wait list group returned the questionnaire.
Study limitations (author)	<ul style="list-style-type: none"> • Allocation was not fully random. Study participants were allocated in groups using an incomplete randomisation chart. • Assignment was performed prior to receiving consent from participants. It is possible that some participants may have refused to participate if they knew they were assigned to the control group. • The response rate for the questionnaires was relatively low. • Subjective measures were used. • The observation period was short. • The sleep habits checklist was unsigned and administered only to the sleep hygiene group. Therefore the relationship between effects and change in sleep habits could not be investigated. • Working hours were not investigated.
Study limitations (reviewer)	Not reported
Source of funding	Not reported

Study arms

Sleep hygiene (N = 307)

307 participants were randomised to receive a sleep hygiene intervention. Participants were all workers from a single organisation.

Wait list (N = 274)

274 participants were randomised to a wait list. Participants were all workers from a single organisation.

Characteristics

Arm-level characteristics

Characteristic	Sleep hygiene (N = 307)	Wait list (N = 274)
Age Characteristics for completers only	34.9 (9)	32.5 (9.5)
Mean (SD)		
Gender Men - characteristics for completers only	n = 176 ; % = 82.2	n = 140 ; % = 79.1
No of events		

Outcomes**Study timepoints**

- Baseline
- 4 week (Outcomes were measured 4 weeks after the intervention)

Employee outcomes

Outcome	Sleep hygiene, 4 week vs Baseline, N = 307	Wait list, 4 week vs Baseline, N = 274
Mental health symptoms Self-reported - Japanese version of the Centre for Epidemiological Studies Depression Scale (CES-D) - ICC not reported	n = 214 ; % = 69.7	n = 117 ; % = 42.7
Sample size		

Outcome	Sleep hygiene, 4 week vs Baseline, N = 307	Wait list, 4 week vs Baseline, N = 274
Mental health symptoms Self-reported - Japanese version of the Centre for Epidemiological Studies Depression Scale (CES-D) - ICC not reported Mean (SE)	-0.2 (0.39)	-0.22 (0.42)
Mental health symptoms Self-reported - Japanese version of the Centre for Epidemiological Studies Depression Scale (CES-D) - ICC not reported Mean (SD)	-0.2 (5.71)	-0.22 (4.54)

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Employee outcomes - Mental health symptoms - Sleep hygiene - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (Allocation was not fully random)
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Some concerns (Participants recruited following randomisation)
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low

Section	Question	Answer
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Randomisation bias and self-reported outcomes</i>)

Study arms

Sleep hygiene (N = 307)

Brief name	Sleep hygiene education [page 759]
Rationale/theory/Goal	Sleep hygiene education concerns various aspects of lifestyle and behaviours as well as environmental factors such as light, noise, and temperature for the intervention and prevention of insomnia [page 759]
Materials used	A check sheet to examine sleep habits. The content of the sleep habits check sheet and the sleep lecture was drawn from a combination of the Therapeutic Guidelines for Treating Sleep Disturbances published by a Japanese Ministry of Health, Labour and Welfare study group), a manual prepared by the US National Institutes of Health), and the 16 tips prepared for the general public by the American Academy of Sleep Medicine. [page 759]
Procedures used	<ul style="list-style-type: none"> • The intervention was designed to be readily implemented in the workplace • The contents of sleep hygiene education were to review current sleep habits, provide information on sleep hygiene in a lecture format, and establish sleep habit goals for the future. • Workers were instructed to complete the check sheet regarding their current sleep habits 10 min prior to the lecture.

	<ul style="list-style-type: none"> The lecture focused on the role and mechanism of sleep, the proper sleep environment for promotion of good sleep, relaxation therapies, and sleep simulation control therapy procedures, as well as caffeine control. The lecture was also followed by a 10-minute question and answer session. Email follow-up was conducted by the occupational health physician 2 weeks after the intervention. <p>[pages 759 and 760]</p>
Provider	Occupational health physician [page 760]
Method of delivery	Lectures and email [page 759 and 760]
Setting/location of intervention	Workplace [page 759]
Intensity/duration of the intervention	1-hour intervention [page 759]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 274)

Brief name	Wait list [page 760]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • The waiting list group was instructed to continue to lead an ordinary lifestyle. • Participants would also receive the same education as those in the intervention group at a later date. <p>[pages 759 and 760]</p>
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.73 Kaspereen, 2012

Bibliographic Reference Kaspereen, Dana; Relaxation intervention for stress reduction among teachers and staff; International journal of stress management; 2012; vol. 19 (no. 3); 238-250

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To examine how relaxation therapy (RT) can be effective in helping high school teachers and staff members reduce stress.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: medium • Contract: full time • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported

Method of randomisation	Once participants signed up, names were selected out of an envelope. The first 27 names were assigned to the experimental group and the next 27 participants were assigned to the control group, for a total of 54 participants.
Method of allocation concealment	Names selected out of envelope
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- likely that all participants randomised were analysed • Prior to commencing the study, power analyses were performed to determine adequate sample size. To have power of .80 (i.e., to have an 80% chance of rejecting the null hypothesis if it is false), it was determined that 27 subjects per sample population group would be needed. • A repeated-measures analysis of variance (ANOVA) was performed with each of the three measurements. The groups' mean scores on the PSS, PLSS, and SWLS were used for the dependent variable, and group membership and time were used for the independent variables.
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • only one modality used to collect data • The use of the Likert scales and multiple-choice responses may also have been a limitation • Intervention and questionnaires were administered by the same person • The administering of the second assessment 1 week after the last session of RT may be a limitation. In that week, participants may have had external circumstances that may have confounded the results of the study
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms

Relaxation therapy (N = 27)

27 participants were randomised to receive relaxation therapy. 54 participants out of 109 employees at a school self-selected to participate following recruitment activities.

Wait list (N = 27)

27 participants were randomised to the a wait list. 54 participants out of 109 employees at a school self-selected to participate following recruitment activities.

Characteristics

Arm-level characteristics

Characteristic	Relaxation therapy (N = 27)	Wait list (N = 27)
Age		
Mean (SD)	41.15 (12.39)	40.15 (10.92)
Gender		
n calculated from percentage by reviewer	n = 18 ; % = 66.7	n = 24 ; % = 88.9
No of events		
White		
No of events	n = 14 ; % = 51.9	n = 16 ; % = 59.3
African-American		
No of events	n = 9 ; % = 33.3	n = 6 ; % = 22.2

Characteristic	Relaxation therapy (N = 27)	Wait list (N = 27)
Hispanic	n = 3 ; % = 11.1	n = 4 ; % = 14.8
No of events		

Outcomes

Study timepoints

- Baseline
- 1 week (Outcomes were measured one week after the four-week intervention)

Employee outcomes

Outcome	Relaxation therapy, Baseline, N = 27	Relaxation therapy, 1 week, N = 27	Wait list, Baseline, N = 27	Wait list, 1 week, N = 27
Mental wellbeing Self-reported- Satisfaction with life scale (SWLS) Mean (SD)	27.07 (4.57)	28.93 (4.31)	35.44 (5.67)	23.19 (7.43)
Job stress (0-40) Self-reported- Perceived Stress scale Mean (SD)	17.3 (5.91)	10.44 (4.88)	16.26 (5.36)	16.85 (7.17)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Relaxation therapy - Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low <i>(Self-reported outcomes)</i>

Employee outcomes - Job stress - Relaxation therapy - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low (<i>Self-reported outcomes</i>)

Study arms

Relaxation therapy (N = 27)

Brief name	Relaxation programme- meditation, deep breathing, relaxing music [page 241]
Rationale/theory/Goal	The intervention was a customised relaxation programme, involving meditation, deep breathing and relaxation music, to focus on the job-related stressor that participants faced. [page 240]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The intervention was administered in in a group setting with all 27 participants • Each participant sat in a chair and was told to sit any way he or she felt most comfortable. • Participants were orally guided via script while playing soothing music. The script provided specific imagery so that the participants visualized aspects of the students, building, classrooms, and hallways in a more positive light and with a peaceful mind.

	[page 242]
Provider	Licensed professional counsellor, national board-certified clinical hypnotherapist, and doctoral student. [page 241]
Method of delivery	Group classes [page 242]
Setting/location of intervention	<ul style="list-style-type: none"> • Sessions during prep periods, lunches, and before and after school • In a private office <p>[page 242]</p>
Intensity/duration of the intervention	30 to 45-minute sessions weekly for 4 weeks [page 242]
Tailoring/adaptation	
Planned treatment fidelity	Not reported
Other details	None

Wait list (N = 27)

Brief name	Wait list [241]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the programme after the end of the study [page 241]
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.74 Kiley, 2018

Bibliographic Reference

Kiley, Kimberly A; Sehgal, Ashwini R; Neth, Susan; Dolata, Jacqueline; Pike, Earl; Spilsbury, James C; Albert, Jeffrey M; The effectiveness of guided imagery in treating compassion fatigue and anxiety of mental health workers.; *Social Work Research*; 2018; vol. 42 (no. 1); 33-43

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To examine the effects of pre-recorded guided imagery (GI) on compassion fatigue and state anxiety in mental health workers.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: health and social care • Organisation size: large • Contract type: not reported • Seniority: mixed • Income: mixed (education levels included: high school/associate degree, Bachelor's/some master's work, Master's degree)
Inclusion criteria	<ul style="list-style-type: none"> • Staff to work a minimum of three shifts per week • Participants must be willing and able to spend 10 to 15 minutes of three lunch breaks per week for the purpose of the study
Exclusion criteria	<ul style="list-style-type: none"> • Substance abuse, suicidal ideation or another serious mental health issue while not under the care of a trained mental health professional • The use of GI at the time of recruitment.
Method of randomisation	Before randomization, subjects were stratified by the median score on the Social Readjustment Rating Scale (SRRS) and the Neuroticism scale of the Big Five Inventory-10 (BFI-10). From the subgroups created by participants falling above or below the median score, randomisation was performed using a random assignment table.

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • An intent-to-treat approach was used whereby all randomized subjects were included in the analysis where possible • The average change score from pre-test to post-test for each group. • The study was powered for STAI. Because no literature was found documenting the standard deviation of STAI change scores with GI or other short-term wellness approaches such as meditation, a moderate standardized effect size of .5 was assigned. Using a two-tailed alpha and beta of .2, it was determined that a sample size of 126 would be needed to achieve statistically significant results with a moderate effect size.
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • The study was powered to detect a moderate effect size of .5, but we were unable to reach our sample size goal of 126 participants. • It is possible that this sample is biased, as no participants scored high on burnout or STS, or low on compassion satisfaction. • The randomisation failed to evenly distribute direct service staff and supervisors among the control and GI groups. • Difficulty in treatment adherence occurred.
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term outcomes were measured • Outcome measures were self-reported
Source of funding	Not reported

Study arms

Guided imagery (N = 35)

35 participants were randomised to the guided imagery intervention. Participants from a single agency were recruited either face-to-face or by email.

Usual practice (N = 34)

34 participants were randomised to the control group. Participants from a single agency were recruited either face-to-face or by email.

Characteristics**Arm-level characteristics**

Characteristic	Guided imagery (N = 35)	Usual practice (N = 34)
18 to 34	n = 16 ; % = 46	n = 9 ; % = 26
No of events		
35 to 54	n = 13 ; % = 37	n = 18 ; % = 53
No of events		
55 years and older	n = 4 ; % = 11	n = 6 ; % = 18
No of events		
Missing data	n = 2 ; % = 6	n = 1 ; % = 3
No of events		
Women	n = 25 ; % = 71	n = 27 ; % = 79
No of events		

Characteristic	Guided imagery (N = 35)	Usual practice (N = 34)
Men	n = 7 ; % = 20	n = 5 ; % = 15
No of events		
Missing data	n = 3 ; % = 9	n = 2 ; % = 6
No of events		
African-American	n = 6 ; % = 17	n = 12 ; % = 35
No of events		
White	n = 24 ; % = 69	n = 19 ; % = 56
No of events		
Multiracial	n = 2 ; % = 6	n = 1 ; % = 3
No of events		
Hispanic	n = 0 ; % = 0	n = 0 ; % = 0
No of events		
Other	n = 0 ; % = 0	n = 1 ; % = 3
No of events		
Missing data	n = 3 ; % = 8	n = 1 ; % = 3
No of events		
High school/associate degree	n = 4 ; % = 11	n = 6 ; % = 18
No of events		

Characteristic	Guided imagery (N = 35)	Usual practice (N = 34)
Bachelor's/some master's work	n = 12 ; % = 34	n = 9 ; % = 26
No of events		
Master's degree	n = 16 ; % = 46	n = 17 ; % = 50
No of events		
Missing data	n = 1 ; % = 3	n = 0 ; % = 0
No of events		

Outcomes

Study timepoints

- Baseline
- 0 week (Follow-up at the end of the 4-week period)

Employee outcomes

Outcome	Guided imagery, 0 week vs Baseline, N = 35	Usual practice, 0 week vs Baseline, N = 34
Job stress (0-40) Self-reported - Perceived stress scale	n = 29 ; % = 82.9	n = 29 ; % = 85.3
Sample size		
Job stress (0-40) Self-reported - Perceived stress scale	-1.83 (4.16)	-0.35 (4.85)

Outcome	Guided imagery, 0 week vs Baseline, N = 35	Usual practice, 0 week vs Baseline, N = 34
Mean (SD)		
Mental health symptoms Self-reported - State trait anxiety inventory short form	n = 31 ; % = 88.6	n = 31 ; % = 91.2
Sample size		
Mental health symptoms Self-reported - State trait anxiety inventory short form	-3.56 (2.18)	-1.75 (1.42)
Mean (SD)		
job satisfaction Self-reported - compassion satisfaction subscale of ProQOL-V	n = 28 ; % = 80	n = 29 ; % = 85.3
Sample size		
job satisfaction Self-reported - compassion satisfaction subscale of ProQOL-V	0.71 (3.47)	-0.1 (3.41)
Mean (SD)		

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Guided imagery vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Guided imagery vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Guided imagery vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Guided imagery (N = 35)

Brief name	Pre-recorded guided imagery [page 33]
Rationale/theory/Goal	Guided imagery (GI) is a relaxation technique that relies on descriptive language to facilitate listener visualization of detailed, calming images, with the goal of achieving a relaxation response. [page 34]
Materials used	MP3 players containing six GI tracks [page 34]
Procedures used	<ul style="list-style-type: none"> • Tracks of differing lengths (between six and 15 minutes) were chosen to conform to the needs of staff with various amounts of free time on any given day. • The GI tracks were free or low cost, aimed at a goal of relaxation and stress relief, and included a script describing a peaceful setting (pleasant imagery). • Participants were instructed to listen to at least one GI track three times per week for four weeks • Participants were not given set guidelines for determining which tracks to chose <p>[pages 34 and 36]</p>
Provider	Recorded audio tracks [page 34]

Method of delivery	Recorded audio tracks [page 34]
Setting/location of intervention	Workplace during breaks [pages 36 and 37]
Intensity/duration of the intervention	At least one GI track (length between 6 and 15 minutes) three times per week for four weeks [pages 34 and 36]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 34)

Brief name	Treatment as usual [page 37]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were asked to take a 10-minute break (the average of the GI track lengths) and instructed to do what they normally do during a break. [page 37]

Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.75 Kinman, 2020

Bibliographic Reference

Kinman, Gail; Grant, Louise; Kelly, Susan; 'It's My Secret Space': The Benefits of Mindfulness for Social Workers; British Journal of Social Work; 2020; vol. 50 (no. 3); 758-777

Study details

Study design	Interview study
Trial registration number	Not reported
Aim	Evaluates the effects of a mindfulness intervention on several factors previously found to underpin resilience and well-being in the profession. It explores participants' experiences of the program and the benefits of mindfulness for their well-being and job performance.
Country/geographical location	UK
Setting	Public sector - social work
Inclusion criteria	Not specified - all participants were social workers (n=26)
Exclusion criteria	Not specified
Statistical method(s) used to analyse the data	Mixed methods. Quantitative study is excluded on study design (non-randomized, pre-post design). Qualitative open-ended questions (via questionnaire) and semi-structured interviews following completion of the intervention program. Analysis involved the pooling and thematic analysis of qualitative data using Braun et al. (2014) requiring familiarization with the data, generating initial codes, identifying and reviewing themes, defining them and generating a written analysis of themes using examples from the text.
Attrition	Not reported
Study limitations (author)	Small self-selected sample size; lack of consideration of demographic and work-related factors (such as job experience) in the uptake and benefits of mindfulness training;
Study limitations (reviewer)	Single site involving social workers only may limit the generalizability of the findings. Lack of rationale for the methodological approach to study and analysis. Lack of consideration of the impact of the researcher on qualitative data collection and analysis; Unclear who or how the analysis was undertaken and the potential bias attached to this.
Source of funding	Not reported

<p>Theme 1</p>	<p>Positive impact: personal and work</p> <p>Training had been well-received and was generally considered beneficial for the participants' well-being and personal and professional functioning.</p> <p>Participants outlined that mindfulness helped manage the stress of the job and had potential to enhance emotional resilience. Some disclosed that participating in the programme had been transformational and mindfulness had become part of their everyday routine.</p> <ul style="list-style-type: none"> • <i>"I have incorporated the exercises into my working day without realising it. When we were first taught to do them, I thought this would never happen as I am always rushing around and never still, but now they have become part of how I work and help me remain well.</i> <p>Improved mental clarity</p> <ul style="list-style-type: none"> • <i>"I can make more space in my mind and avoid a cloudy head' and helped them achieve a state of tranquillity: 'I have re-acquainted myself with what stillness and calm feels like . . . I had totally forgotten"</i> <p>Increased self-awareness, helped recognition of the early warning signs of stress, raising awareness that action was needed to avoid going into 'panic mode'.</p> <ul style="list-style-type: none"> • <i>'I no longer feel like I am spiralling out of control—it has given me time to unwind and breathe'.</i> <p>Mindfulness was thought to increase effectiveness at work and enhanced their awareness of the cognitive and emotional processes influencing their decisions and actions</p> <ul style="list-style-type: none"> • <i>Before a meeting, or in between client visits, I take a moment to ground myself and breathe rather than whipping everything up, rushing off and then galloping through it.</i> <p>Participants outlined the benefits of mindfulness for interactions with service users in terms of improved listening skills and the ability to determine what people were 'really</p>
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	<p>saying'. This helped participants to avoid the mistakes and misunderstandings that can occur under conditions of high pressure, improving the quality of decision-making.</p> <ul style="list-style-type: none"> <i>I find that mindfulness helps you be 'in the here and now' with the family rather than springing into action and thinking of their end goal. This can be difficult in child protection work as we can lose sight of why we are there.</i> <p>An impact on the personal life of participants for example the ability to avoid ruminating about work concerns and restore physical and mental resources.</p> <ul style="list-style-type: none"> <i>Following the training, I realised I was carrying work around in my head all the time which was draining me. I realised that when I switch off my computer I also need to switch off work in my mind.</i>
Theme 2	<p>Facilitator knowledge</p> <p>Positive comments were made about the course content and the skills and knowledge of the teacher. Most participants indicated that her experience as a qualified social worker enhanced the relevance of the training, as she had insight into the job and the demands they experienced.</p>
Theme 3	<p>Intervention content</p> <p>The majority indicated that the techniques included were easy to learn but the shorter exercises, such as breathing and the mindful pause, were generally considered more practical than the longer ones, such as the body scan.</p>
Theme 4	<p>Barriers to engagement</p> <p>Sub-theme: Finding time</p> <p>Lack of time and competing professional and personal demands were barriers to its practice.</p> <ul style="list-style-type: none"> <i>Time is a huge barrier. A full diary makes being mindful challenging, especially when juggling everything simultaneously is the norm for social workers.</i>

	<p>Participants outlined that to 'maximise the benefits of mindfulness' exercises needed to be incorporated into the daily routine or practice opportunistically. Some participants highlighted that the workplace was not conducive to mindfulness practice, so they had to be creative in finding the right time and place</p> <ul style="list-style-type: none"> <i>I do it in my car in the morning. It is my secret space where I can take a breath and contemplate and If I know I am going to have a busy day, I do an exercise before I leave home before I get bogged down with phone calls and meetings.</i> <p>A reluctance to prioritise self-care due to feelings of guilt, and the need to give themselves 'permission' to relax.</p> <ul style="list-style-type: none"> <i>The main barrier to being more mindful is me. I cannot allow myself to relax, as I am always busy inside and outside of work and it all seems rather self-indulgent. So, I guess I need to work on myself.</i> <p>Classes provided opportunities to be mindful during the classes, as participants had the time, space and 'permission' to fully engage. Some participants believed that regular top-up sessions would refresh their knowledge of mindfulness and reinforce its benefits but finding time to attend would be challenging.</p>
Theme 5	<p>Organizational culture</p> <p>The role played by organisations in not only providing training to staff, but also fostering an environment that supported mindfulness was highlighted.</p> <ul style="list-style-type: none"> <i>Mindfulness is brilliant, but it is not our team culture and is a long, long way away from becoming a social work culture. This must happen if mindfulness is to become sustainable.</i>

Study arms

Mindfulness (N = 26)

Eight-week course, led by an experienced mindfulness practitioner (who was also a qualified social worker), introduced participants to mindfulness. The course was an adapted form of Mindfulness Based Stress Reduction/Mindfulness Cognitive Therapy. It included a

range of practices and reflective exercises (such as body-scan, breathing and the self-compassion break) designed to help participants reduce the impact of worry and rumination and improve their well-being

Characteristics

Study-level characteristics

Characteristic	Study (N = 26)
Age	43 (10.65)
Mean (SD)	
Gender	85
% Female	
Nominal	
Ethnicity	82
%White British/White other	
Nominal	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes (Evaluates the effects of a mindfulness intervention on several factors previously found to underpin resilience and well-being in the profession. It explores participants' experiences of the program and the benefits of mindfulness for their well-being and job performance.)

Section	Question	Answer
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes <i>(The study sought to explore participants' experiences of the mindfulness program and the benefits for their well-being and job performance.)</i>
Research Design	Was the research design appropriate to address the aims of the research?	Can't tell <i>(The research design is appropriate (qualitative) but the authors have not provided a rationale for their approach. The method section lacks rationale and discussion.)</i>
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes <i>(Invitation to participate was communicated via the Local Authority where potential participants worked with all 26 participants recruiting representing the entire cohort. However only 4 telephone interviews were undertaken and it is unclear if these were 1-to-1 or group interviews.)</i>
Data collection	Was the data collected in a way that addressed the research issue?	Can't tell <i>(The setting for the data collection was unclear. Reference is made to telephone interviews but the setting in which this took place and why this method was adopted is unclear. No reference is made to a topic guide but an overview of some of the questions asked are outlined.)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Can't tell <i>(It is unclear if a critical examination of researcher role has been undertaken on their influence on research question formulation, data collection or sample recruitment. It is unclear if the researcher delivered both the intervention and the evaluation and what steps had been taken to reduce potential bias in the approach outlined.)</i>
Ethical Issues	Have ethical issues been taken into consideration?	Yes <i>(The study complied with the ethical requirements of the British Psychological Society and was approved by the ethics committee of the University of Bedfordshire, UK. Those who agreed to participate were assured of their anonymity and confidentiality both in writing and at the start of the first session. The local authority gave permission to obtain data, as they wished to establish whether the mindfulness training yielded any benefits for staff. Data were kept on a secure password protected website.)</i>

Section	Question	Answer
Data analysis	Was the data analysis sufficiently rigorous?	Can't tell <i>(The interview data and data obtained from the open-ended question were pooled and thematically analysed using Braun et al. (2014). This involved data familiarization, generating initial codes, identifying and reviewing themes, defining them and generating a written analysis of themes using examples from the text. The method is limited in its rationale for the thematic analysis for example how many researchers were involved and details regarding the process. It is not clear how the researcher role and its impact on the analysis was considered.)</i>
Findings	Is there a clear statement of findings?	Can't tell <i>(Narrative outlines key findings with themes embedded in the narrative. The themes are not clearly outlined and do require some interpretation. These are underpinned by verbatim quotes. It is unclear how many researchers were involved in the analysis.)</i>
Research value	How valuable is the research?	The research has some value
Overall risk of bias and relevance	Overall risk of bias	Moderate <i>(The study outlines a clear aim and an appropriate methodology but there is a lack of detail regarding the rationale for the approaches adopted. It is unclear how the analysis was undertaken exactly who was involved and the potential impacts of the research on the recruitment of sample, collection of data and its analysis.)</i>
Overall risk of bias and relevance	Relevance	Relevant

D.76 Kloos, 2019

Bibliographic Reference

Kloos, Noortje; Drossaert, Constance H C; Bohlmeijer, Ernst T; Westerhof, Gerben J; Online positive psychology intervention for nursing home staff: A cluster-randomized controlled feasibility trial of effectiveness and acceptability.; International journal of nursing studies; 2019; vol. 98; 48-56

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Study start date	Apr-2015
Study end date	Jul-2015
Aim	To determine whether a positive psychology intervention is effective in improving general wellbeing, job satisfaction and work engagement of nursing staff.
Country/geographical location	The Netherlands
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: social care (nursing homes) • Organisation size: not reported • Contract type: mixed (part time and full time) • Seniority: not reported • Income: mixed (job roles included registered nurse, licensed practical nurse, nurse assistant and student)
Inclusion criteria	All nursing staff of the included units for physically frail older adults in the participating nursing homes
Exclusion criteria	Not reported
Method of randomisation	Cluster randomization was conducted by the first author at nursing home level using random.org

Method of allocation concealment	Not reported
Unit of allocation	Cluster- nursing home
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Taking into account a 25% loss to follow-up, a power analysis indicated that 86 participants divided over two groups were needed to have 80% power for detecting a small sized effect. • When additionally taking into account an inflation factor for nursing home location clustering of 0.93 ($1/(1+(4 \text{ locations}-1) \times \text{ICC } 0.0245)$ (SF-36 mental component; Cosby et al., 2003)), 99 participants were needed. • The intervention and control group were compared on socio-demographics and baseline outcome measures, using independent sample t-tests and χ^2 tests. Variables on which the groups differed significantly would be included as covariates in the main analyses. • Independent sample t-tests and χ^2 tests were also used to compare demographics of responders and non-responders, and to compare demographics and main outcome measures of completers and T1 dropouts. • Modified intention-to-treat analyses were conducted with the Linear Mixed Models (LMM) procedure, including all nursing staff who participated in one of the questionnaires. • The LMM analyses included the fixed effects of group (intervention vs. control), and time as repeated measure (T0 vs. T1), and group x time interaction for each well-being outcome measure (i.e., general well-being, job satisfaction or work engagement). • To control for clustering, nursing home locations and participants within locations were included as additional random effects in all analyses.
Attrition	<ul style="list-style-type: none"> • At T0, the response was lower in the control group (60%) than in the intervention group (82%, $\chi^2 (1) = 10.8$, $p = .001$), but no differences on any of the available demographic variables (i.e., age, gender, marital status, work experience, function, and number of hours worked per week) were found between participants and non-responders at T0. • T1 drop-out (23%) did not differ between conditions ($\chi^2 (1) = 1.5$, $p = .28$). • Completers reported higher baseline job satisfaction ($M = 15.9$, $SD = 2.3$) than T1 drop-outs ($M = 14.4$, $SD = 2.6$, $t(123) = 2.8$, $p = .006$), and higher work engagement ($M = 4.9$, $SD = 0.9$) than T1 drop-outs ($M = 4.3$, $SD = 1.1$, $t(123) = 2.7$, $p = .009$).

Study limitations (author)	<ul style="list-style-type: none"> • Limited sample size • Did not include content analyses of the exercises, so have no knowledge of how serious nursing staff adhered to the exercises. • Long-term effects could not be tested because this online intervention was part of a larger project including other interventions aimed at improving well-being of residents. • Intrinsic motivation and evaluation were only measured at post-test • The sample consisted solely of Dutch nursing home staff, who were mostly licensed practical nurses with relatively high baseline well-being • Participants were quite familiar with internet facilities: they were expected to regularly read their work email and work with an electronic client report. This limits generalizability of acceptability of such an online positive psychology intervention to other countries, where there may be a higher percentage of nursing aids, and where nursing staff are not as adept with internet facilities.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • Participants in the control condition tended to have higher baseline job satisfaction • Nursing staff in the control condition were slightly older and more often married
Source of funding	Zorggroep Sint Maarten, Denekamp, The Netherlands

Study arms**Positive psychology (N = 88)**

88 participants, from 2 randomised nursing homes, received the intervention.

Usual practice (N = 77)

77 participants, from 2 randomised nursing homes, received the intervention.

Characteristics

Arm-level characteristics

Characteristic	Positive psychology (N = 88)	Usual practice (N = 77)
Age		
Mean (SD)	39.6 (13)	44.7 (10)
Women		
No of events	n = 81 ; % = 96	n = 48 ; % = 92
Men		
No of events	n = 3 ; % = 4	n = 4 ; % = 8
Registered nurse		
No of events	n = 7 ; % = 8	n = 1 ; % = 2
Licensed practical nurse		
No of events	n = 65 ; % = 77	n = 46 ; % = 89
Nurse assistant		
No of events	n = 8 ; % = 10	n = 4 ; % = 8
Student		
No of events	n = 4 ; % = 5	n = 1 ; % = 2

Outcomes

Study timepoints

- Baseline
- 12 week (12 weeks from baseline, following the 8-12 week intervention)

Employee outcomes

Outcome	Positive psychology, Baseline, N = 88	Positive psychology, 12 week, N = 88	Usual practice, Baseline, N = 77	Usual practice, 12 week, N = 77
Mental wellbeing (0-5) Self reported - Dutch version of the Mental Health Continuum-Short Form (MHC-SF) - custom value relates to cluster adjusted sample sizes as calculated by reviewer Sample size	n = 79 ; % = 89.8	n = 69 ; % = 78.4	n = 49 ; % = 63.6	n = 38 ; % = 49.4
Mental wellbeing (0-5) Self reported - Dutch version of the Mental Health Continuum-Short Form (MHC-SF) - custom value relates to cluster adjusted sample sizes as calculated by reviewer Custom value	54	42	28	23
Mental wellbeing (0-5) Self reported - Dutch version of the Mental Health Continuum-Short Form (MHC-SF) - custom value relates to cluster adjusted sample sizes as calculated by reviewer Mean (SD)	3.7 (0.8)	3.6 (0.7)	3.5 (0.8)	3.5 (0.7)
job satisfaction (0-20) Self reported - 5 items from the Maastricht Job Satisfaction Scale for healthcare (MAS-GZ) - custom value relates to cluster adjusted sample sizes as calculated by reviewer	n = 79 ; % = 89.8	n = 69 ; % = 78.4	n = 49 ; % = 63.6	n = 38 ; % = 49.4

Outcome	Positive psychology, Baseline, N = 88	Positive psychology, 12 week, N = 88	Usual practice, Baseline, N = 77	Usual practice, 12 week, N = 77
Sample size				
job satisfaction (0-20) Self reported - 5 items from the Maastricht Job Satisfaction Scale for healthcare (MAS-GZ) - custom value relates to cluster adjusted sample sizes as calculated by reviewer	45	42	28	32
Custom value				
job satisfaction (0-20) Self reported - 5 items from the Maastricht Job Satisfaction Scale for healthcare (MAS-GZ) - custom value relates to cluster adjusted sample sizes as calculated by reviewer	15.2 (2.6)	15.3 (2.2)	16 (2.3)	15.1 (2.2)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Mental wellbeing - Positive psychology vs Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Baseline job satisfaction was higher in the intervention group</i>)

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns <i>(Attrition was higher in the control group)</i>
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Baseline job satisfaction was higher in the intervention group, attrition was higher in the intervention group, and self-reported outcome)</i>

Employee outcomes - job satisfaction - Positive psychology vs Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Baseline job satisfaction was higher in the intervention group)</i>

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns (Attrition was higher in the control group)
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (Outcome measure was self reported)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (Baseline job satisfaction was higher in the intervention group, attrition was higher in the intervention group, and self-reported outcome)

Study arms

Positive psychology (N = 88)

Brief name	Online gamified version of based on an existing multicomponent Positive Psychology intervention "This is Your life" (Bohlmeijer and Hulsbergen, 2013, 2018). [page 50]
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Rationale/theory/Goal	The multicomponent This Is Your Life intervention consists of evidence-based activities from several positive psychology theories. Positive psychology interventions have particularly great potential as a self-care technique for nursing staff. The flexibility provided by the online self-help format fits well with shift-working nursing staff, and makes it relatively easy to provide to all employees of the care organization. [page 49]
Materials used	Website [page 50]
Procedures used	<ul style="list-style-type: none"> • The intervention was implemented by the care organization as a mandatory course for all nursing staff in the participating units of the intervention group • Staff were informed about the study in writing, and invited by email to complete the online baseline questionnaires (T0). • Participants in the intervention group were asked to complete an evaluation of the intervention and indicate their motivation to complete the intervention • Participants received 1 h of works payment for completing both (T0 and T1) measurements. • In the online This Is Your Life intervention, eight modules cover six key topics of well-being: (1) positive emotions; (2) discovering and using strengths; (3) optimism; (4) self-compassion; (5) resilience, and (6) positive relations. Each module consists of psycho-education and approximately five evidence-based positive psychology exercises that can be completed multiple times. • Gamified aspects of the intervention include a storyline of following a journey towards a flourishing life (visualized with different places on a map), guidance by an avatar of a professor, and receiving tailored automatic feedback. • The online training is completed in chronological order, with participants earning a key to access the next module upon finishing the mandatory activities, and receiving a badge upon finishing each lesson. • The interface of the online training was explained in a face-to-face introduction on site, and with website manuals. • Participants were advised to complete one lesson per week, finishing the intervention in eight weeks, but login codes remained valid for twelve weeks. • Completing the intervention was rewarded with both 9 h of works payment and eight Dutch accreditation hours for the nursing specialist's registry. <p>[pages 50 and 51]</p>
Provider	Online [page 50]
Method of delivery	Online [page 50]

Setting/location of intervention	At home [page 50]
Intensity/duration of the intervention	8 to 12 weeks [page 50]
Tailoring/adaptation	Based on a small pilot study with three nursing staff and one team leader, the amount of text was reduced and the wording was altered to better suit the lower education level of the current participants. [page 50]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	65 nursing staff (74%) completed all modules of the intervention, one participant completed 6 modules, and 9 participants completed 3 or less modules. The evaluation of the intervention was filled out by 44 intervention participants (50%), most of whom (93%) had completed all modules of the intervention. [page 52]
Other details	None

Usual practice (N = 77)

Brief name	Usual practice [page 50]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable

Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.77 Kojima, 2010

Bibliographic Reference

Kojima, Reiko; Fujisawa, Daisuke; Tajima, Miyuki; Shibaoka, Michi; Kakinuma, Mitsuru; Shima, Satoru; Tanaka, Katsutoshi; Ono, Yutaka; Efficacy of cognitive behavioral therapy training using brief e-mail sessions in the workplace: a controlled clinical trial.; *Industrial health*; 2010; vol. 48 (no. 4); 495-502

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jul-2007
Study end date	Dec-2007
Aim	To evaluate the efficacy of a CBT training programme in improving depression and self-esteem in workers.
Country/geographical location	Japan
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: white-collar workers
Inclusion criteria	Clerical, technical, and research staff aged between 30 and 35 years
Exclusion criteria	Employees with health-related occupational restrictions or who had a history of, or were currently receiving, treatment for a mental disease.
Method of randomisation	Not reported
Method of allocation concealment	Randomisation was conducted by people not directly involved in the study.

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis was performed using the last-observation-carried-forward method (data from one week after the end of the programme was used for participants where no 3-month follow-up data was available). • Between-group differences for the intervention and control groups in the change in CES-D or Self-Esteem Scale scores from baseline to three months after the end of training was assessed by analysis of covariance (ANCOVA), with the baseline score in each group as the covariate. Similarly, ANCOVA was also used with the baseline score in each group as the covariate to determine between-group difference in the change in scores regarding understanding of stress control skills or the will to apply these stress control skills. • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 137 participants randomised, 32 (23.4%) responded only to the 1-week questionnaire, and 81 (59.1%) participants responded to the 3-month follow-up questionnaire. • Control: Out of 124 participants randomised, 30 (24.2%) responded only to the 1-week questionnaire, and 61 (49.2%) participants responded to the 3-month follow-up questionnaire.
Study limitations (author)	<ul style="list-style-type: none"> • Randomization in our study was not perfect; participants were randomly assigned in each division by employee number to either the intervention or control group without registering at Randomized-Clinical-Trial registration centre or using computer-generated random numbers. • Attributes inquired of participants were limited, making for a relatively homogeneous study population. • Participants were white-collar workers engaged in research and development or clerical work in a single company, and were familiar with computers and able to efficiently comprehend information presented on the screen. We therefore cannot necessarily ensure that similar results will be obtained among workers in other industries or occupations. In addition, workers were 30 to 35 yr old, leaving the efficacy of this method in other age groups unknown. • Short-term follow-up. • The percentage of respondents to the follow-up questionnaire was not very high overall, and actually relatively low in the control group. Although no significant difference in the baseline data was observed between responders and non-responders, possible response bias cannot be ruled out. • Original statements were used to assess the understanding of the stress control skill and the will to apply it.

	<ul style="list-style-type: none"> Several possible confounding factors, including daily life stressors and working hours, were not assessed in our study.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Health and Labor Research

Study arms

CBT (N = 137)

137 participants were randomised to receive CBT. Participants opted to participate in the study from a single organisation.

Wait list (N = 124)

124 participants were randomised to a wait list. Participants opted to participate in the study from a single organisation.

Characteristics

Arm-level characteristics

Characteristic	CBT (N = 137)	Wait list (N = 124)
Age		
Mean (SD)	33.2 (1.7)	33.1 (1.7)
Gender		
Men	n = 96 ; % = 70	n = 82 ; % = 66

Characteristic	CBT (N = 137)	Wait list (N = 124)
No of events		
Socioeconomic - educational level University graduate	n = 110 ; % = 80	n = 111 ; % = 89
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes measured at 3 months after intervention, where data were not available at 3 months, outcome measures at 1-week post intervention were used in analysis)

Employee outcomes

Outcome	CBT, Baseline vs 3 month, N = 137	Wait list, Baseline vs 3 month, N = 124
Mental wellbeing (0-30) Self-reported- Rosenberg Self-Esteem Scale - SD calculated from SE by reviewer	n = 113 ; % = 82.5	n = 91 ; % = 73.4
Sample size		
Mental wellbeing (0-30) Self-reported- Rosenberg Self-Esteem Scale - SD calculated from SE by reviewer	1.73 (4.36)	0.76 (4.29)
Mean (SD)		

Outcome	CBT, Baseline vs 3 month, N = 137	Wait list, Baseline vs 3 month, N = 124
Mental wellbeing (0-30) Self-reported- Rosenberg Self-Esteem Scale - SD calculated from SE by reviewer Mean (SE)	1.73 (0.41)	0.76 (0.45)
Mental health symptoms (0-60) Self-reported- Center for Epidemiological Studies Depression Scale (CES-D)- SD calculated from SE by reviewer Sample size	n = 113 ; % = 82.5	n = 91 ; % = 73.4
Mental health symptoms (0-60) Self-reported- Center for Epidemiological Studies Depression Scale (CES-D)- SD calculated from SE by reviewer Mean (SE)	-2.21 (0.53)	0.12 (0.59)
Mental health symptoms (0-60) Self-reported- Center for Epidemiological Studies Depression Scale (CES-D)- SD calculated from SE by reviewer Mean (SD)	-2.21 (5.63)	0.12 (5.63)

Mental wellbeing - Polarity - Higher values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - CBT - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - CBT - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

CBT (N = 137)

Brief name	Cognitive behavioural therapy (CBT) training [page 495]
Rationale/theory/Goal	CBT techniques aid in rearranging one's thought patterns, resulting in improvement in self-esteem. [page 495]
Materials used	Column sheets [page 496]
Procedures used	<ul style="list-style-type: none"> • Training consisted of one 3-hour group session and three email sessions • The group training consisted of three parts: explaining CBT; assessing thinking tendencies; practicing preparation of the column sheet • In group sessions, participants were divided into 4 to 6 groups for discussion • Participants who completed the group session were asked to continue the training and receive three email sessions by the occupational health care staff in the workplace.

	<ul style="list-style-type: none"> Email sessions involved homework assignments <p>[pages 496 and 497]</p>
Provider	<ul style="list-style-type: none"> Group sessions were conducted jointly by 2 CBT specialists (one psychiatrist and one psychotherapist) Email sessions were conducted by one occupational physician and three occupational healthcare nurses <p>[page 496]</p>
Method of delivery	Group sessions and email sessions [page 496]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	The intervention lasted between 2 and 3 weeks, and was made up of a 3 hour lecture and 3 email sessions. [pages 496 and 497]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 124)

Brief name	Wait list [page 498]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Following programme completion and analysis, the intervention was made available to the control group [page 498]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.78 Krick, 2020

Bibliographic Reference

Krick, Annika; Felfe, Jorg; Who benefits from mindfulness? The moderating role of personality and social norms for the effectiveness on psychological and physiological outcomes among police officers.; Journal of occupational health psychology; 2020; vol. 25 (no. 2); 99-112

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To investigate the effects of a mindfulness-based intervention on physiological and psychological criteria in a nonselective sample of police officers.
Country/geographical location	Germany
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: police • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Participants were a nonselective sample of German police officers.
Exclusion criteria	Not reported

Method of randomisation	Police officers from 16 complete police units were randomly assigned to the control and to the intervention groups using a lottery procedure.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Means and standard deviations were presented. • 2 X 2 mixed-design MANOVAs (between groups: intervention and control group) X (within group repeated measures: pre and post) were conducted. • Univariate 2 X 2 mixed-design ANOVAs were conducted. • To ensure that Group X Time interaction effects could be attributed to improvements in the intervention group rather than deteriorations in the control group, paired samples t-tests were conducted comparing pre and post scores for each group separately. • Analysis type (for example ITT) were not specified • No sample size calculations were conducted
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Although effects for the period of the intervention have been shown, it is not sure how far the effects can be maintained. • The nonactive control group design may limit the interpretation of the effects of the MBI. • The study did not control for participants' practice time. • Though mindfulness practice is the core element of the intervention in this study as also in other MBSR and MBIs, the combination with physical and cognitive elements may have confounded the effects of mindfulness. • The police officers were used as a sample in a specific work context and as a tough, male-oriented occupation may not be representative for all working populations and therefore, there may be a limited generalizability.

Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Not reported

Study arms

Mindfulness-based intervention (N = 126)

126 participants were randomised to the treatment arm. Participants were a non-selective sample of German police officers.

Control (N = 141)

141 participants were randomised to the treatment arm. Participants were a non-selective sample of German police officers.

Characteristics

Study-level characteristics

Characteristic	Study (N = 267)
Age	25.96 (5.57)
Mean (SD)	
Gender	n = 210 ; % = 78.7
Men - n was calculated from percentage by reviewer	
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Mindfulness-based intervention, Baseline, N = 126	Mindfulness-based intervention, 0 week, N = 126	Control, Baseline, N = 141	Control, 0 week, N = 141
Mental wellbeing Self-reported - Negative affect subscale of the German version of the Positive and Negative Affect Schedule Mean (SD)	2 (0.79)	1.62 (0.51)	2.02 (0.76)	2.12 (0.72)

Mental wellbeing - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Mindfulness-based intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based intervention (N = 126)

Brief name	Mindfulness-based intervention [page 99 - abstract]
Rationale/theory/Goal	Mindfulness has been defined as a construct with different skills that can be developed and cultivated: observing (perceiving inner and external experiences), acting with awareness (being aware of present actions and behavior), being non-judgmental (being free from evaluating the present experiences), and being nonreactive (accepting experiences without responding). MBIs have been developed for occupational health promotion, based on the mindfulness-based stress reduction (MBSR) program. [page 100]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> The intervention in this study included not only (a) mindfulness practices (e.g., breathing exercise, body scan) but also (b) elements of mindful body movements and stretching, and (c) cognitive education (i.e., knowledge of the

	<p>stress process and resources, group discussions centring on the challenges and achievements of mindfulness practices).</p> <ul style="list-style-type: none"> • The training sessions were complemented by mandatory weekly homework. • The intervention was integrated in a regular module of the police education. <p>[page 103]</p>
Provider	An experienced trainer [page 103]
Method of delivery	Groups of eight to 15 members [page 103]
Setting/location of intervention	Academy of public services [page 103]
Intensity/duration of the intervention	Six sessions each lasting 2 hr over a period of 6 weeks [page 103]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 141)

Brief name	Regular education courses [page 103]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Academy of public services [page 103]
Intensity/duration of the intervention	Six sessions each lasting 2 hr over a period of 6 weeks [page 103]
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.79 Lilly, 2017**Bibliographic Reference**

Klatt, Maryanna; Norre, Chris; Reader, Brenda; Yodice, Laura; White, Susan; Mindfulness in motion: A mindfulness-based intervention to reduce stress and enhance quality of sleep in Scandinavian employees.; *Mindfulness*; 2017; vol. 8 (no. 2); 481-488

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether a mindfulness-based intervention (Mindfulness in Motion) is effective in reducing stress and enhancing sleep.
Country/geographical location	Denmark
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: finance • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Participants between ages 18 and 60
Exclusion criteria	Participants who reported current involvement in regular yoga and mindfulness practices, or who participated in more than 30 minutes exercise per day.

Method of randomisation	Computer randomisation stratified by gender
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Per protocol • No power calculations reported • Outcome measures presented as mean and SD • Treatment and control values for each of these variables were compared using a 2 × 2 (two groups × two time periods) repeated measures ANOVA. • Effect size was measured via partial eta squared and is reported for both between and within groups. The benchmarks of low = 0.01, medium = 0.06, and large = 0.14 were applied.
Attrition	<p>Intervention group: 39 out of 41 randomised participants (95%) received the intervention, and 26 out of 41 randomised participants (63%) reported all outcomes. Reasons for drop out prior to intervention included changed mind and not reported. Reasons for discontinuing intervention included work-related conflict, uninterested, and injury).</p> <p>Wait list: 38 out of 40 randomised participants (95%) continued to serve as wait-list controls, and 30 out of 40 randomised participants (75%) reported all 3 outcomes. Reasons for drop out prior to study period included vacation and conflicted with lunch break. Reasons for discontinuing wait list included work-related conflict, illness and job change.</p>
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • Low retention during 8-week intervention period
Study limitations (reviewer)	<ul style="list-style-type: none"> • Participants self-selected following distribution of flyers • Self-reported outcomes

Source of funding	Nordea Bank
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Study arms

Mindfulness-based intervention (MBI) (N = 41)

41 participants were randomised to receive the Mindfulness in Motion intervention. Participants self-selected from flyers distributed at a large bank.

Wait list (N = 40)

40 participants were randomised to a wait list. Participants self-selected from flyers distributed at a large bank.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness-based intervention (MBI) (N = 41)	Wait list (N = 40)
Age Characteristics for completers only	43.8 (9.2)	42 (9.4)
Mean (SD)		
Women	n = 21 ; % = 78	n = 18 ; % = 60
No of events		
Men	n = 6 ; % = 22	n = 12 ; % = 40
No of events		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured at the end of the 8-week training programme)

Employee outcomes

Outcome	Mindfulness-based intervention (MBI), Baseline, N = 41	Mindfulness-based intervention (MBI), 0 week, N = 41	Wait list, Baseline, N = 40	Wait list, 0 week, N = 40
Job stress (0-40) Self-reported - Perceived Stress Scale (PSS)	n = 27 ; % = 65.9	n = 27 ; % = 65.9	n = 30 ; % = 75	n = 30 ; % = 75
Sample size				
Job stress (0-40) Self-reported - Perceived Stress Scale (PSS)	19 (5.46)	14.07 (4.92)	16.23 (6.78)	16.17 (7.39)
Mean (SD)				
Mental health symptoms (0-21) Self reported - Pittsburgh Sleep Quality Index (PSQI)	n = 27 ; % = 65.9	n = 27 ; % = 65.7	n = 30 ; % = 75	n = 30 ; % = 75
Sample size				
Mental health symptoms (0-21) Self reported - Pittsburgh Sleep Quality Index (PSQI)	5.93 (1.8)	3.89 (1.6)	5.13 (2.28)	4.83 (2.67)
Mean (SD)				

Outcome	Mindfulness-based intervention (MBI), Baseline, N = 41	Mindfulness-based intervention (MBI), 0 week, N = 41	Wait list, Baseline, N = 40	Wait list, 0 week, N = 40
job satisfaction (0-6) Self-reported - Utrecht Work Engagement Scale-0 (UWES-9)	n = 26 ; % = 63.4	n = 26 ; % = 63.4	n = 30 ; % = 75	n = 30 ; % = 75
Sample size				
job satisfaction (0-6) Self-reported - Utrecht Work Engagement Scale-0 (UWES-9)	4.55 (0.76)	4.71 (0.78)	4.59 (0.68)	4.57 (0.66)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mindfulness-based intervention (MBI) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Mindfulness-based intervention (MBI) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job satisfaction - Mindfulness-based intervention (MBI) vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based intervention (N = 41)

Brief name	Mindfulness in Motion (MIM) is a mindfulness-based intervention (MBI) that incorporates mindfulness, music, and yoga. [page 481]
Rationale/theory/Goal	MBIs are interventions that retrain the mind to modify its usual stress response to increase coping and resilience in the face of adversity. MIM can be easily and time effectively performed in the workplace. [page 482]
Materials used	MP3 player with brief pre-recorded guided individual practice sessions and a form to record the daily home practice. [page 483]
Procedures used	MIM was conducted in group session that involved individual reflective writing (5 mins), voluntary community sharing of reflective responses (10 mins), didactic mindfulness meditation instruction (15 mins), yoga stretches (15 mins), mindfulness meditation (15 mins). [page 483]
Provider	Trained instructor [page 481]
Method of delivery	Group sessions and at-home practice [page 483]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8 weeks (60 minutes per week) [page 481]
Tailoring/adaptation	For MIM, MBSR-Id was lengthened by 2 weeks to include sessions on mindful eating and sleeping. This was made to accommodate the perceived need of participants for additional group meetings and to follow traditional theories on health behaviour change. [page 483]
Unforeseen modifications	None reported
Planned treatment fidelity	Expanded version of the mindfulness-based stress reduction-low dose (MBSR-Id) [page 483]
Actual treatment fidelity	Not reported

Other details	None
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Wait list control (N = 40)

Brief name	Wait list
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the MIM intervention after the study concluded. [page 483]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.80 Lemaire, 2011

Bibliographic Reference Lemaire, Jane B; Wallace, Jean E; Lewin, Adriane M; de Grood, Jill; Schaefer, Jeffrey P; The effect of a biofeedback-based stress management tool on physician stress: a randomized controlled clinical trial.; Open medicine : a peer-reviewed, independent, open-access journal; 2011; vol. 5 (no. 4); e154-63

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Clinicaltrials.gov identifier: E-22185
Study start date	Mar-2009
Study end date	Jun-2009
Aim	To determine whether a biofeedback-based stress management tool, consisting of rhythmic breathing, actively self-generated positive emotions and a portable biofeedback device, reduces physician stress.
Country/geographical location	Canada
Setting	Workplace:

	<ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (physicians)
Inclusion criteria	Staff physicians practising in an urban tertiary care centre
Exclusion criteria	Participants who screened positive for major depression with the 9-item Patient Health Questionnaire (PHQ-9) depression scale
Method of randomisation	Computer program to generate a random allocation sequence for assigning participants to either the control or the intervention group, with stratification by sex to ensure parity within groups.
Method of allocation concealment	Participants' allocation to the control or intervention group was concealed until after the research assistant and/or the co-investigators had confirmed eligibility criteria and received informed consent.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • A sample-size calculation determined that 17 participants per study arm were needed to detect a between-group difference in stress score of 15 (with 80% power and an estimated common standard deviation [SD] of 15). • Stress scores at days 0, 28 and 56 were expressed as a group mean and SD. • Non-parametric methods to compare changes in stress scores due to small sample sizes. • Within-group comparisons were calculated using the Wilcoxon signed-rank test and between-group comparisons using the Wilcoxon rank-sum test. • Calculation of mean change in stress score to participants for whom data were complete, as this value was calculated by subtracting, for each participant, the score on day 0 from the score on day 28, and then reporting the mean of these difference.
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 21 participants randomised, 20 (95%) completed follow-up measures

	<ul style="list-style-type: none"> Control: Out of 19 participants randomised, 18 (95%) completed follow-up measures
Study limitations (author)	<ul style="list-style-type: none"> It is possible that the higher baseline mean stress score in the intervention group compared with the control group, although not statistically significant, allowed the possibility of a greater decline in stress scores in the intervention group, particularly if there is a “floor effect” whereby physician stress can go only so low. The measure of stress, constructed from several sources, has not been validated. The study was not designed to identify whether the stress management tool was more effective for helping physicians cope with certain types of stress rather than other types. The twice-weekly support from the research team may have contributed to stress reduction. Participants in the intervention group were not blinded, they may have been subject to the demand characteristics of the study and may have responded to the stress questionnaire in a manner that reduced their stress scores over time, simply because they knew such a reduction was anticipated. The study involved hospital-based physicians at a single centre, the results may have limited generalizability.
Study limitations (reviewer)	<ul style="list-style-type: none"> There was no long-term follow-up Outcome measures were self-reported

Study arms

Biofeedback (N = 21)

21 participants were randomised to receive a biofeedback intervention. Participants self-selected from a single organisation following recruitment electronic mail, regular mail and posters placed in the physicians’ lounge and throughout the hospital.

Wait list (N = 19)

21 participants were randomised to a wait list. Participants self-selected from a single organisation following recruitment electronic mail, regular mail and posters placed in the physicians’ lounge and throughout the hospital.

Characteristics

Arm-level characteristics

Characteristic	Biofeedback (N = 21)	Wait list (N = 19)
Age		
Mean (SD)	47.8 (8.5)	44.8 (8.2)
Gender		
Men	n = 12 ; % = 57	n = 11 ; % = 58
No of events		

Outcomes

Study timepoints

- Baseline
- 28 day (Outcomes were measures at 28 days from the start of the intervention.)

Employee outcomes

Outcome	Biofeedback , Baseline, N = 21	Biofeedback , 28 day, N = 21	Wait list, Baseline, N = 19	Wait list, 28 day, N = 19
Job stress (0-200) Self-reported- multiple-item scale developed by the research team and intended to measure global perceptions of stress and also to capture occupation-specific stress that is particularly relevant to physicians	n = 21 ; % = 100	n = 20 ; % = 95.2	n = 18 ; % = 94.7	n = 18 ; % = 94.7
Sample size				

Outcome	Biofeedback , Baseline, N = 21	Biofeedback , 28 day, N = 21	Wait list, Baseline, N = 19	Wait list, 28 day, N = 19
Job stress (0-200) Self-reported- multiple-item scale developed by the research team and intended to measure global perceptions of stress and also to capture occupation-specific stress that is particularly relevant to physicians Mean (SD)	81.3 (29.5)	65 (26.6)	74.1 (24.5)	69.8 (26.6)

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes-Job stress - Biofeedback - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Biofeedback (N = 21)

Brief name	Biofeedback-based stress management tool [page 155]
Rationale/theory/Goal	A stress management tool that incorporates a biofeedback device provided the physician with direct evidence of positive physiological change that has been achieved by rhythmic breathing coupled with actively self-generated positive emotions such as appreciation for something or someone or remembering a special place in nature [page 155]
Materials used	<ul style="list-style-type: none"> • Biofeedback device, the emWavePSR (Personal Stress Reliever) (HeartMath, LLC, Boulder Creek, California), is a lightweight, battery operated device about the size of a small deck of cards that can be carried in a pocket or purse. It calculates beat-to-beat changes in heart rate (i.e., HRV) to produce a measure of physiological coherence. • An accompanying software application (emWavePC) performs these tasks within a Microsoft Windows environment for use on a laptop or desktop computer, providing a more detailed real-time quantitative and graphical display of heart rhythm pattern. • Brochure describing the provincial physician wellness support program <p>[pages 155 and 156]</p>
Procedures used	<ul style="list-style-type: none"> • The study participants were provided with individual training, where they were taught the quick coherence technique (rhythmic breathing coupled with actively self-generated positive emotions), the principles of the biofeedback device (through demonstrations of both the emWavePSR and the emWavePC software) and how to use their personal emWavePSR • Participants were offered optional follow-up instruction • Participants were given contact information should questions arise.

	<ul style="list-style-type: none"> A research assistant contacted each participant in the intervention group twice weekly to measure stress and well-being, heart rate and blood pressure; to document their adherence to using the stress management tool; and to record a 3-minute biofeedback session using the emWavePC software. <p>[page 155 and 156]</p>
Provider	Personnel employed by the health region who had undergone formal training to become qualified as instructors [page 156]
Method of delivery	Individual training [page 156]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	28-day intervention with 30-minute standardized training session [page 156]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Good adherence was defined as at least 15 minutes per day of self-reported use of the stress management tool (based on the prescribed instructions for use), as calculated by the daily mean for days 0 to 28. [page 157]
Actual treatment fidelity	6 participants in the intervention group met the criteria for good adherence and 14 had poor adherence [page 159]
Other details	None

Wait list (N = 19)

Brief name	Wait list [page 156]
Rationale/theory/Goal	Not applicable
Materials used	Brochure describing the provincial physician wellness support program [page 156]
Procedures used	<ul style="list-style-type: none"> • Participants were provided with a brochure and and were contacted twice weekly by a research assistant to measure stress and well-being, heart rate and blood pressure. • Participants received the intervention after the study period <p>[page 156]</p>
Provider	Research assistant [page 156]
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.81 Lilly, 2019

Bibliographic Reference Lilly, Michelle; Calhoun, Rebecca; Painter, Ian; Beaton, Randal; Stangenes, Scott; Revere, Debra; Baseman, Janet; Meischke, Hendrika; Destress 9-1-1-an online mindfulness-based intervention in reducing stress among emergency medical dispatchers: a randomised controlled trial.; Occupational and environmental medicine; 2019; vol. 76 (no. 10); 705-711

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT02961621
Study start date	2016
Study end date	2017
Aim	To determine whether a tailored mindfulness-based intervention (MBI) is effective in reducing stress in emergency medical dispatchers (EMDs).
Country/geographical location	The US and Canada
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: emergency services • Organisation size: not reported

	<ul style="list-style-type: none"> • Contract type: not reported • Seniority: not reported • Income: mixed (educational level mixed)
Inclusion criteria	All active-duty EMDs
Exclusion criteria	No exclusion criteria
Method of randomisation	Random-number generator completed prior to participant involvement
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All participants who completed at least one survey were included in the analyses • No power calculation was reported • Primary analyses used repeated measures mixed effects models with differences assessed by interaction terms between randomisation group and time point. (no differences were found in baseline characteristics) • Because differential follow-up rates between study groups were anticipated, a sensitivity analysis to determine the level of difference in response between completers and non-completers needed to change the analysis results at T2 was conducted using multiple imputation.
Attrition	<ul style="list-style-type: none"> • Intervention: At 3-month follow up 75 intervention participants (46.6%) failed to complete the survey • Control: At 3-month follow-up 60 control participants (37.5%) failed to complete the survey
Study limitations (author)	<ul style="list-style-type: none"> • Although the majority of the intervention group completed 6 or 7 of the training modules (55.3%), the average number of days per week during which exercises were practised was 2 (ranging from 0 to 7).

	<ul style="list-style-type: none"> • Qualitative data provided by participants indicated that a barrier to engagement with the intervention materials was inability to complete the intervention at work. Although enrolled call centres initially indicated willingness to allow participants time during work hours to complete the intervention, many participants were not provided this opportunity. • A significant minority of individuals did not complete the intervention and/or post-intervention survey. • Participants were not asked to specify the exercises they completed as part of their daily practice. As such, it cannot be determined whether specific exercises (ie, mindful eating and mindful movement) or practices (i.e., guided meditation) were completed more frequently or were most impactful.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • Most participants were women, and so findings may not be generalisable to all workplaces
Source of funding	<ul style="list-style-type: none"> • National institute for Occupational Safety and Health • Centres for Disease Control and Prevention

Study arms

Online mindfulness-based intervention (N = 163)

163 individuals were randomised to receive an online mindfulness-based intervention

Wait list (N = 160)

160 individuals were randomised to a wait list. Employees were recruited through emails sent from call centre administrators.

Characteristics

Arm-level characteristics

Characteristic	Online mindfulness-based intervention (N = 163)	Wait list (N = 160)
less than 25	n = 19 ; % = 11.9	n = 12 ; % = 7.4
No of events		
25 to 35	n = 55 ; % = 34.4	n = 54 ; % = 33.1
No of events		
36 to 45	n = 50 ; % = 31.2	n = 57 ; % = 35
No of events		
46 to 55	n = 28 ; % = 17.5	n = 30 ; % = 18.4
No of events		
56 to 64	n = 8 ; % = 5	n = 10 ; % = 6.1
No of events		
Men	n = 32 ; % = 20.1	n = 26 ; % = 16
Sample size		
Women	n = 127 ; % = 79.9	n = 137 ; % = 84
Sample size		
Non-white ethnicity	n = 14 ; % = 8.8	n = 17 ; % = 10.5
No of events		
White	n = 146 ; % = 91.2	n = 145 ; % = 89.5
No of events		

Characteristic	Online mindfulness-based intervention (N = 163)	Wait list (N = 160)
Hispanic	n = 2 ; % = 1.3	n = 4 ; % = 2.5
No of events		
Non-Hispanic	n = 157 ; % = 98.7	n = 156 ; % = 97.5
No of events		
High school/GED	n = 29 ; % = 18.2	n = 15 ; % = 9.2
No of events		
Some college	n = 76 ; % = 47.8	n = 69 ; % = 42.3
No of events		
Associates/bachelors degree	n = 49 ; % = 30.8	n = 60 ; % = 42.9
No of events		
Post-graduate study or degree	n = 5 ; % = 3.1	n = 9 ; % = 5.5
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Follow up at 3 months after intervention end)

Employee outcomes

Outcome	Online mindfulness-based intervention, Baseline, N = 163	Online mindfulness-based intervention, 3 month, N = 163	Wait list, Baseline, N = 160	Wait list, 3 month, N = 160
Job stress (0-224) Self reported - Calgary Symptoms of Stress Inventory (C-SOSI)	n = 160 ; % = 98.2	n = 86 ; % = 52.8	n = 159 ; % = 99.4	n = 100 ; % = 62.5
Sample size				
Job stress (0-224) Self reported - Calgary Symptoms of Stress Inventory (C-SOSI)	57.7 (30.4)	50.7 (28)	52.1 (27.6)	52.3 (30.5)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Online mindfulness-based intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Online mindfulness-based intervention (N = 163)

Brief name	Destress 9-1-1 (an online mindfulness-based intervention) [page 706]
Rationale/theory/Goal	MBIs model, teach and cultivate inner attentional resources with the goal of learning to recognise and accept stress responses. Through recognition and acceptance, individuals learn to no longer rely on avoidance or suppression of emotional responses. Avoidance and suppression of emotional responses have been connected to greater stress levels and psychopathology following exposure to distressing events. [Meischke 2018 page 3]
Materials used	Online Destress 9-1-1 intervention [page 706]
Procedures used	<ul style="list-style-type: none"> • The online intervention was comprised of 7 modules each completed on a weekly basis • Module completion times ranged from 20 to 30 minutes and included a short video introducing the weekly theme, text describing themes and activities, an audio-guided meditation exercise, suggestions for daily mindfulness activities and a moderated discussion board. • Exercises were largely meditation-based or designed to enhance mindfulness during daily activities (ie, mindful movement) • Participants were expected to complete 5 to 10 minutes of daily outside practice • Two emails were sent each week: one to introduce the theme, and one to provide practice reminders

	<ul style="list-style-type: none"> Participants were asked at each weekly check-in the number of days that they practised mindfulness using the guided audio and whether the participant incorporated mindfulness into their daily life. <p>[pages 706 and 707]</p>
Provider	<ul style="list-style-type: none"> The online intervention was developed by clinicians trained in mindfulness-based approaches. Audio-guided exercises were recorded by researchers <p>[page 706]</p>
Method of delivery	Online [page 706]
Setting/location of intervention	Online [page 706]
Intensity/duration of the intervention	7 weeks with modules completed on a weekly basis (20 to 30 minutes in length) in addition to daily practice 5 to 10 minutes [pages 706 and 707]
Tailoring/adaptation	This adapted form of MBSR was provided online instead of in person, and expectations for outside practice were lower (5-10 minutes daily vs 20-45 minutes daily). [pages 706 and 707]
Unforeseen modifications	None reported
Planned treatment fidelity	Mindfulness-Based Stress Reduction (MBSR) [page 706]
Actual treatment fidelity	Among intervention participants, 40 (24.8%) completed no sessions, 32 (19.9%) completed 1 to 5 sessions and 89 (55.3%) completed 6 or 7 sessions. Mean number of days per week on which mindfulness was practised was 2.1 (SD=1.5, range 0–6.8). [page 708]
Other details	None

Wait list (N = 160)

Brief name	Wait list
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants in the control group were given access to the online intervention after completion of the T3 survey. [page 706]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.82 Limm, 2011

Bibliographic Reference Limm, Heribert; Gundel, Harald; Heinmuller, Mechthild; Marten-Mittag, Birgitt; Nater, Urs M; Siegrist, Johannes; Angerer, Peter; Stress management interventions in the workplace improve stress reactivity: a randomised controlled trial.; Occupational and environmental medicine; 2011; vol. 68 (no. 2); 126-33

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2006
Study end date	2007
Aim	To examine the long-term effects of a stress management intervention (SMI) based on the effort-reward imbalance (ERI) model, on psychological and biological reactions to work stress.
Country/geographical location	Germany
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: not reported • Seniority: lower and middle managers • Income: mixed education level

Inclusion criteria	<ul style="list-style-type: none"> • lower or middle level manager in the production department with leadership responsibility • aged 18-65 years with more than 2 years left before retirement
Exclusion criteria	<ul style="list-style-type: none"> • application for early retirement • planned surgery • other serious disease potentially leading to more than 30 sick leave days annually
Method of randomisation	Participants were randomised following initial health screening. Details of randomisation were not reported.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- Participants who completed both the baseline assessment and the 1-year follow-up were included in the analysis • Estimations of sample size were based on the SRS total score which was defined as the primary endpoint. Presuming a difference of 5 SRS score points to be relevant, a power of 0.8, a significance level of 0.05, and a standard deviation of 10 score points resulted in an estimated sample size of n=64 for each group. • In all between-group comparisons, the significance of differences in means was tested with t tests for normally distributed variables and with Mann-Whitney U tests for variables with skewed distribution; the significance of differences in proportions was tested by c2 tests. • Group differences in all outcome variables over time were investigated using a two-factor repeated measures ANOVA. This is also the appropriate means to control for regression towards the mean in case there is baseline difference in an outcome measure between intervention and control groups. • To appraise clinical relevance, effect sizes were calculated as Cohen's d
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 87 randomised participants, 12 (13.7%) participants were lost to follow-up for reasons including parental leave, lack of time, expatriate, refused to participate any longer.

	<ul style="list-style-type: none"> Control: Out of 87 randomised participants, 8 (9.2%) participants were lost to follow-up for reasons including lack of time, expatriate, and refused to participate any longer.
Study limitations (author)	<ul style="list-style-type: none"> The sample exhibits a rather high level of work-related stress in terms of the ERI model. As the sample is almost exclusively composed of men, and as men were shown to exhibit higher responsiveness to stressful exposures,^{28 29} we have no indication whether the findings apply to employed women as well. Since the control group did not receive a sham intervention, a non-specific treatment effect cannot be ruled out. The study may have underestimated the frequency of mild depression and the effect of the SMI by using the HADS as a measure of clinically relevant depression. This more restrictive definition (ie, only asking for symptoms beyond light mood swings) was chosen to minimise common method bias, which otherwise might occur in correlation with measures for stress symptoms. The primary outcome was a 'soft' endpoint, although measured with the SRS.
Study limitations (reviewer)	None
Source of funding	Federal Ministry of Education and Research

Study arms

Stress management (N = 87)

87 participants were randomised to receive a stress management intervention. All lower and middle managers in one organisation were recruited to the study.

Wait list (N = 87)

87 participants were randomised to a wait list. All lower and middle managers in one organisation were recruited to the study.

Characteristics

Arm-level characteristics

Characteristic	Stress management (N = 87)	Wait list (N = 87)
Age		
Mean (SD)	40.67 (7.62)	41.06 (7.86)
Gender		
Men	n = 75 ; % = 100	n = 77 ; % = 97
No of events		
Low		
No of events	n = 41 ; % = 55	n = 46 ; % = 58
Middle		
No of events	n = 19 ; % = 25	n = 14 ; % = 18
Master's degree		
No of events	n = 15 ; % = 20	n = 19 ; % = 24

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes were measured 1 year after the beginning of the intervention)

Employee outcomes

Outcome	Stress management, Baseline, N = 87	Stress management, 1 year, N = 87	Wait list, Baseline, N = 87	Wait list, 1 year, N = 87
Job stress Self-reported - 29-item Stress Reactivity Scale (SRS)	n = 75 ; % = 86.2	n = 75 ; % = 86.2	n = 79 ; % = 90.8	n = 79 ; % = 90.8
Sample size				
Job stress Self-reported - 29-item Stress Reactivity Scale (SRS)	54.48 (10.84)	50.16 (9.91)	54.48 (10.05)	52.74 (10.99)
Mean (SD)				
Mental health symptoms Self reported - German version of the Hospital and Anxiety and Depression Scale (HADS)	n = 75 ; % = 86.2	n = 75 ; % = 86.2	n = 79 ; % = 90.8	n = 79 ; % = 90.8
Sample size				
Mental health symptoms Self reported - German version of the Hospital and Anxiety and Depression Scale (HADS)	4.66 (3.58)	3.78 (3.15)	4.06 (2.92)	3.75 (3.02)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Stress management - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Stress-management intervention (N = 87)

Brief name	Intervention based on psychodynamic, conflict, and emotion-focused principles as well as cognitive behavioural approaches. [page 127]
Rationale/theory/Goal	The programme was specifically designed (1) to foster awareness of and insight into stress situations in the workplace and (2) to provide tools to better deal with typical stressful situations such as work overload, social conflicts, problems with social evaluation and failure at work. In addition, identifying and strengthening individual resources, for example social networking and social support between the participants, was encouraged. [page 127]
Materials used	None reported
Procedures used	<ul style="list-style-type: none"> • Group-orientated prevention seminar - 8 teaching units lasting 90 minutes each over two consecutive days • Participants remembered individual situations of stress in the workplace, shared them with another group member who responded ('empathy exercise') and reported them to the whole group. With the help of the experienced trainer, the group searched for the best possible solutions.

	<ul style="list-style-type: none"> The seminar was followed by two refresher courses ('booster sessions') within 36 months, comprising two lessons/teaching units each (i.e., 180 min per session), to enhance the effect. <p>[page 127]</p>
Provider	Trainer- no information provided [page 127]
Method of delivery	Seminars and group activity [page 127]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Total intervention delivered within 3 to 6 months. This was made up of a 2-day seminar and two 180-minute booster sessions. [page 127]
Tailoring/adaptation	Article mentions that the intervention was tailored [page 127]
Unforeseen modifications	Not reported
Planned treatment fidelity	A manual was developed to standardise treatment. Compliance with the SMI was defined as participation in at least six of 12 teaching units. [pages 127 and 128]
Actual treatment fidelity	Of the 87 participants in the intervention group, 82 were considered compliant with the SMI. [page 129]
Other details	None

Wait list (N = 87)

Brief name	Wait list [page 127]
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Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	The SMI was offered to the intervention group within a few weeks following the initial evaluation. [page 127]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.83 Lin, 2019

Bibliographic Reference

Lin, Lin; He, Guoping; Yan, Jin; Gu, Can; Xie, Jianfei; The Effects of a Modified Mindfulness-Based Stress Reduction Program for Nurses: A Randomized Controlled Trial.; Workplace health & safety; 2019; vol. 67 (no. 3); 111-122

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	25-Apr-2017
Study end date	16-Jun-2017
Aim	To determine whether a modified mindfulness-based stress reduction (MBSR) programme is has an effect on levels of stress, affect and resilience among nurses in general hospitals.
Country/geographical location	China
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: permanent • Seniority: mixed (assistant nurse, nurse, senior nurse, supervisor nurse, associate chief nurse or higher) • Income: mixed education (technical secondary school, junior college, bachelor's degree, master's degree or higher)

Inclusion criteria	Participants employed as full-time nurses
Exclusion criteria	<ul style="list-style-type: none"> • Being a student nurse • Suffering from serious somatic disease • Taking mood-regulating drugs • Having suffered a major traumatic event in the past 6 months • Having participated in mindfulness training previously
Method of randomisation	Randomised 1:1 using a computer-generated random number table
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Participants were excluded from analysis if they were absent from sessions more than twice - have 'per protocol' analysis • No power calculations were reported • Outcome measures were reported as mean and SD • All statistical tests were two-tailed, and the significance level was set at $p < .05$ • Demographic data were compared by Student's t test or the chi-square test (no difference was found) • Outcome measure were analysed using 2 (groups) \times 3 (times) repeated-measures ANOVA. When the data did not satisfy the hypothesis of spherical symmetry, the F values from the ANOVA were corrected by the Greenhouse–Geisser method. • If no significant group effect but a significant effect of the Group \times Time interaction was observed, then a simple effects analysis was performed.
Attrition	<ul style="list-style-type: none"> • Intervention group: 44 out of 55 (80%) randomised participants missed less than 2 sessions and completed follow up

	<ul style="list-style-type: none"> Control: 46 out of 55 (84%) randomised participants complete follow up
Study limitations (author)	<ul style="list-style-type: none"> The hospitals in the study were third-level general hospitals in the city and were selected by convenience sampling. This could have affected the representativeness of the sample. Small sample size Outcome measures were self-reported
Study limitations (reviewer)	<ul style="list-style-type: none"> Most participants were female, and therefore the findings may not be generalisable to all workplaces
Source of funding	General Program of Science and Technology Plan for Health Care in Dongguan City of Guangdong Province

Study arms

mMBSR (N = 55)

55 participants were randomised to receive mMBSR intervention from two hospitals.

Wait list (N = 55)

55 participants were randomised to a wait list from two hospitals.

Characteristics

Arm-level characteristics

Characteristic	mMBSR (N = 55)	Wait list (N = 55)
Age Characteristics of completers only n = 44 and n = 46	32.86 (7.49)	30.2 (6.09)
Mean (SD)		
Men	n = 1 ; % = 2.3	n = 5 ; % = 10.9
No of events		
Women	n = 43 ; % = 97.7	n = 41 ; % = 89.1
No of events		
Technical secondary school	n = 1 ; % = 2.3	n = 3 ; % = 6.5
No of events		
Junior college	n = 15 ; % = 34.1	n = 19 ; % = 41.3
No of events		
Bachelor's degree	n = 27 ; % = 61.4	n = 24 ; % = 52.2
No of events		
Master's degree or higher	n = 1 ; % = 2.3	n = 0 ; % = 0
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Follow up at 3 months after intervention)

Employee outcomes

Outcome	mMBSR, Baseline, N = 55	mMBSR, 3 month, N = 55	Wait list, Baseline, N = 55	Wait list, 3 month, N = 55
Mental wellbeing (10-50) Self reported - Positive affect from Positive and Negative Affect Schedule (PANAS)	n = 44 ; % = 80	n = 44 ; % = 80	n = 46 ; % = 83.6	n = 46 ; % = 83.6
Sample size				
Mental wellbeing (10-50) Self reported - Positive affect from Positive and Negative Affect Schedule (PANAS)	28.52 (6.5)	33.21 (7.38)	28.74 (5.05)	29 (5.62)
Mean (SD)				
Job stress (0-40) Self reported - Perceived Stress Scale (PSS)	n = 44 ; % = 80	n = 44 ; % = 80	n = 46 ; % = 83.6	n = 46 ; % = 83.6
Sample size				
Job stress (0-40) Self reported - Perceived Stress Scale (PSS)	40.91 (6.44)	36.68 (6.79)	39.91 (4.9)	39.67 (5.24)
Mean (SD)				
job satisfaction (31-155) Self reported - The McCloskey/Mueller Satisfaction Scale (MMSS)	n = 44 ; % = 80	n = 44 ; % = 80	n = 46 ; % = 83.6	n = 46 ; % = 83.6
Sample size				

Outcome	mMBSR, Baseline, N = 55	mMBSR, 3 month, N = 55	Wait list, Baseline, N = 55	Wait list, 3 month, N = 55
job satisfaction (31-155) Self reported - The McCloskey/Mueller Satisfaction Scale (MMSS)	98.23 (11.87)	102.14 (15.55)	96.17 (16.21)	96.59 (19.25)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - mMBSR vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Employee outcomes - Job stress - mMBSR vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - job satisfaction - mMBSR vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Study arms

mMBSR (N = 55)

Brief name	Mindfulness-based group intervention based on the principles of mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT). [page 113]
Rationale/theory/Goal	Although MBCT is derived from MBSR, it incorporates some elements of cognitive-behavioural therapy and places greater emphasis on promoting enhanced awareness of one's relationship with thoughts and feelings, which facilitates coping with a painful affect and challenging circumstances. [page 113]
Materials used	<ul style="list-style-type: none"> • Network Chatgroup through WeChat (mobile phones) • PowerPoint slides and audio recordings of guided mindfulness exercises <p>[page 113]</p>
Procedures used	<ul style="list-style-type: none"> • 8-week group intervention with weekly 2-hour sessions and 20 minutes of formal mindfulness practice at home daily for 6 days a week • Sessions covered themes including: first experiences of mindfulness; concentration-the beginning of mindfulness, pay attention to your body; awareness in sports; thought is not reality; emotional management by mindfulness; love yourself, love others; new mindful life. • Participants had access to a network Chatgroup through WeChat on mobile phones. This prompted participants to attend session on time and helped participants to share their practice experience or ask the MBSR instructor questions. <p>[pages 113 and 114]</p>
Provider	A researcher who has been practicing mindfulness for 2 years and attended several MBSR courses, retreats, and other training activities related to mindfulness and meditation. [page 113]

Method of delivery	Group sessions and at-home self practice [page 113]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8 weeks with 2-hour weekly sessions and home daily practice of 20 minutes for 6 days a week [page 113]
Tailoring/adaptation	Compared to the traditional MBSR programme developed by Kabat-Zinn, weekly sessions were reduced from 2.5 to 2 hours, daily practice was reduced from 45 minutes to 20 minutes, and the intervention did not include a half-day retreat. [page 113]
Unforeseen modifications	None reported
Planned treatment fidelity	Modified MBSR based on programme developed by Kabat-Zinn [page 113]
Actual treatment fidelity	11 participants missed 2 or more weekly sessions and most participants did not complete homework due to lack of time. [pages 115 and 119]
Other details	<ul style="list-style-type: none"> • Prior to the intervention, strong support was received from the nursing department of each hospital, and the session calendar was released to nurses in advance to facilitate the nurses' scheduling. • Upon completion of the program, the participants were incentivized with continuing education (CE) credits if they attended at least 50% of the group sessions. <p>[page 113]</p>

Wait list (N = 55)

Brief name	Wait list
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Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the option of participating in the intervention immediately after the study. [page 113]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	Not applicable

D.84 Lloyd, 2013

Bibliographic Reference

Lloyd, Joda; Bond, Frank W; Flaxman, Paul E; The value of psychological flexibility: Examining psychological mechanisms underpinning a cognitive behavioural therapy intervention for burnout.; *Work & Stress*; 2013; vol. 27 (no. 2); 181-199

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether a worksite group-based Acceptance and Commitment Therapy (ACT) intervention was effective in improving participants' psychological flexibility.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract size: not reported • Seniority: not reported • Income: mixed education level
Inclusion criteria	Employees occupying customer-facing roles
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Participants who failed to complete all aspects of the programme were excluded from analyses • Means and standard deviations were presented for ACT and control groups • 2 × 4 repeated measures multivariate analysis of variance (MANOVA) were conducted to test our first two hypotheses that ACT training would lead to significant decreases in participants' emotional burnout and strain, and to examine whether there were significant changes in psychological flexibility. • Cohen's d effect sizes were calculated
Attrition	Overall, 30% (18 people) of the ACT group and 24% (18 people) of the control group failed to complete all aspects of the programme and were therefore excluded from the analyses.
Study limitations (author)	Findings showed that both strain and depersonalization increased in the control group during the period in which it decreased in the ACT group. This may be symptomatic of a resentful demoralisation effect, whereby control group participants become resentful, despondent and show a decline in wellbeing, as opposed to no change, over the course of an investigation
Study limitations (reviewer)	<ul style="list-style-type: none"> • Per-protocol analysis • Self-reported outcomes • Participants were mostly women
Source of funding	Not reported

Study arms

Acceptance and commitment therapy (N = 61)

61 participants were randomised to receive an Acceptance and Commitment Therapy intervention. Participants were recruited via staff intranet and bulletins from a UK-wide government department.

Wait list (N = 75)

75 participants were randomised to a wait list. Participants were recruited via staff intranet and bulletins from a UK-wide government department.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 136)
Age	31 to 59
Range	
Age	47 (<i>empty data</i>)
Mean (SD)	
Gender	n = 100 ; % = 83
Women	
No of events	
Ethnicity	n = 126 ; % = 93
White British- n calculated by reviewer from percentage	
No of events	
GCSE or O level	n = 46 ; % = 34
No of events	
A level/diploma/NVQ or equivalent	n = 64 ; % = 47

Characteristic	Study (N = 136)
No of events	
Undergraduate degree	n = 23 ; % = 17
No of events	
Post-graduate degree	n = 3 ; % = 2
No of events	

Outcomes

Study timepoints

- Baseline
- 6 month (Outcome measured at 6 months after intervention)

Employee outcomes

Outcome	Acceptance and commitment therapy, Baseline, N = 61	Acceptance and commitment therapy, 6 month, N = 61	Wait list, Baseline, N = 75	Wait list, 6 month, N = 75
Job stress Self-reported- Emotional exhaustion subscale of Maslach Burnout Inventory-Human Services Survey	n = 43 ; % = 70.5	n = 43 ; % = 70.5	n = 57 ; % = 76	n = 57 ; % = 76
Sample size				
Job stress Self-reported- Emotional exhaustion subscale	2.73 (1.57)	2.42 (1.47)	2.42 (1.29)	2.42 (1.19)

Outcome	Acceptance and commitment therapy, Baseline, N = 61	Acceptance and commitment therapy, 6 month, N = 61	Wait list, Baseline, N = 75	Wait list, 6 month, N = 75
of Maslach Burnout Inventory-Human Services Survey				
Mean (SD)				
Quality of life Self-reported- General Health Questionnaire (GHQ-12)	n = 43 ; % = 70.5	n = 43 ; % = 70.5	n = 57 ; % = 76	n = 57 ; % = 76
Sample size				
Quality of life Self-reported- General Health Questionnaire (GHQ-12)	1.17 (0.62)	1.02 (0.58)	1.07 (0.48)	1.18 (0.58)
Mean (SD)				

Job stress - Polarity - Lower values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Acceptance and commitment therapy - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - Quality of life - Acceptance and commitment therapy - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Study arms

Acceptance and commitment therapy (N = 61)

Brief name	Worksite group-based Acceptance and commitment therapy [page 3]
Rationale/theory/Goal	The aim was to increase present moment awareness and undermine unhelpful avoidance of, and entanglement with, one's thoughts and emotions, and to teach people acceptance and mindfulness as an alternative strategy for dealing with problematic thoughts and feelings, and demonstrate how these may be used to facilitate values-based actions. [page 11]
Materials used	<ul style="list-style-type: none"> • Handouts • CDs • Summary sheets of the main concepts and points of discussion <p>[page 11]</p>

Procedures used	<ul style="list-style-type: none"> • The training was delivered in groups of between eight and 12 employees during their normal working hours. • The training consisted of various metaphors, mindfulness, and cognitive defusion techniques, as well as values and goals clarification exercises in order to help participants learn “how to deal with psychological barriers to effective and enjoyable living”. • The training was supported by the use of homework assignments <p>[pages 10 and 11]</p>
Provider	The first author, who had received prior training in ACT, [page 10]
Method of delivery	Group training sessions [page 10]
Setting/location of intervention	As participants worked in different branches across the UK, we selected three different geographical locations for the training and randomly assigned participants to one of the locations. [page 10]
Intensity/duration of the intervention	Each participant attended three, three-hour training sessions, two of which occurred on consecutive weeks with a third that occurred two months later. [page 10]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	To ensure adherence to ACT treatment protocols, a selection of the training sessions were digitally recorded and assessed by the second author, who developed the first ACT interventions for the workplace. The training adhered to standardized protocols developed from two ACT manuals designed for group worksite interventions [pages 10 and 11]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 75)

Brief name	Wait list [page 11]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were given training dates that began after the end of the study [page 11]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.85 Lloyd, 2017

Bibliographic Reference

Lloyd, Joda; Bond, Frank W; Flaxman, Paul E; Work-related self-efficacy as a moderator of the impact of a worksite stress management training intervention: Intrinsic work motivation as a higher order condition of effect.; Journal of occupational health psychology; 2017; vol. 22 (no. 1); 115-127

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether the intervention would lead to significant reductions in psychological strain, emotional exhaustion and depersonalization when compared with a control group.
Country/geographical location	UK
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	Employees occupying customer facing roles

Exclusion criteria	Participants who failed to complete all aspects of the programme
Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Means, Standard Deviations, and Analysis of Variance (ANOVA) Statistics were reported for outcome measures • Per-protocol analysis - participants who did not complete the programme were excluded • No sample size calculations were reported
Attrition	<ul style="list-style-type: none"> • Combined (both studies): 23% (33 people) of the intervention group and 26% (30 people) of the control group failed to complete all aspects of the programme and were therefore excluded from the analyses. • Lloyd 2013: 30% (18 people) of the intervention group and 24% (16 people) of the control group failed to complete. • This study (calculated by reviewer): 15 participants from the intervention group and 14 participants from the control group failed to complete.
Study limitations (author)	<ul style="list-style-type: none"> • Concerns around the number of statistical tests carried out. • Relatively high attrition rate
Study limitations (reviewer)	Self-reported outcomes
Source of funding	Not reported

Study arms

Acceptance and commitment therapy (N = 25)

25 participants who had been randomised to the treatment arm completed the study. Participants were recruited by means of notices posted on the departments' intranet web pages, advertisements via staff mailing lists and through word-of-mouth by team-leaders and managers.

Wait list (N = 28)

28 participants who had been randomised to the control arm completed the study. Participants were recruited by means of notices posted on the departments' intranet web pages, advertisements via staff mailing lists and through word-of-mouth by team-leaders and managers.

Characteristics

Study-level characteristics

Characteristic	Study (N = 216)
Age Characteristics relate to combined values for Lloyd 2013 and the unpublished study presented in the article Range	19 to 63
Age Characteristics relate to combined values for Lloyd 2013 and the unpublished study presented in the article Mean (SD)	46.2 (<i>empty data</i>)
Gender Women - Characteristics relate to combined values for Lloyd 2013 and the unpublished study presented in the article No of events	% = 79

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured 6 months after the final training workshop.)

Employee outcomes

Outcome	Acceptance and commitment therapy, Baseline, N = 25	Acceptance and commitment therapy, 6 month, N = 25	Wait list, Baseline, N = 28	Wait list, 6 month, N = 28
Job stress Emotional exhaustion subscale of the Maslach Burnout Inventory - means and standard deviations were calculated by taking into account the values reported in Lloyd 2017 and Lloyd 2013 Mean (SD)	2.97 (1.3)	2.25 (1.26)	2.66 (1.17)	2.45 (1.12)

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Acceptance and commitment therapy - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Study arms

Acceptance and commitment therapy (ACT) (N = 25)

Brief name	Acceptance and commitment therapy (ACT) [page 6]
Rationale/theory/Goal	The first objective was to increase people's awareness of their thinking patterns, as well as the impact that these thinking patterns can have on their daily work and personal lives. This objective was achieved using acceptance and mindfulness processes, which help people increase their present moment awareness and approach internal experiences from a curious and open perspective. The second objective was to teach participants how to orient themselves towards their goals and desired life directions, and how to take steps towards these. This objective was achieved using commitment

	and behavioural activation processes which help people to fully contact the present moment and clarify and take steps towards their meaningful directions, both in their work and their personal lives. [page 14]
Materials used	Handouts, training session summary sheets and CD's [page 15]
Procedures used	<ul style="list-style-type: none"> • Participants were emailed the details of their training dates and location • Homework assignments, handouts, training session summary sheets and CD's were used to support practice of the training techniques outside of the sessions. • Participants were also asked not to discuss the training content with anybody in their department until the study was complete. <p>[page 15]</p>
Provider	Researcher who had received prior training in ACT [page 14]
Method of delivery	A group format was used to deliver the training and each group consisted of between eight and 12 employees [page 14]
Setting/location of intervention	The workshops took place during work hours in the onsite conference room facilities of the centres [page 14]
Intensity/duration of the intervention	Each participant was required to attend three, three-hour training sessions, two of which occurred on consecutive weeks and a third which occurred two months after this initial training phase [page 14]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	A selection of sessions were recorded and rated for adherence to ACT treatment protocols by the second author who has expertise in ACT interventions for workplace use. [page 14]
Actual treatment fidelity	Not reported

Other details	None
Wait list (N = 28)	
Brief name	Wait list [page 15]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were emailed the details of their training dates and location (participants were given training dates that began after the end of the study period) [page 15]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.86 Maatouk, 2018

Bibliographic Reference Maatouk, Imad; Muller, Andreas; Angerer, Peter; Schmook, Renate; Nikendei, Christoph; Herbst, Kirsten; Gantner, Melanie; Herzog, Wolfgang; Gundel, Harald; Healthy ageing at work- Efficacy of group interventions on the mental health of nurses aged 45 and older: Results of a randomised, controlled trial.; PloS one; 2018; vol. 13 (no. 1); e0191000

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	ISRCTN14793147
Study start date	Mar-2014
Study end date	Jul-2015
Aim	To evaluate the efficacy of a small group intervention promoting successful ageing at work in older nurses (aged 45 years or older).
Country/geographical location	Germany
Setting	Workplace:

	<ul style="list-style-type: none"> • Sector: not reported • Industry: Healthcare • Organisation size: Large • Contract type: mixed (full-time and part-time) • Seniority: not managers or leadership • Income: professional (nurses)
Inclusion criteria	Nurses aged 45 years or older who had sufficient skills in reading and writing German and had submitted written informed consent.
Exclusion criteria	<ul style="list-style-type: none"> • Membership in a respective management team or leadership position • Occupational disability (i.e., the continuing inability to continue working with patients due to physical or psychological impairment), cognitive impairment (i.e. not being able to follow the informed consent or other indications that the contents of the intervention cannot be followed) • Serious physical or psychiatric illnesses at the time of recruitment. Symptoms of serious physical illness were defined as follows: untreated diseases requiring urgent diagnostics and further treatment such as severe shortness of breath, dizziness or angina pectoris. Severe psychiatric symptoms were defined as follows: requiring an immediate treatment such as acute suicidal tendencies, psychotic symptoms, dissociation or flash backs and severe addictive diseases.
Method of randomisation	Randomisation was performed after baseline assessment using a web-based randomisation programme.
Method of allocation concealment	<ul style="list-style-type: none"> • Participants received a sealed envelope addressed to each personally and containing additional information about the study and the baseline questionnaire. • Randomisation was performed by an independent researcher who did not have any information about the participants.
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The trial was powered to detect an effect size (according to Morris, 2008 [43]) of $d = 0.5$ (i.e., mean pre-post change in the intervention group minus the mean pre-post change in the control group divided by the pooled pre-test standard deviation of the main outcome measurement, see Morris) in the primary outcome (HRQOL) with an α of 0.05 and a power of 80% in a two-tailed test. The assumed difference between the groups was 5.0 with a pooled standard deviation of 10. Assuming a dropout rate of 10%, 144 participants were required. • All analyses were performed according to the intent-to-treat principle. A conservative, single-imputation approach with 'last observation carried forward' (LOCF) was used to replace missing values at follow-up. • For sensitivity analyses, per-protocol analyses with complete cases were conducted. • Differences in the reported outcomes between the intervention and wait list group were assessed using an analysis of covariance (ANCOVA) with the follow-up (T2) score as the dependent variable, the baseline score as the covariate and group (IG or WLC group) as the predicting variable. • Effect sizes (d) were calculated in accordance with Morris.
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 54 participants, 8 (14.8%) were lost to follow-up. Reasons included vacation, high amount of work, health, no support needed and reason unknown. • Control: Out of 61 participants, 8 (13.1%) were lost to follow-up. Reasons included lack of motivation
Study limitations (author)	<ul style="list-style-type: none"> • The study did not reach the expected sample size, and therefore could have failed to detect significance. • There were several components to the intervention that could have made it difficult to identify the single components responsible for the observed effect. • Some nurses suffering from very high mental strain or even depression (those with the strongest need for intervention) maybe could not be reached by voluntary participation. • The study could not determine long-term effects.
Study limitations (reviewer)	<ul style="list-style-type: none"> • The intervention was only for employees aged 45 years and older • The study population was made up only of women • Outcome measures were self-reported
Source of funding	Deutsche Forschungsgemeinschaft within the funding programme Open Access Publishing, by the Baden-Wuerttemberg Ministry of Science, Research and the Arts and by Ruprecht-Karls- Universitaet Heidelberg.

Study arms**SOC (N = 54)**

54 participants were randomised to receive a multicomponent intervention. Participants at four sites were invited to participate by email.

Wait list (N = 61)

61 participants were randomised to a wait list control. Participants at four sites were invited to participate by email.

Characteristics**Arm-level characteristics**

Characteristic	SOC (N = 54)	Wait list (N = 61)
Age		
Mean (SD)	51.62 (4.65)	52.6 (5.56)
Women		
No of events	n = 47 ; % = 87	n = 45 ; % = 87
Men		
No of events	n = 7 ; % = 13	n = 7 ; % = 13

Outcomes**Study timepoints**

- Baseline

- 0 week (Follow-up after the booster session)

Employee outcomes

Outcome	SOC, Baseline, N = 54	SOC, 0 week, N = 54	Wait list, Baseline, N = 61	Wait list, 0 week, N = 61
Mental wellbeing Self-reported- WHO-5	n = 52 ; % = 96.3	n = 52 ; % = 96.3	n = 55 ; % = 90.2	n = 55 ; % = 90.2
Sample size				
Mental wellbeing Self-reported- WHO-5	11.68 (5.31)	13.57 (4.71)	12.76 (4.12)	13.84 (4.79)
Mean (SD)				
Job stress (5-56) Self-reported- Irritation scale	n = 52 ; % = 96.3	n = 52 ; % = 96.3	n = 55 ; % = 90.2	n = 55 ; % = 90.2
Sample size				
Job stress (5-56) Self-reported- Irritation scale	27.39 (9.68)	23.49 (9.29)	27.84 (9.78)	26.98 (9.65)
Mean (SD)				
Mental health symptoms (0-27) Self-reported- The Patient Health Questionnaire-9 (PHQ-9)	n = 52 ; % = 96.3	n = 52 ; % = 96.3	n = 55 ; % = 90.2	n = 55 ; % = 90.2
Sample size				
Mental health symptoms (0-27) Self-reported- The Patient Health Questionnaire-9 (PHQ-9)	8.04 (4.44)	6.92 (4.38)	6.97 (3.98)	6.67 (3.83)
Mean (SD)				

Outcome	SOC, Baseline, N = 54	SOC, 0 week, N = 54	Wait list, Baseline, N = 61	Wait list, 0 week, N = 61
Quality of life Self-reported- World Health Organization Quality of Life-BREF (WHOQOL-BREF)	n = 52 ; % = 96.3	n = 52 ; % = 96.3	n = 55 ; % = 90.2	n = 55 ; % = 90.2
Sample size				
Quality of life Self-reported- World Health Organization Quality of Life-BREF (WHOQOL-BREF)	65.56 (14.99)	68.95 (12.83)	68.95 (12.83)	67.5 (13.86)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Multicomponent intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Job stress - Multicomponent intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Mental health symptoms - Multicomponent intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Quality of life - Multicomponent intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

SOC (N = 54)

Brief name	SOC approach for healthy ageing at work [page 14]
Rationale/theory/Goal	Ageing was considered in the context of a popular theory of successful ageing: SOC, a strength-based (instead of a deficit-based) approach enabling a positive, resource-oriented view on the process of ageing [page 14]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Small groups (approximately 10 participants) were led by one or two trainers. • The training included 7 weekly sessions, with an additional booster session after 6 weeks. • Survey and training took place during work hours. • Sessions included: Introduction to the subject: "ageing in care professions"; Reflecting the working biography; Coping with stress and the concept of mindfulness; SOC-focused sessions. <p>[pages 3, 4 and 5]</p>
Provider	A psychologist and/or a doctor trained in psychotherapy. The minimum qualification was a degree in medicine or psychology and training or experience in psychotherapy/ group leading with a working experience of at least two years. [page 4]
Method of delivery	Group sessions [page 4]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Interventions was comprised of 7 weekly sessions (2 hours) and an additional booster session after 6 weeks. [page 4]
Tailoring/adaptation	In a preliminary qualitative and a pilot study with the aim to test the intervention's feasibility and acceptance, participants advised an adaptation of the manual from 10 sessions, 90 minutes a week and one booster session after 4 weeks (990 minutes) to a format with 7 sessions, 120 minutes a week and one booster session after 6 weeks (960 minutes). [page 3]
Unforeseen modifications	The timetable (but not the content or dose) of the intervention was slightly modified [page 3]

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 61)

Brief name	Wait list control [page 1]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	The wait list group received the same treatment after a break of one week after the IG's booster session [page 4]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.87 Mache, 2018

Bibliographic Reference Mache, Stefanie Bernburg, Monika Baresi, Lisa Groneberg, David; Mental health promotion for junior physicians working in emergency medicine: evaluation of a pilot study; EUROPEAN JOURNAL OF EMERGENCY MEDICINE; 2018; vol. 25 (no. 3); 191-198

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The aim of this study was to implement and evaluate a mental health promotion program for junior physicians working in emergency medicine involving promoting problem-focused and emotion-focused coping skills and cognitive behavioural as well as solution-focused counselling in team training.
Country/geographical location	Germany

Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: junior • Income: professional
Inclusion criteria	Inclusion criteria: employment in emergency medicine, working full-time in the hospital, working experience of less than 3 years, being able and willing to participate, agreement to complete the questionnaires, and e-mail access, availability of a computer, tablet, or a smartphone, and access to the Internet.
Exclusion criteria	Exclusion criteria: having any psychiatric illness, taking any psychiatric drugs, engaging any counselling service, and (d) parallel use of psychosocial counselling.
Method of randomisation	Participants were randomized at a ratio of 1:1 to intervention or control group via a computer-generated list of numbers.
Method of allocation concealment	This list for randomisation was generated by an independent research assistant; the other researcher was blinded to the list, ensuring concealed allocation to research conditions.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Descriptive statistics were used to describe the study sample. Change in mean scores was used to assess intervention effectiveness with between-group effects analysed using the Mann–Whitney U-test. Cohen’s d with 95% confidence intervals (CIs) was calculated on the basis of the dataset by comparing the mean and SD of the intervention and control groups at the corresponding time points.
Attrition	<p>Of the 70 physicians enrolled, all completed the baseline measures. During follow-up, 67/70 (96%) provided responses at time point 2, 63/70 (90%) at time point 3 and 4.</p> <p>72% of the participants (25/35) in the intervention group took part in all 12 training sessions.</p>

Study limitations (author)	Authors highlight that the small sample size was a limitation that impacts the findings external validity. The study did not undertake formal sample size calculations. The follow-up measurements were integrated for a time period of 6 months, limiting our ability to measure the long-term effect of the intervention. The study uses self-report measures only.
Study limitations (reviewer)	Use of self-report measures; sample size without sample size calculation which may mean the study is not powered to test for the intervention outcomes outlined. Generalizability of finding may be limited due to sample size, sample make up and setting.
Source of funding	Not reported

Study arms

Mental health training (N = 35)

35 participants were randomised to the intervention arm. Participants were recruited via email and/or direct communication from 6 hospitals.

Wait list (N = 35)

35 participants were randomised to the control arm. Participants were recruited via email and/or direct communication from 6 hospitals.

Characteristics

Study-level characteristics

Characteristic	Study (N = 70)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Mental health training (N = 35)	Wait list (N = 35)
Age (years)	27.3 (2.5)	27.1 (2.1)
Mean (SD)		
Gender (% Female)	62	68
Nominal		

Outcomes**Study timepoints**

- Baseline
- 6 month (Outcomes were measured after 6 months.)

Employee outcomes

Outcome	Mental health training, Baseline, N = 35	Mental health training, 6 month, N = 35	Wait list, Baseline, N = 35	Wait list, 6 month, N = 35
Job stress (0 to 100) Self-reported - Perceived stress questionnaire (PSQ)	n = 35 ; % = 100	n = 31 ; % = 88.6	n = 35 ; % = 100	n = 32 ; % = 91.4
Sample size				
Job stress (0 to 100) Self-reported - Perceived stress questionnaire (PSQ)	78.51 (17.25)	72.75 (16.25)	80.25 (15.51)	79.52 (17.25)
Mean (SD)				

Outcome	Mental health training, Baseline, N = 35	Mental health training, 6 month, N = 35	Wait list, Baseline, N = 35	Wait list, 6 month, N = 35
job satisfaction Self-reported - German version of the Copenhagen Psychosocial Questionnaire (COPSOQ)	n = 35 ; % = 100	n = 31 ; % = 88.6	n = 35 ; % = 100	n = 32 ; % = 91.4
Sample size				
job satisfaction Self-reported - German version of the Copenhagen Psychosocial Questionnaire (COPSOQ)	2.91 (0.75)	3.13 (0.82)	3.03 (0.81)	3.05 (0.79)
Mean (SD)				

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mental health training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Mental health training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Mental health training
Rationale/theory/Goal	The mental health training was designed on the basis of Lazarus's transactional model of stress. The aim of this study was to implement and evaluate a mental health promotion program for junior physicians working in emergency medicine involving promoting problem-focused and emotion-focused coping skills and cognitive behavioural as well as solution-focused counselling in team training. This approach was considered to support individuals to develop and implement goal-oriented, future-focused, and relevant activities and reactions on difficult situation and/or daily challenges at work.
Materials used	Two qualified psychologists; The training sessions included psychoeducation (theoretical input, watching videos, oral group discussions, experiential exercises, and home assignments); self-report questionnaires, the Copenhagen Psychosocial Questionnaire, the Maslach Burnout Inventory, the Utrecht Work Engagement Scale, and the Emotion Regulation Skills Questionnaire-27).
Procedures used	Post identification, invitation and randomisation those in the intervention arm were provided with training consisting of 12 weekly sessions of 1.5 h where focused on actual working situations and problems, coping strategies, and support between colleagues and goals for the future. The training sessions included psychoeducation (theoretical input, watching videos, oral group discussions, experiential exercises, and home assignments) and delivered by two qualified psychologists trained in cognitive behavioural and solution-focused work. The waitlist control group did nothing comparable with the intervention.
Provider	Two qualified psychologists, both trained in cognitive behavioural as well as solution-focused work
Method of delivery	Face-to-face and via home assignments
Setting/location of intervention	Not reported

Intensity/duration of the intervention	The training consisted of 12 weekly sessions of 1.5 h where the main focus was on actual working situations and problems, coping strategies, and support between colleagues and goals for the future. The training sessions included psychoeducation (theoretical input, watching videos, oral group discussions, experiential exercises, and home assignments).
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Mental health training (N = 35)

35 participants were randomised to the intervention arm. The training consisted of 12 weekly sessions of 1.5 h where the main focus was on actual working situations and problems, coping strategies, and support between colleagues and goals for the future

Wait list (N = 35)

35 participants were randomised to the control arm. Participants were recruited via email and/or direct communication from 6 hospitals.

D.88 Mache, 2017

Bibliographic Reference Mache, Stefanie; Baresi, Lisa; Bernburg, Monika; Vitzthum, Karin; Groneberg, David; Being prepared to work in Gynecology Medicine: evaluation of an intervention to promote junior gynecologists professionalism, mental health and job satisfaction.; Archives of gynecology and obstetrics; 2017; vol. 295 (no. 1); 153-162

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate a coping skills training for junior physicians in Gynecology and Obstetrics involving development of problem- and emotion-focused coping skills and cognitive behavioural as well as solution-focused counselling.
Country/geographical location	Germany
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: Large • Contract type: full time • Seniority: not reported • Income: professional
Inclusion criteria	<ul style="list-style-type: none"> • Employment in Gynaecology/Obstetrics • Being employed full time • A maximum of 2 years working experience in Gynaecology/Obstetrics • Participation in the study during the next 9 months

	<ul style="list-style-type: none"> • Access to the internet and email
Exclusion criteria	Not reported
Method of randomisation	Participants were randomised following baseline questionnaire. Participants were randomised using a computer-generation list of numbers.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Differences in mean scores of the socio-demographic factors (i.e., age, etc.) or in the outcome parameters (e.g., perceived job stress) were analysed using t tests and Chi-square tests. • ANCOVA were used to analyse for differences in the outcome variables between IG and CG. • Per-protocol analysis- Only gynaecologists in the IG were included for the follow-up analyses who participated more than 80 % of the training sessions. • Cohen's d with 95 % confidence intervals (CIs) by comparing the means and SDs of the intervention and control group. • A statistical power analysis was performed and showed that a sample size of 80 provides statistical power (two-tailed, alpha = 0.05) of [85 %.
Attrition	<ul style="list-style-type: none"> • Intervention: out of 38 participants randomised, 37 (97.3%) completed the first follow-up measures, 33 (86.8%) completed the second follow-up measures, and 31 (81.6%) completed the 6-month follow-up. • Control: out of 40 participants randomised, 35 (87.5%) completed the first follow-up measures, 34 (85%) completed the second follow-up measures, and 29 (72.5%) completed the 6-month follow-up. • Authors reported that participants who failed to complete the follow-up surveys did not differ in their baseline responses from those who complied with the study protocol.

Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • Participants were self-selected • Self-reported outcomes
Study limitations (reviewer)	Per-protocol analysis
Source of funding	Not reported

Study arms

Coping skills training (N = 38)

38 participants were randomised to receive coping skills training. Participants from 7 hospitals were invited to participate via email, telephone and/or direct communication.

Usual practice (N = 40)

40 participants were randomised to a control group. Participants from 7 hospitals were invited to participate via email, telephone and/or direct communication.

Characteristics

Arm-level characteristics

Characteristic	Coping skills training (N = 38)	Usual practice (N = 40)
Age		
Mean (SD)	27.1 (2.1)	27.8 (2.2)

Characteristic	Coping skills training (N = 38)	Usual practice (N = 40)
Gender		
Women	n = 26 ; % = 69	n = 28 ; % = 70
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Follow-up after 6 months)

Employee outcomes

Outcome	Coping skills training, Baseline, N = 38	Coping skills training, 6 month, N = 38	Usual practice, Baseline, N = 40	Usual practice, 6 month, N = 40
Job stress Self-reported- Perceived Stress Questionnaire (PSQ)	n = 38 ; % = 100	n = 31 ; % = 81.6	n = 40 ; % = 100	n = 29 ; % = 72.5
Sample size				
Job stress Self-reported- Perceived Stress Questionnaire (PSQ)	3.35 (0.65)	2.8 (0.7)	3.28 (0.62)	3.2 (0.62)
Mean (SD)				
job satisfaction Self-reported- job satisfaction scale in the	n = 38 ; % = 100	n = 31 ; % = 81.6	n = 40 ; % = 100	n = 29 ; % = 72.5

Outcome	Coping skills training, Baseline, N = 38	Coping skills training, 6 month, N = 38	Usual practice, Baseline, N = 40	Usual practice, 6 month, N = 40
Copenhagen Psychosocial Questionnaire (COPSOQ)				
Sample size				
job satisfaction Self-reported- job satisfaction scale in the Copenhagen Psychosocial Questionnaire (COPSOQ)	2.75 (0.74)	3.2 (0.72)	2.58 (0.77)	3.05 (0.65)
Mean (SD)				
Resilience Self-reported- German version of the 'Brief Resilient Coping Scale' (BRCS)	n = 38 ; % = 100	n = 31 ; % = 81.6	n = 40 ; % = 100	n = 29 ; % = 72.5
Sample size				
Resilience Self-reported- German version of the 'Brief Resilient Coping Scale' (BRCS)	3.43 (0.78)	4.08 (0.79)	3.39 (0.74)	3.49 (0.69)
Mean (SD)				

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Coping skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - job satisfaction - Coping skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Employee outcomes - Resilience - Coping skills training - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis and self-reported outcomes</i>)

Study arms

Coping skills training (N = 38)

Brief name	Coping skills training [page 155]
Rationale/theory/Goal	The training modules enclosed both well-established problem solving and emotion regulation strategies according to Lazarus's transactional model of stress. [page 155]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Training was performed off duty • This intervention involved the following methodological elements: discussion groups organized around a curriculum including elements of reflection, shared experience, and small group learning among the physicians. • Modules of the training sessions included psychoeducation, theoretical input, watching videos, oral group discussions, experiential exercises, role plays.

	<ul style="list-style-type: none"> • The training modules mainly focussed on situations and problems experienced at work. • Practical implication including coping strategies (cognitive, emotional, external, support systems, etc.) were integrated. • In detail, each training session had a special work-related topic: (1) introduction: opening and discussion on the theme “working as a gynecologist in the clinical setting”, (2) and (3) experienced work-related problems (4) and (5) coping skills training (cognitive strategies, emotion regulation, and stress management techniques, self-awareness and resilience, (6) and (7) conflict management, analysing conflict types and conflict handling in daily work routines, (8) receiving and giving feedback, asking for supervision and feedback, (9) communication training, (10) learning from mistakes, reporting, dealing with consequences, organizational hospital culture (11) handling difficult medical decisions, creating a support system, how to speak up to supervisors and senior physicians, (12) overall training evaluation. <p>[pages 155 and 156]</p>
Provider	Certified occupational health psychologists who had expertise in several stress management techniques, cognitive behavioural therapy as well as solution-focused training. [page 155]
Method of delivery	Group sessions [page 155]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	3-month intervention made up of twelve 3-hour sessions [pages 153 and 155]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 40)

Brief name	Usual practice [page 156]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received neither coping skills training nor any other comparable intervention (i.e., any other psychosocial skills training, counselling or therapy). [page 156]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.89 Mache, 2015

Bibliographic Reference Mache, Stefanie; Vitzthum, Karin; Klapp, Burghard F; Groneberg, David A; Evaluation of a Multicomponent Psychosocial Skill Training Program for Junior Physicians in Their First Year at Work: A Pilot Study.; Family medicine; 2015; vol. 47 (no. 9); 693-8

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Feb-2014
Aim	To gather preliminary information regarding the feasibility of implementing a psychosocial stress management and resilience training programme for junior physicians, and assess whether the programme would promote protective factors (such as resiliency) and job satisfaction.
Country/geographical location	Germany

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: professional (hospital physicians)
Inclusion criteria	<ul style="list-style-type: none"> • Employment as hospital doctor • Working at least full time • Working experience of less than one year • Being able and willing to participate • Agreement to complete a survey at least 2 times
Exclusion criteria	Not reported
Method of randomisation	No details
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Baseline differences between groups in socio-demographic and job satisfaction were measured with t-tests for independent samples. • Within-group changes from baseline to follow-up were analysed with t-tests for paired samples. • A mixed-model analysis of variance was used to analyse the mean changes over time for each of the outcome measures.

	<ul style="list-style-type: none"> • A sample size of a minimum of 40 physicians was elected for the pilot study after weighing statistical considerations along with logistical and resource constraints. A sample of 40 participants provided a statistical power (two-tailed, alpha = 0.05) of 855. • ITT analysis- not reported
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • Potential for positive bias as participants were highly motivated to learn and practice new psychosocial skills. • Outcome measures were self-reported • Short-term follow-up meant that long-term effects could not be assessed
Study limitations (reviewer)	<ul style="list-style-type: none"> • Lack of clarity over attrition and analysis type • Intervention was aimed at newly qualified physicians and cannot be generalised to wider population
Source of funding	Not reported

Study arms

Psychosocial programme (N = 42)

42 participants were randomised to receive a psychosocial training programme. Participants were recruited from several clinics via email, flyers and word of mouth.

Usual practice (N = 43)

43 participants were randomised to receive usual practice. Participants were recruited from several clinics via email, flyers and word of mouth.

Characteristics

Study-level characteristics

Characteristic	Study (N = 65)
Age	28 (<i>empty data</i>)
Mean (SD)	

Arm-level characteristics

Characteristic	Psychosocial programme (N = 42)	Usual practice (N = 43)
Women		
	n = 26 ; % = 62	n = 25 ; % = 59
No of events		
Men		
	n = 16 ; % = 38	n = 18 ; % = 41
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Follow-up after 6 months)

Employee outcomes

Outcome	Psychosocial programme, Baseline, N = 42	Psychosocial programme, 6 month, N = 42	Usual practice, Baseline, N = 43	Usual practice, 6 month, N = 43
Mental wellbeing Self-reported- Self-efficacy, Optimism and Pessimism (SWOP-K9) Mean (SD)	49.1 (15.6)	55 (17.3)	48.8 (15.6)	49.8 (18.4)
Job stress (0 - 100) Self-reported- Perceived Stress Questionnaire Mean (SD)	58.1 (19.2)	52.3 (20.4)	56.7 (19.8)	56.4 (20.1)
job satisfaction (0 - 100) Self-reported- German version of the Copenhagen Psychosocial Questionnaire (COPSOQ) Mean (SD)	54.1 (20.2)	54.4 (23.9)	56.3 (21.38)	56.2 (22.5)
Resilience Self-reported- German version of the Brief Resilient Coping Scale Mean (SD)	54.3 (17.3)	61.5 (17.9)	53.1 (16.9)	52.9 (17.8)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Psychosocial programme - Usual practice**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Psychosocial programme - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Psychosocial programme - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Resilience - Psychosocial programme - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Psychosocial programme (N = 42)

Brief name	Psychosocial resilience training combined with cognitive behavioural and solution-focused counselling [page 694]
Rationale/theory/Goal	The focus of the group work was the work situation, but any kind of topic was acceptable. The intervention was based on principles of cognitive behavioural training and solution-focused group work. [page 694]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Groups of a maximum of 12 participants • The main focus was on coping strategies, support between the participants, and solutions and goals for the future • Resilience training focused on a number of objectives, for example, instructing and promoting fundamental communication, goal setting, improving emotional problems, increasing motivation, self-efficacy, etc. • Sessions involve psychoeducation (theoretical input), watching videos, discussions, experiential exercises, and home assignments. • In each session, a topic was introduced and discussed. These included: 1) Introduction- day-to-day working life of a hospital physician; 2) self-esteem and self-awareness; 3) resilience; 4) positive thoughts and emotions; 5) cognitive behavioural training; 6) goal setting; 7) social support; 8) communication; 9) conflict handling; 10) dealing with difficult decisions; 11) coping with work-related stress and relaxation; 12) session evaluation • Sessions included how to speak up to supervisors and senior physicians, questioning their professional actions, seeking guidance about one's own clinical performance, reporting one's mistakes <p>[page 694]</p>
Provider	Two psychologists- both were familiar with cognitive behavioural and solution-focused work in group sessions [page 694]

Method of delivery	Group sessions [page 694]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	12 weekly sessions lasting 2 hours [page 694]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 43)

Brief name	Usual practice [page 694]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received no training, but answered questionnaires at baseline and follow-up [page 694]

Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.90 Maglia, 2019

Bibliographic Reference

Maglia, Marilena Auditore, Roberta Pipitone, Stefano DiPasqua, Rachele Inguscio, Lucio Caponnetto, Pasquale; Combining group psychotherapy and yoga exercises improves quality of life in mental health professionals: a controlled randomized clinical trial; MENTAL ILLNESS; 2019; vol. 11 (no. 2); 1-7

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The study aims to investigate the effects of combining 12-week group psychotherapy with yoga exercises on stress perception and quality of life in mental health professionals.
Country/geographical location	Italy
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional
Inclusion criteria	Inclusion criteria included being mental health professionals who were not involved in a formal exercise program and who were willing to participate in this study.
Exclusion criteria	Exclusion criteria included pain due to injuries to shoulders, waist or lower back, and musculoskeletal diseases such as muscle strains that made participants unsuitable to participate.
Method of randomisation	The participants were randomly assigned to each group but the method of randomization is not specified.
Method of allocation concealment	Blinding and allocation concealment have not been reported but the study authors outline that the 'analyzer' was unaware of which group was the experimental one.
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	To assess the impact of the intervention an analysis of variance (ANOVA), mixed with repeated measures, was performed, with the two types of group applied as factors between subjects and the two temporal observations (T0 and T1) as factors within subject, also by analyzing the “interaction time x treatment”.
Attrition	28/36 (78%) randomised participants provided data at baseline and follow-up.
Study limitations (author)	Limited data available do not permit a definitive conclusion; No restrictions on the activities of the control group or intervention group during the intervention period which may influence their end-program scores. Authors highlight the modest number of participants.
Study limitations (reviewer)	The method of randomisation has not been specified; The blinding and allocation concealment protocols were not reported and it is unclear if this occurred; Small sample size and no sample size calculation so unclear if study was adequately powered to assess intervention effectiveness for the a priori outcomes outlined.
Source of funding	Not reported

Study arms

Psychotherapy and yoga (N = 18)

18 participants were randomised to receive a combined psychotherapy and yoga intervention. Participants were from a single organisation.

Control (N = 18)

18 participants were randomised to a control group. Participants were from a single organisation.

Characteristics

Arm-level characteristics

Characteristic	Psychotherapy and yoga (N = 18)	Control (N = 18)
Age		
Mean (SD)	49.3 (10.5)	48.9 (10.1)
Gender		
Nominal	39	43

Outcomes**Study timepoints**

- Baseline
- 3 month (Outcomes assessed after 3 months)

Employee outcomes

Outcome	Psychotherapy and yoga, Baseline, N = 18	Psychotherapy and yoga, 3 month, N = 18	Control, Baseline, N = 18	Control, 3 month, N = 18
Job stress				
Self-reported - Perceived stress scale. High or medium and High subgroups to be combined in RevMan	n = 18 ; % = 100	n = 15 ; % = 83.3	n = 13 ; % = 72.2	n = 13 ; % = 72.2
Sample size				
Below average	n = 2 ; % = 11.1	n = 3 ; % = 20	n = 1 ; % = 7.7	n = 1 ; % = 7.7
No of events				

Outcome	Psychotherapy and yoga, Baseline, N = 18	Psychotherapy and yoga, 3 month, N = 18	Control, Baseline, N = 18	Control, 3 month, N = 18
Average	n = 4 ; % = 22.2	n = 4 ; % = 26.7	n = 0 ; % = 0	n = 1 ; % = 7.7
No of events				
High or medium	n = 3 ; % = 16.7	n = 2 ; % = 13.3	n = 4 ; % = 30.8	n = 2 ; % = 15.4
No of events				
High	n = 9 ; % = 50	n = 8 ; % = 53.3	n = 8 ; % = 61.5	n = 9 ; % = 69.2
No of events				
Quality of life Self-reported - QoL-VAS	n = 18 ; % = 100	n = 15 ; % = 83.3	n = 13 ; % = 72.2	n = 13 ; % = 72.2
Sample size				
Quality of life Self-reported - QoL-VAS	43.06 (24.02)	55.33 (21.34)	39.2 (34.8)	34.2 (35.3)
Mean (SD)				

Job stress - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Psychotherapy and yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Missing outcome data</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Missing outcome data and self-reported outcomes</i>)

Employee outcomes - Job stress (Below average) - Psychotherapy and yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Job stress (Average) - Psychotherapy and yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Missing outcome data</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Missing outcome data and self-reported outcomes</i>)

Employee outcomes - Job stress (High or medium) - Psychotherapy and yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Missing outcome data</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Job stress (High) - Psychotherapy and yoga - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Quality of life - Psychotherapy and yoga vs Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study details

Brief name	Psychotherapy and yoga
Rationale/theory/Goal	The authors hypothesize that combining group psychotherapy and yoga exercises may effectively improve psychological well-being by reducing stress perception and increasing the quality of life of mental health professionals. This study sought to investigate the effects of 12-week group psychotherapy combined with yoga exercises intervention on psychological wellbeing, stress perception and quality of life in mental health professionals and to verify its acceptability and efficacy.
Materials used	1 h of group psychotherapy and 1 h of yoga exercises for 12 weeks. An experienced clinical psychologist led the group. The yoga was Yoga Vidya exercises but it is unclear who led these sessions. Self-report questionnaires (EuroQol VAS and PSS).
Procedures used	Participants invited to participate (via poster advertisement and in person) and randomised if meeting inclusion criteria. The intervention group received one weekly session of 2 h for a total duration of 12 weeks (1 h of group psychotherapy and 1 h of yoga exercises). Participants completed two subjective self-administered scales (EuroQol VAS and PSS) before and after the group psychotherapy plus yoga exercise intervention.
Provider	Clinical psychologist led the group therapy. It is unclear who provided the Yoga Vidya exercises.
Method of delivery	Group
Setting/location of intervention	Psychiatric Rehabilitation Clinic and Research,
Intensity/duration of the intervention	Group psychotherapy combined with yoga consisted of one weekly session of 2 h for a total duration of 12 weeks (1 h of group psychotherapy and 1 h of yoga exercises). The training was modelled on the patient, considering the baseline assessment.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Psychotherapy and yoga (N = 18)

18 participants were randomised to receive a combined psychotherapy and yoga intervention. One weekly session of 2 h for a total duration of 12 weeks (1 h of group psychotherapy and 1 h of yoga exercises).

Control (N = 18)

18 participants were randomised to a control group. A free tea-time during which they watched television and did not exercise.

D.91 McConachie, 2014

Bibliographic Reference

McConachie, DA; McKenzie, K; Morris, PG; Walley, RM; Acceptance and mindfulness-based stress management for support staff caring for individuals with intellectual disabilities.; Research in developmental disabilities; 2014; vol. 35 (no. 6); 1216-1227

Study details

Trial registration number	Not reported
Aim	To examine the effect of an acceptance and mindfulness-based stress management workshop on levels of psychological distress and well-being of support staff working with individuals with ID and challenging behaviour.
Country/geographical location	UK (Scotland)
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: social care: • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (education level: secondary school education only, higher education college, university education)
Inclusion criteria	<ul style="list-style-type: none"> • Participants were over 18 years • Participants were able to provide informed consent • Participants had at least 6 months experience working within ID services
Exclusion criteria	Not reported
Method of randomisation	Permuted block randomisation was used to generate quasi-random numbers
Method of allocation concealment	None
Unit of allocation	Individual

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • 'As treated' analysis was performed • No power calculations were reported • Data were presented as mean and SD • Differences in outcomes between the intervention group and the control group were compared across three time points • Exploratory Multiple Linear Regression was undertaken to identify variables that contributed to overall variance for the dependent variables (GHQ and WEMWBS) in order to identify potential covariates. • Correlations between each variable were examined to ensure that they did not exceed .9, and inspection of Tolerance and Variance Inflation Factors (VIF) concluded that multicollinearity assumptions were not violated. • Mixed ANOVAs were used, with each dependent variable analysed independently. • For significant effects, post hoc Bonferroni repeated measures comparisons across time were completed. • Effect sizes (ES) were reported using partial eta squared (η^2) utilising guidelines proposed by Cohen (1988).
Attrition	<ul style="list-style-type: none"> • Intervention: Out of 78 randomised participants, 66 (86%) completed the workshop and pre-intervention measures, 53 (68%) completed the refresher training and T2 post-measures, and 47 (60%) completed T3 follow up. • Control: Out of 78 randomised participants, 54 (69%) completed pre-intervention measures, 45 (58%) completed T2 post-measures, and 40 (51%) completed T3 follow up.
Study limitations (author)	<ul style="list-style-type: none"> • Potential lack of sensitivity of some outcome measures to longitudinal changes and the influence of floor effects • High attrition • Randomisation procedure occurred before participants had consented to take part • There was no allocation concealment • Allocation of staff to the two conditions was not fully adhered to by line managers
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcome measures
Source of funding	Not reported

Study arms

Acceptance and mindfulness-based stress management (N = 78)

79 participants were randomised to the acceptance and mindfulness-based stress management intervention. Individuals were from independent care organisations that were invited to participate.

Wait list (N = 78)

78 participants were randomised to a wait list. Individuals were from independent care organisations that were invited to participate.

Characteristics

Arm-level characteristics

Characteristic	Acceptance and mindfulness-based stress management (N = 78)	Wait list (N = 78)
Age Characteristics for participants who completed baseline measures only	43 (19 to 69)	44 (26 to 64)
Median (IQR)		
Men	n = 19 ; % = 28.8	n = 12 ; % = 22.2
No of events		
Women	n = 47 ; % = 71.2	n = 42 ; % = 77.8
No of events		

Characteristic	Acceptance and mindfulness-based stress management (N = 78)	Wait list (N = 78)
Secondary school education only	n = 26 ; % = 39.4	n = 25 ; % = 46.3
No of events		
Higher education college	n = 25 ; % = 37.9	n = 21 ; % = 38.9
No of events		
University education	n = 15 ; % = 22.7	n = 8 ; % = 14.8
No of events		

Outcomes

Study timepoints

- Baseline
- 6 week (Follow up 6 weeks after the refresher training, and 12 weeks after initial workshop)

Employee outcomes

Outcome	Acceptance and mindfulness-based stress management, Baseline, N = 78	Acceptance and mindfulness-based stress management, 6 week, N = 78	Wait list, Baseline, N = 78	Wait list, 6 week, N = 78
Mental wellbeing (14-70) Self reported - Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)	n = 66 ; % = 84.6	n = 66 ; % = 84.6	n = 54 ; % = 69.2	n = 54 ; % = 69.2
Sample size				

Outcome	Acceptance and mindfulness-based stress management, Baseline, N = 78	Acceptance and mindfulness-based stress management, 6 week, N = 78	Wait list, Baseline, N = 78	Wait list, 6 week, N = 78
Mental wellbeing (14-70) Self reported - Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) Mean (SD)	51.06 (8.14)	52.01 (5.2)	50.76 (7.53)	50.28 (7.11)
Quality of life (0-36) Self reported - General Health Questionnaire-12 (GHQ-12) Sample size	n = 66 ; % = 84.6	n = 66 ; % = 84.6	n = 54 ; % = 69.2	n = 54 ; % = 69.2
Quality of life (0-36) Self reported - General Health Questionnaire-12 (GHQ-12) Mean (SD)	12.3 (5.95)	10.89 (3.4)	12.07 (4.48)	11.13 (3.87)

Mental wellbeing - Polarity - Higher values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Acceptance and mindfulness-based stress management vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	High <i>(Deviation from assigned intervention occurred)</i>
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Deviation from intended interventions and self-reported outcomes)</i>

Employee outcomes - Job stress - Acceptance and mindfulness-based stress management vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	High <i>(Deviation from assigned intervention occurred)</i>
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Deviation from intended interventions and self-reported outcomes)</i>

Study arms

Acceptance and mindfulness-based stress management (N = 78)

Brief name	Acceptance and mindfulness workshop derived from a protocol based on the core principles of Acceptance and Commitment therapy (ACT) and adapted for use within ID services. [page 10]
Rationale/theory/Goal	The major components of the intervention include increasing mindfulness and psychological acceptance of thoughts, feelings and sensations, reducing the literal control of thoughts and language over behaviour, and defining values and creating goals. It is proposed that increases in mindfulness and acceptance free up cognitive resources, and that value

	driven behaviour may aid increased behaviour activation. The overall aim of the workshop was to change the way support staff reacted to stressful situations, such as supporting a client with ID and who displayed behaviour that challenges. [pages 10 and 11]
Materials used	None reported
Procedures used	<ul style="list-style-type: none"> • The intervention consisted of a full day workshop, followed by a half day refresher session after six weeks. • The workshop involved the use of didactic teaching, group discussions, written exercises, the use of metaphors, short video presentations and practical and interactive exercises. • Workshops were carried out in groups of between 3 and 10 participants. • Mindfulness exercises were practised during sessions and given as homework assignments to be completed between sessions. <p>[page 11]</p>
Provider	Not reported, however the discussion section reports that the relative inexperience of the therapist may have had an effect of the results. [page 20]
Method of delivery	Group workshops and at-home assignments [page 11]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Full day workshop and half-day refresher training [page 11]
Tailoring/adaptation	Protocol adapted for use within ID services [page 10]
Unforeseen modifications	None reported
Planned treatment fidelity	Protocol based on the core principles of Acceptance and Commitment therapy (ACT: Bond & Hayes, 2002; Bond & Bunce, 2000; Hayes et al., 1999), and adapted for use within ID services by Noone and Hastings. [page 10]

Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 78)

Brief name	Wait list [page 11]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> Participants were invited to attend a workshop after data collection was completed. [page 11]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.92 McGonagle, 2020

Bibliographic Reference McGonagle, Alyssa K; Schwab, Leslie; Yahanda, Nancy; Duskey, Heidi; Gertz, Nancy; Prior, Lisa; Roy, Marianne; Kriegel, Gila; Coaching for primary care physician well-being: A randomized trial and follow-up analysis.; Journal of occupational health psychology; 2020; vol. 25 (no. 5); 297-314

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	Randomized controlled trial of a six-session positive psychology-based coaching intervention to improve Primary Care Physicians (PCPs) personal and work-related well-being and decrease stress and burnout.
Country/geographical location	USA
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported

	<ul style="list-style-type: none"> • Contract type not reported • Seniority: not reported • Income: professional
Inclusion criteria	Inclusion criteria were individuals currently working at least part-time as a primary care physicians (PCP) (0.5 full-time equivalent clinical practice), having 25 years or less of experience as a PCP, and not planning to retire within 2 years.
Exclusion criteria	Not reported
Method of randomisation	Randomized using a coin flip into either an immediate start coaching group (primary) or waitlisted control group with a 6-month delay.
Method of allocation concealment	Unclear - Intervention providers were allocated via an alternating sequence (unclear if this was under concealed conditions); data collection was undertaken via online surveys sent by e-mail (unclear if this was done under concealed conditions)
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Independent t-tests and Chi-squared analyses to test for differences between the immediate and waitlisted coaching groups in demographics and baseline measures; Descriptive results of responses to questions about coaching fidelity undertaken; Multivariate analysis of variance (MANOVA) and analysis of variance (ANOVA) used to assess effectiveness of coaching.
Attrition	At baseline 58/59 (98%) randomized provided data; 49/59 (83%) randomized received the intervention at follow-up; 50/59 (85%) randomized provided data to address Hypothesis 1; 39/59 (66%) randomized provided data to address hypothesis 2
Study limitations (author)	Authors do not have data to underpin initial assertion that coaching for PCP well-being is best implemented alongside broader organizational change efforts - this was not part of the study. Use of participant self-report outcome measures only. Unclear if coaching delivery was standardized as data on coaches' adherence to protocol and the specific tools used for each participant was not assessed. Sample representativeness: Participants were primarily female; average age was 42.62 years and average tenure was 11.09 years which may impact the generalizability of findings. Attrition could have caused sample bias

	impacting study results with 15%-34% attrition to address a priori hypotheses (the study reran the analyses using an intent-to-treat framework and found similar results except for job satisfaction). Sample bias could have also occurred because PCPs self-selected into the intervention.
Study limitations (reviewer)	Methods for allocation concealment and blinding were unclear which are a potential source of bias and limitation. Generalizability of the findings may be limited due to sector, self-selecting sample, and sample demographics.
Source of funding	Institute of Coaching at McLean Hospital, Harvard Medical School affiliate; Reference made to grant application but no further details

Study arms

Positive psychology-based coaching (N = 29)

29 participants were randomised to receive a positive psychology-based coaching intervention. Participants were recruited from a four medical practices.

Wait list (N = 30)

30 participants were randomised to a wait-list group. Participants were recruited from a four medical practices.

Characteristics

Study-level characteristics

Characteristic	Study (N = 59)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Positive psychology-based coaching (N = 29)	Wait list (N = 30)
Age		
Mean (SD)	43.41 (8.76)	41.83 (7.42)
Gender (% Female)		
Nominal	72.41	86.21

Outcomes**Study timepoints**

- Baseline
- 3 month (Outcomes were measured after 3 months)

Employee outcomes

Outcome	Positive psychology-based coaching, Baseline, N = 29	Positive psychology-based coaching, 3 month, N = 29	Wait list, Baseline, N = 30	Wait list, 3 month, N = 30
Mental wellbeing Self-reported - 24 item Psychological Capital Questionnaire	n = 26 ; % = 89.7	n = 26 ; % = 89.7	n = 24 ; % = 80	n = 24 ; % = 80
Sample size				
Mental wellbeing Self-reported - 24 item Psychological Capital Questionnaire	4.08 (0.69)	4.63 (0.68)	4.23 (0.68)	4.39 (0.74)
Mean (SD)				

Outcome	Positive psychology-based coaching, Baseline, N = 29	Positive psychology-based coaching, 3 month, N = 29	Wait list, Baseline, N = 30	Wait list, 3 month, N = 30
Job stress Self-reported - Maslach Burnout Inventory	n = 26 ; % = 89.7	n = 26 ; % = 89.7	n = 24 ; % = 80	n = 24 ; % = 80
Sample size				
Job stress Self-reported - Maslach Burnout Inventory	2.32 (0.68)	1.97 (0.72)	2.37 (0.71)	2.45 (0.72)
Mean (SD)				
job satisfaction Self-reported - 17-item Engagement Scale	n = 26 ; % = 89.7	n = 26 ; % = 89.7	n = 24 ; % = 80	n = 24 ; % = 80
Sample size				
job satisfaction Self-reported - 17-item Engagement Scale	5.73 (0.78)	6.06 (0.68)	5.87 (0.88)	5.92 (0.68)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Positive psychology-based coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Significantly different score for job satisfaction (this scale was not extracted for job satisfaction outcome))</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Employee outcomes - job satisfaction - Positive psychology-based coaching - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Significantly different score for job satisfaction (this scale was not extracted for job satisfaction outcome))</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Study details

Brief name	Psychology-based coaching
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Rationale/theory/Goal	Social support can relieve stress, and that setting and achieving goals during coaching can help to build self-efficacy. Authors propose that a positive psychology coaching intervention will promote positive emotional states in PCPs, which will improve their levels of personal resources and well-being. Authors propose that, through evoking experiences of positive emotion, coaching will build PCPs personal resources, leading to well-being and lower burnout.
Materials used	6 coaching sessions over a 3-month period; Validated questionnaires/tools: Workplace PERMA Profiler questionnaire (completed prior to coaching); Values in Action Inventory (VIA) Character Strengths Assessment, Using Strengths in New Ways, Best Self, Mindfulness Reflections, Reframing, Social Flow, and Gratitude Reflections; Five study coaches; standard toolbox for coaching, which contained exercises that could be used with coachees; Measures: 22-item Maslach Burnout Index; The 15-item Stress in General Scale; A three-item Turnover Intentions Scale; A 17-item Engagement Scale; The 24-item Psychological Capital Questionnaire; five-item Santa Clara Brief Compassion Scale; seven-item Job Self-Efficacy Scale; Job satisfaction scale and coaching fidelity scale.
Procedures used	Participants received six coaching sessions over a 3-month period, with one session approximately every 2 weeks. The first session was 60 min long and face to face, the five remaining sessions were 30 min long and were conducted by phone. Pre-work was identified at the end of each session in preparation for the next. Before the first coaching session, participants completed the Workplace PERMA Profiler results were shared by the coach at the first session as a standardized focus for that first conversation. The last coaching session focused on assessing progress, defining ways to sustain success, and conducting a gratitude reflection. The second through fifth sessions used participant-chosen topics and a toolbox of evidence-based positive psychology coaching exercises, designed to be used flexibly based on client goals and learning preferences.
Provider	Study outlines that five coaches with differing qualifications delivered the intervention but who exactly 'provided' the intervention is unclear.
Method of delivery	Face to face and over the phone
Setting/location of intervention	Medical practice
Intensity/duration of the intervention	6 coaching sessions over a 3-month period; First session undertaken face-to-face and next five sessions undertaken over the phone.
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Coaching fidelity was assessed via six questions in a post-coaching survey to assess whether the intervention was consistent with a coaching framework (as opposed to a training or mentoring framework). This was completed by n=38 participants. No clear statement of the 'planned fidelity'. Questions were: "Who set the coaching meeting agenda for the majority of your coaching sessions? Who did most of the talking during the coaching sessions? Did your coach tell you how to behave or what to do? Did your coach check in to see whether the session met the goals you had for the session? Did you have a "homework assignment" to do between sessions? Did your coach review your homework at the subsequent session?"
Actual treatment fidelity	The authors outlined that the responses indicated that the intervention was consistent with characteristics of coaching.
Other details	Not reported

Study arms

Positive psychology-based coaching (N = 29)

Six coaching sessions over a 3-month period, with one session approximately every 2 weeks. The first session was face-to-face 60 min long and focused on creating the coaching alliance, assessing strengths, and setting client-centred goals. The five remaining sessions via phone were 30 min long and focused on specific topics and tools, using a client-centred action plan created in the first session. Pre-work was identified at the end of each session in preparation for the next.

Wait list (N = 30)

30 participants were randomised to a wait-list group. Participants were recruited from a four medical practices.

D.93 Medisauskaite, 2019

Bibliographic Reference Medisauskaite, Asta; Kamau, Caroline; Reducing burnout and anxiety among doctors: Randomized controlled trial.; Psychiatry research; 2019; vol. 274; 383-390

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NCT02838290
Study start date	Jul-2016
Aim	To determine whether interventions that teach doctors about the psychology of burnout, stress, coping with patient death, and managing distress, as well as giving them information about prevalence rates among doctors, have an effect on the primary outcomes of burnout, anxiety, insomnia, grief, alcohol/drug use, binge eating, physical symptoms, and psychiatric morbidity.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: mixed (hospital and non-hospital) • Contract type: not reported • Seniority: not reported • Income: professional (doctors)
Inclusion criteria	doctors who currently practice medicine, have regular contact with patients, and complete both time-1 and time-2 of the trial.

Exclusion criteria	Not reported
Method of randomisation	Participants were randomised by Qualtrics software after clicking on the weblink.
Method of allocation concealment	Participants were randomised by Qualtrics software
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • The appropriate sample size was calculated using G*Power software: repeated measures, within-between subject interaction (a error prob = .05; power .95; 2 groups; measured at 2 time points; .5 correlation between repeated measures; medium effect size F of .25) (Faul et al., 2007). Calculated actual power was .95 for sample of 54 participants, 27 participants in each group. • No extreme outliers were observed in any of the outcomes. • Mixed methods ANOVAs with Pillai's Trace determining significant multivariate effects and F-tests determined significant univariate effects at $p < .05$. • The repeated Wilcoxon signed-rank test and McNemar Chi-square statistics evaluated within-group differences in ordinal/nominal outcome measures. • For non-parametric measures, the group differences between time-1 and time-2 were calculated using Kruskal-Wallis/ Chi-square tests. • Comparison of intervention and control groups using t-test or Chi-Squared statistics showed no differences in baseline measures
Attrition	<p>Intervention group 1: Out of 80 participants randomised, 15 (18.8%) participants did not complete the intervention and 16 (20%) participants were lost to follow-up</p> <p>Intervention group 2: Out of 73 participants randomised, 14 (19.2%) participants did not complete the intervention and 17 (23.3%) participants were lost to follow-up</p>

	<p>Intervention group 3: Out of 78 participants randomised, 15 (19.2%) participants did not complete the intervention and 15 (19.2%) participants were lost to follow-up</p> <p>Control group: Out of 75 participants randomised, 4 (5.3%) did not complete the questionnaire, and 19 (25.3%) were lost to follow-up.</p>
Study limitations (author)	<ul style="list-style-type: none"> • No long-term follow-up • Lack of active control
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • Type of analysis (ITT or per-protocol) was not clear
Source of funding	Not reported

Study arms

Psychoeducational programme- group 1 (N = 80)

80 participants were randomised to receive module 1 of a psychoeducational programme. Participants self-selected from emails and newsletters sent out by 9 NHS trusts, 9 royal colleges of medicine, and the British Medical Association.

Psychoeducational programme- group 2 (N = 73)

73 participants were randomised to receive module 2 of a psychoeducational programme. Participants self-selected from emails and newsletters sent out by 9 NHS trusts, 9 royal colleges of medicine, and the British Medical Association.

Psychoeducational programme- group 3 (N = 78)

78 participants were randomised to receive module 3 of a psychoeducational programme. Participants self-selected from emails and newsletters sent out by 9 NHS trusts, 9 royal colleges of medicine, and the British Medical Association.

Psychoeducational programme- group 4 (N = 75)

75 participants were randomised to receive all 3 modules of a psychoeducational programme. Participants self-selected from emails and newsletters sent out by 9 NHS trusts, 9 royal colleges of medicine, and the British Medical Association.

Wait list (N = 75)

75 participants were randomised to a control group. Participants self-selected from emails and newsletters sent out by 9 NHS trusts, 9 royal colleges of medicine, and the British Medical Association.

Characteristics**Arm-level characteristics**

Characteristic	Psychoeducational programme- group 1 (N = 80)	Psychoeducational programme- group 2 (N = 73)	Psychoeducational programme- group 3 (N = 78)	Psychoeducational programme- group 4 (N = 75)	Wait list (N = 75)
Age Characteristics for completers only	47.41 (11.48)	48.36 (11.63)	46.17 (11.38)	48.79 (11.07)	48.81 (10.8)
Mean (SD)					
Women	n = 20 ; % = 42.6	n = 29 ; % = 68.3	n = 28 ; % = 58.7	n = 14 ; % = 35.9	n = 28 ; % = 53.8
No of events					
Men	n = 27 ; % = 57.4	n = 13 ; % = 31.7	n = 19 ; % = 41.3	n = 25 ; % = 64.1	n = 24 ; % = 46.2
No of events					

Outcomes

Study timepoints

- Baseline
- 7 day (Follow-up 7 days post-intervention)

Employee outcomes

Outcome	Psychoeducational programme-group 1, Baseline, N = 80	Psychoeducational programme-group 1, 7 day, N = 80	Psychoeducational programme-group 2, Baseline, N = 73	Psychoeducational programme-group 2, 7 day, N = 73	Psychoeducational programme-group 3, Baseline, N = 78	Psychoeducational programme-group 3, 7 day, N = 78	Psychoeducational programme-group 4, Baseline, N = 75	Psychoeducational programme-group 4, 7 day, N = 75	Wait list, Baseline, N = 75	Wait list, 7 day, N = 75
Job stress Self-reported-emotional exhaustion subscale of Maslach Burnout Inventory	n = 47 ; % = 58.8	n = 47 ; % = 58.8	n = 42 ; % = 57.5	n = 42 ; % = 57.5	n = 47 ; % = 60.3	n = 47 ; % = 60.3	n = 39 ; % = 52	n = 39 ; % = 52	n = 52 ; % = 69.3	n = 52 ; % = 69.3
Sample size										

Outcome	Psychoeducational programme-group 1, Baseline, N = 80	Psychoeducational programme-group 1, 7 day, N = 80	Psychoeducational programme-group 2, Baseline, N = 73	Psychoeducational programme-group 2, 7 day, N = 73	Psychoeducational programme-group 3, Baseline, N = 78	Psychoeducational programme-group 3, 7 day, N = 78	Psychoeducational programme-group 4, Baseline, N = 75	Psychoeducational programme-group 4, 7 day, N = 75	Wait list, Baseline, N = 75	Wait list, 7 day, N = 75
Job stress Self-reported-emotional exhaustion subscale of Maslach Burnout Inventory Mean (SD)	2.93 (1.23)	2.94 (1.94)	3.23 (1.4)	3.2 (1.33)	3.22 (1.25)	3.12 (1.35)	3.26 (1.41)	2.98 (1.44)	3.2 (1.4)	3.04 (1.42)
Mental health symptoms Self-reported-The General Anxiety	n = 47 ; % = 58.8	n = 47 ; % = 58.8	n = 42 ; % = 57.5	n = 42 ; % = 57.5	n = 47 ; % = 60.3	n = 47 ; % = 60.3	n = 39 ; % = 52	n = 39 ; % = 52	n = 52 ; % = 69.3	n = 52 ; % = 69.3

Outcome	Psychoeducational programme-group 1, Baseline, N = 80	Psychoeducational programme-group 1, 7 day, N = 80	Psychoeducational programme-group 2, Baseline, N = 73	Psychoeducational programme-group 2, 7 day, N = 73	Psychoeducational programme-group 3, Baseline, N = 78	Psychoeducational programme-group 3, 7 day, N = 78	Psychoeducational programme-group 4, Baseline, N = 75	Psychoeducational programme-group 4, 7 day, N = 75	Wait list, Baseline, N = 75	Wait list, 7 day, N = 75
Disorder-7										
Sample size										
Mental health symptoms Self-reported-The General Anxiety Disorder-7	0.84 (0.7)	0.77 (0.68)	0.9 (0.77)	0.89 (0.69)	1.28 (0.93)	1 (0.79)	0.96 (0.81)	0.73 (0.72)	0.88 (0.74)	0.81 (0.74)
Mean (SD)										
Quality of life (0-36) Self-reported-	n = 47 ; % = 58.8	n = 47 ; % = 58.8	n = 42 ; % = 57.5	n = 42 ; % = 57.5	n = 47 ; % = 60.3	n = 47 ; % = 60.3	n = 39 ; % = 52	n = 39 ; % = 52	n = 52 ; % = 69.3	n = 52 ; % = 69.3

Outcome	Psychoeducational programme-group 1, Baseline, N = 80	Psychoeducational programme-group 1, 7 day, N = 80	Psychoeducational programme-group 2, Baseline, N = 73	Psychoeducational programme-group 2, 7 day, N = 73	Psychoeducational programme-group 3, Baseline, N = 78	Psychoeducational programme-group 3, 7 day, N = 78	Psychoeducational programme-group 4, Baseline, N = 75	Psychoeducational programme-group 4, 7 day, N = 75	Wait list, Baseline, N = 75	Wait list, 7 day, N = 75
12 items General Health Questionnaire										
Sample size										
Quality of life (0-36) Self-reported-12 items General Health Questionnaire Mean (SD)	2.17 (0.55)	2.16 (0.54)	2.06 (0.49)	2.09 (0.54)	2.25 (0.54)	2.22 (0.54)	2.14 (0.57)	2.16 (0.57)	2.17 (0.61)	2.21 (0.64)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Psychoeducational programme-Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention groups)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Psychoeducational programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention groups)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Quality of life - Psychoeducational programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention groups)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Psychoeducational programme- group 1 (N = 80)

Brief name	Psychoeducational programme- group 1 [page 8]
Rationale/theory/Goal	Participants were taught about the psychology of stress and burnout, and the impact of work on stress or burnout. [page 8]

Materials used	Website [page 8]
Procedures used	<ul style="list-style-type: none"> • Emails inviting participants to partake in the study contained a Qualtrics weblink. When participants clicked on this link, it directed led them to a page asking for informed consent, and then randomly assigned them to one of the arms. • Participants completed module 1 • Module 1 covered the General Adaptation Syndrome (Selye, 1965), the Maslach burnout theory (Maslach and Jackson, 1981), the Job Demands-Resources model (Bakker and Demerouti, 2007), and it also gave doctors information about prevalence rates among doctors and other healthcare professionals (Baldisseri, 2007; British Medical Association, 2015; Taylor et al., 2005). This was followed by a quiz and an open-ended reflection exercise asking doctors to consider what they had learnt from the module and how they would use it. <p>[page 8]</p>
Provider	Online [page 8]
Method of delivery	Online [page 8]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Following a pre-trial pilot study, feedback about the length or structure of the modules led to reduction of the number of modules by combining Module 1 and 2, changing the placement of reflection exercises about the modules, and adding information about sources of support for doctors in distress. The doctors' feedback also led to reduction of the number of outcome measures to remove duplicate measures, and amendment of the wording of demographic questions (e.g., about working patterns). [page 7]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

Psychoeducational programme- group 2 (N = 73)

Brief name	Psychoeducational programme- group 2 [page 8]
Rationale/theory/Goal	Participants were taught about dealing with a patient's death and the Kubler Ross stages of grief [page 8]
Materials used	Website[page 8]
Procedures used	<ul style="list-style-type: none"> • Emails inviting participants to partake in the study contained a Qualtrics weblink. When participants clicked on this link, it directed led them to a page asking for informed consent, and then randomly assigned them to one of the arms. • Participants completed module 2 • Module 2 covered dealing with a patient's death and the Kubler Ross stages of grief (Kübler-Ross, 1997), a theoretical perspective on how health care professionals experience loss when patients die and information about ways of coping with a patient's death (Papadatou, 2000). This was followed by a quiz and an open-ended reflection exercise.
	[page 8]
Provider	Online [page 8]
Method of delivery	Online [page 8]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported

Tailoring/adaptation	Following a pre-trial pilot study, feedback about the length or structure of the modules led to reduction of the number of modules by combining Module 1 and 2, changing the placement of reflection exercises about the modules, and adding information about sources of support for doctors in distress. The doctors' feedback also led to reduction of the number of outcome measures to remove duplicate measures, and amendment of the wording of demographic questions (e.g., about working patterns). [page 7]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Psychoeducational programme- group 3 (N = 78)

Brief name	Psychoeducational programme- group 3 [page 8]
Rationale/theory/Goal	Participants were taught about how to manage distress. [page 8]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Emails inviting participants to partake in the study contained a Qualtrics weblink. When participants clicked on this link, it directed led them to a page asking for informed consent, and then randomly assigned them to one of the arms. • Participants completed module 3 • Module 3 taught doctors about how to develop resilience, cognitive emotional regulation, relationships, work-family balance, time for hobbies and recreation (Carver et al., 1989; Fuß et al., 2008; Garnefski and Kraaij, 2007; Graham et al., 2001; Huggard Huggard, & Zhao, 2016; Netemeyer et al., 1996; Ramirez et al., 1995). This was followed by a quiz and an open-ended reflection exercise. <p>[pages 8 and 9]</p>

Provider	Online [page 8]
Method of delivery	Online [page 8]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Following a pre-trial pilot study, feedback about the length or structure of the modules led to reduction of the number of modules by combining Module 1 and 2, changing the placement of reflection exercises about the modules, and adding information about sources of support for doctors in distress. The doctors' feedback also led to reduction of the number of outcome measures to remove duplicate measures, and amendment of the wording of demographic questions (e.g. about working patterns). [page 7]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Psychoeducational programme- group 4 (N = 75)

Brief name	Psychoeducational programme- group 4 [page 9]
Rationale/theory/Goal	Participants were taught about the psychology of stress and burnout, how to deal with a patient's death, and how to manage distress. [pages 8 and 9]
Materials used	Website [page 8]

Procedures used	<ul style="list-style-type: none"> • Emails inviting participants to partake in the study contained a Qualtrics weblink. When participants clicked on this link, it directed led them to a page asking for informed consent, and then randomly assigned them to one of the arms. • Participants completed modules 1, 2 and 3 • Module 1 covered the General Adaptation Syndrome (Selye, 1965), the Maslach burnout theory (Maslach and Jackson, 1981), the Job Demands-Resources model (Bakker and Demerouti, 2007), and it also gave doctors information about prevalence rates among doctors and other healthcare professionals (Baldisseri, 2007; British Medical Association, 2015; Taylor et al., 2005). This was followed by a quiz and an open-ended reflection exercise asking doctors to consider what they had learnt from the module and how they would use it. • Module 2 covered dealing with a patient's death and the Kubler Ross stages of grief (Kübler-Ross, 1997), a theoretical perspective on how health care professionals experience loss when patients die and information about ways of coping with a patient's death (Papadatou, 2000). This was followed by a quiz and an open-ended reflection exercise. • Module 3 taught doctors about how to develop resilience, cognitive emotional regulation, relationships, work-family balance, time for hobbies and recreation (Carver et al., 1989; Fuß et al., 2008; Garnefski and Kraaij, 2007; Graham et al., 2001; Huggard Huggard, & Zhao, 2016; Netemeyer et al., 1996; Ramirez et al., 1995). This was followed by a quiz and an open-ended reflection exercise. <p>[pages 8 and 9]</p>
Provider	Online [page 8]
Method of delivery	Online [page 8]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Following a pre-trial pilot study, feedback about the length or structure of the modules led to reduction of the number of modules by combining Module 1 and 2, changing the placement of reflection exercises about the modules, and adding information about sources of support for doctors in distress. The doctors'

	feedback also led to reduction of the number of outcome measures to remove duplicate measures, and amendment of the wording of demographic questions (e.g., about working patterns). [page 7]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 75)

Brief name	Wait list [page 9]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	At the end of the study, participants in the control group were told about the intervention and given the opportunity to complete the intervention if they wanted to. [page 9]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.94 Mino, 2006

Bibliographic Reference

Mino, Y; Babazono, A; Tsuda, T; Yasuda, N; Can stress management at the workplace prevent depression? A randomized controlled trial.; *Psychotherapy and psychosomatics*; 2006; vol. 75 (no. 3); 177-182

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether a stress-management programme is effective for workers at a highly stressful workplace.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: public

	<ul style="list-style-type: none"> • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: not reported
Inclusion criteria	All 60 workers in the Program Development Section
Exclusion criteria	Not reported
Method of randomisation	Random numbers table
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Work-related stress score, effort-reward scores, GHQ score and CES-D score were compared between the stress-management group and the control group using the paired t-test and repeated measures analysis of variance • In order to control the potential confounding factors, multiple regression analysis was carried out using the CES-D score at the follow-up as the criterion variable, and the initial CES-D score, stress score and social support score as the independent variables. • No power calculations were reported • ITT analysis- no details were reported
Attrition	<ul style="list-style-type: none"> • Intervention: 7 participants out of 28 (25%) were lost to follow up. • Control: 0 participants were lost to follow-up

Study limitations (author)	<ul style="list-style-type: none"> • 7 out of 28 workers were lost during the follow-up. This might have caused a selection bias, although there was no significant difference about geographic variables and mental health measures before the intervention between the successfully followed-up group and the loss to follow-up group. • Compliance of the subjects in the stress-management group. Not all subjects of the stress-management group were eager to receive e-mail counselling. • The use of the stress-management sheet was left to the discretion of individual subjects, and not all subjects used it. • Subject population was relatively small. • The questionnaire about social support used in this study has not been validated
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Not reported

Study arms

Stress management based on CBT (N = 28)

28 participants were randomised to receive a stress management programme. All participants from a single department at the organisation took part in the study.

Usual practice (N = 30)

30 participants were randomised to a control group. All participants from a single department at the organisation took part in the study.

Characteristics

Study-level characteristics

Characteristic	Study (N = 58)
Age	38 (<i>empty data</i>)
Mean (SD)	
Gender	n = 58 ; % = 100
Men	
Sample size	

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes were measured at 3 months from the start of the stress management programme.)

Employee outcomes

Outcome	Stress management based on CBT, Baseline, N = 28	Stress management based on CBT, 3 month, N = 28	Usual practice, Baseline, N = 30	Usual practice, 3 month, N = 30
Job stress Self-reported- Uehata Stress Questionnaire	n = 21 ; % = 75	n = 21 ; % = 75	n = 30 ; % = 100	n = 30 ; % = 100
Sample size				
Job stress Self-reported- Uehata Stress Questionnaire	11.6 (4.6)	11.4 (5.2)	11.9 (4.4)	11.7 (4.9)
Mean (SD)				

Outcome	Stress management based on CBT, Baseline, N = 28	Stress management based on CBT, 3 month, N = 28	Usual practice, Baseline, N = 30	Usual practice, 3 month, N = 30
Mental health symptoms Self-reported- Centre for Epidemiologic Studies for Depression (CES-D)	n = 21 ; % = 75	n = 21 ; % = 75	n = 30 ; % = 100	n = 30 ; % = 100
Sample size				
Mental health symptoms Self-reported- Centre for Epidemiologic Studies for Depression (CES-D)	13.5 (8.6)	10.4 (6.9)	13.3 (8.7)	13.1 (8.7)
Mean (SD)				
Quality of life Self-reported- General Health Questionnaire (GHQ-30)	n = 21 ; % = 75	n = 21 ; % = 75	n = 30 ; % = 100	n = 30 ; % = 100
Sample size				
Quality of life Self-reported- General Health Questionnaire (GHQ-30)	7.6 (6.5)	6.8 (6.6)	8.5 (6.9)	7.7 (8.1)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Stress management based on CBT - Usual practice**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Stress management based on CBT - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Quality of life - Stress management based on CBT - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Stress management based on CBT (N = 28)

Brief name	Stress management programme [page 178]
Rationale/theory/Goal	The stress management programme is based on the cognitive behavioural approach and is carried out at the workplace. [page 178]

Materials used	<ul style="list-style-type: none"> • Stress-management sheet based on self-administered format • Personal computer • Email <p>[page 178]</p>
Procedures used	<ul style="list-style-type: none"> • A 2-hour lecture on work-related stress and health to promote behavioural and cognitive changes using a cognitive-behavioural program • A stress-management sheet was distributed to the subjects, they were encouraged to attempt positive stress-coping strategies, and they were asked to describe subsequent changes in their perception of stressors, perceived feelings of stress, symptoms of anxiety and depression. • Participants were recommended to have sufficient sleep and rest, continue exercising regularly, and maintain good inter-personal relationships. • Subjects underwent an approximately 2-hour course of muscle relaxation training and were encouraged to practice this method on their own • Individualised counselling concerning stress and mental health was given by e-mail <p>[page 178]</p>
Provider	A trained psychiatrist delivered counselling by email. [page 179]
Method of delivery	Group lectures and individual email counselling [page 178]
Setting/location of intervention	Workplace and online [pages 178 and 179]
Intensity/duration of the intervention	4 hours of lectures in addition to email counselling [page 178]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 30)

Brief name	Usual practice [page 177]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.95 Morgan, 2015

Bibliographic Reference Morgan, James I; Harris, Peter R; Evidence that brief self-affirming implementation intentions can reduce work-related anxiety in downsize survivors.; Anxiety, stress, and coping; 2015; vol. 28 (no. 5); 563-75

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To assess the effects of a brief health psychology intervention on work-related stress in downsize survivors.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: medium • Contract time: not reported • Seniority: mixed (teaching staff, managers, support staff, premises maintenance staff)

	<ul style="list-style-type: none"> Income: mixed (mixed (teaching staff, managers, support staff, premises maintenance staff))
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	The lead author numbered all questionnaires before sorting them into a random order (using random number tables) and placing them in an unmarked folder.
Method of allocation concealment	Unmarked folder
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Effectiveness of randomization was checked using MANOVA. The independent variable was condition with two levels: work-related self-affirming implementation intention and control. The dependent variables were baseline age, gender, tenure, job type, job-related wellbeing (anxiety and depression), job satisfaction, and state anxiety (multivariate and univariate tests were nonsignificant, suggesting that randomisation was successful). The immediate effects of the manipulation were tested using MANCOVA (see Table 1), with condition as the independent variable (work-related self-affirming implementation intention vs. control implementation intention), self-esteem, self-efficacy and post manipulation state anxiety entered as the dependent variables, and pre manipulation state anxiety (WS-All M = 2.85, SD = 1.00; CII M = 2.79, SD = 0.98) entered as a covariate. The effects of the manipulation on job-related wellbeing and job satisfaction were tested using ANCOVAs. Firstly, Condition (WS-All vs. CII) was entered as the between-participants factor, work related anxiety at follow-up as the dependent variable, and baseline work-related anxiety as the covariate. The chi-square statistic for testing the assumption that the missing data was 'missing completely at random' (MCAR) is referred to as 'Little's MCAR test' (this indicated that data were missing at random). No power calculates were presented ITT analysis- not clear

Attrition	There was a proportionally higher attrition rate in the control condition (65.52%) compared with the intervention condition (51.35%). A 2 x 2 chi-square analysis was conducted to test whether there was an association between attrition (completion vs. non-completion) and condition (experimental vs. control). There was no significant association, χ^2 (df = 1) = 1.34, p = .25.
Study limitations (author)	<ul style="list-style-type: none"> • A number of workers declined to participate in the study at follow-up • No long-term follow up
Study limitations (reviewer)	<ul style="list-style-type: none"> • Job related wellbeing was listed as an outcome, but was not reported • Self-reported outcomes
Source of funding	Not reported

Study arms

WS-All (N = 37)

37 participants were randomised to receive the work-related self-affirming implementation intention (WS-All). Out of 120 employees, 66 were randomised to a condition, and 54 declined to participate.

CII (N = 29)

29 participants were randomised to receive the control implementation intention (CII). Out of 120 employees, 66 were randomised to a condition, and 54 declined to participate.

Characteristics

Study-level characteristics

Characteristic	Study (N = 66)
Age	45.18 (8.33)
Mean (SD)	
Men	n = 22 ; % = 33.3
No of events	
Women	n = 44 ; % = 66.6
No of events	

Outcomes

Study timepoints

- 3 week (3-week follow up)
- 0 week (Postintervention)

Employee outcomes

Outcome	WS-All, 3 week, N = 37	WS-All, 0 week, N = 37	CII, 3 week, N = 29	CII, 0 week, N = 29
Mental wellbeing	<i>empty data</i>	8.14 (0.85)	<i>empty data</i>	7.44 (0.75)
Self reported - Schwarzer and Jerusalem's (1995) general self-efficacy scale				
Mean (SD)				

Outcome	WS-All, 3 week, N = 37	WS-All, 0 week, N = 37	CII, 3 week, N = 29	CII, 0 week, N = 29
Mental health symptoms Self reported - Marteau and Bekker's (1992) short form of the Spielberger State-Trait Anxiety Inventory Mean (SD)	<i>empty data</i>	2.7 (1)	<i>empty data</i>	2.77 (0.98)
job satisfaction Self reported - 16-item job satisfaction scale (Warr, Cook, & Wall, 1979) Mean (SD)	12.44 (2.23)	<i>empty data</i>	11.55 (1.72)	<i>empty data</i>

Mental wellbeing - Polarity - Higher values are better

Mental health symptoms - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Mental health symptoms - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - job satisfaction - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

WS-All (N = 37)

Brief name	Work-related self-affirming implementation intention is an adapted version of the brief self-affirming implementation intention developed by Armitage et al. (2011) [page 9]
Rationale/theory/Goal	According to self-affirmation theory, people are motivated to preserve a positive, moral and adaptive self-image and to thereby maintain “self-integrity”. Implementation intentions are specific kinds of if-then plans that work by encouraging people to link in memory-critical situations with appropriate behavioural responses, and which have been used with some success to change health behaviours. The principal idea behind implementation intentions is that the salience of critical situations is enhanced when they are encountered in the environment and that appropriate behavioural responses are triggered automatically. [pages 3 and 5]
Materials used	Participants were provided with a questionnaire detailing their ethical rights and instructions for completing the measures. This document also contained the intervention materials. [page 9]
Procedures used	<ul style="list-style-type: none"> • In the materials, participants were provided with an implementation intention prompt in the form of a sentence stem, "If I feel threatened or anxious, then I will...". This was followed by four options: "...think about the things I value about myself", "...remember things that I have succeeded in", "...think about what I stand for" and "...think about things that are important to me". • Participants are asked to write out the stem and their chosen option on three blank lines, with "If..." at the start of the first blank line. To reflect the organisational focus in the present study, the stem was adapted to read "If I feel threatened or anxious about work, then I will...". <p>[page 9]</p>
Provider	Written materials - an adapted version of the brief self-affirming implementation intention developed by Armitage et al. (2011) [page 9]
Method of delivery	Written materials [page 9]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported- 3-week follow up [page 12]
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

CII (N = 29)

Brief name	Control implementation intention (CII) [page 9]
Rationale/theory/Goal	To give greater equivalence in experimental self-affirmation research [page 9]
Materials used	Participants were provided with a questionnaire detailing their ethical rights and instructions for completing the measures. This document also contained the control implementation intention materials. [page 9]
Procedures used	<ul style="list-style-type: none"> • Participants in the control condition were given the same sentence stem as those in the experimental group, "If I feel threatened or anxious about work, then I will...", however the four options that followed were designed to ensure that there was no opportunity for participants to self-affirm. • To do this the options were adapted from existing self-affirmation control tasks. The first option, "...think about the shops and buildings I pass on a journey I travel regularly", was taken from the journey control conceived by Napper et al. (2009). The second option, "...remember the food I have eaten in the last 48 hours", was adapted from Cohen's (2000) food control, and the third and fourth options, "...think about the most satisfying season of the year", and "...think about the best flavour for ice-cream", were from the personal opinion survey (Reed & Aspinwall, 1998). Akin to the work-related self-affirming implementation intention, to form the control implementation intention, participants were asked to rewrite the sentence stem followed by their chosen option on three blank lines, beginning with "If...". <p>[page 10]</p>

Provider	Written materials [page 10]
Method of delivery	Written materials [page 10]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported- 3-week follow up [page 12]
Tailoring/adaptation	Not reported
Unforeseen modifications	Note reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.96 Morgan, 2016

Bibliographic Reference

Morgan, James; Atkin, Lisa; Expelling Stress for Primary School Teachers: Self-Affirmation Increases Positive Emotions in Teaching and Emotion Reappraisal.; International journal of environmental research and public health; 2016; vol. 13 (no. 5)

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To assess the effect of a brief work-related self-affirming implementation intention (WS-AII) on the well-being of primary school teachers.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: small • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	A researcher numbered all questionnaires before sorting them into a random order (using a random number table) and placing them in an unmarked folder. The front sheets of all questionnaires were identical so that the experimenter was blind to conditions.
Method of allocation concealment	Questionnaires were placed in unmarked folders.
Unit of allocation	Individual

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The effectiveness of randomisation was checked using multivariate analysis of variance (MANOVA). Dependent variables included age, gender, tenure, baseline positive and negative ETI scores, ERQ, and state anxiety. multivariate test and univariate tests were not significant, suggesting that randomisation to condition was successful. • The immediate effects of the manipulation were tested using multivariate analysis of covariance (MANCOVA), with condition as the independent variable, and self-efficacy and post-manipulation state anxiety entered as dependent variables, and pre-manipulation state anxiety entered as a covariate. • No power calculations were reported • ITT analysis-not clear
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • Short time period • Small sample
Study limitations (reviewer)	Self reported outcomes
Source of funding	Not reported

Study arms

WS-All (N = 21)

21 participants were randomised to receive the Work-Related Self-Affirming Implementation Intention (WS-All). Teachers from 3 schools were randomised.

CII (N = 21)

21 participants were randomised to receive the control implementation intervention (CII). Teachers from 3 schools were randomised.

Characteristics

Study-level characteristics

Characteristic	Study (N = 42)
Age	33.04 (8.13)
Mean (SD)	
Men	n = 14 ; % = 33.3
No of events	
Women	n = 28 ; % = 66.6
No of events	

Outcomes

Study timepoints

- 2 week (Follow up at 2 weeks post intervention)
- 0 week (Follow up post intervention)

Employee outcomes

Outcome	WS-All, 2 week, N = 21	WS-All, 0 week, N = 21	CII, 2 week, N = 21	CII, 0 week, N = 21
Mental wellbeing Self reported - adapted version of Trigwell's 20-item Emotions in Teaching Inventory (ETI) - positive Mean (SD)	3.71 (0.83)	<i>empty data</i>	3.62 (0.71)	<i>empty data</i>
Job stress Self reported - adapted version of Trigwell's 20-item Emotions in Teaching Inventory (ETI) - negative Mean (SD)	2.38 (0.8)	<i>empty data</i>	2.38 (0.69)	<i>empty data</i>
Mental health symptoms Self reported - Marteau and Bekker's short form of the Spielberger State-Trait Anxiety Inventory Mean (SD)	<i>empty data</i>	1.65 (0.35)	<i>empty data</i>	2.22 (0.64)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Job stress - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Mental health symptoms - WS-All vs CII

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

WS-All (N = 21)

Brief name	The work-related self-affirming implementation intention [page 5]
Rationale/theory/Goal	According to self-affirmation theory, people are motivated to preserve a positive, moral, and adaptive self-image and to thereby maintain “self-integrity”. Experimental self-affirming manipulations have typically taken the form of value scales, where from a list of statements describing different domains of self-worth, participants are encouraged to identify the values (e.g., aesthetic, social, etc.) that are most important to them. Implementation intentions are specific kinds of if-then plans that work by encouraging people to link in memory-critical situations with appropriate behavioural responses. [pages 2 and 3]
Materials used	Questionnaire including ethical rights, demographic and outcome measures as well as the self-affirmation task. [page 5]
Procedures used	<ul style="list-style-type: none"> Participants were provided with an implementation intention prompt in the form of a sentence stem, “If I feel threatened or anxious about work, then I will . . .”. This is followed by four options: “. . . think about the things I value about myself”, “. . . remember things that I have succeeded in”, “. . . think about what I stand for”, and “. . . think about things that are important to me”. Participants are asked to write out the stem and their chosen option on three blank lines, with “If . . .” at the start of the first blank line. To reflect the specific teaching focus in the present study, the stem was adapted to read, “If I feel threatened or anxious about teaching, then I will . . .”. <p>[page 5]</p>
Provider	Written instructions to complete task [page 5]
Method of delivery	Written instructions [page 5]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	Follow up after 2 weeks [page 6]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Adapted version of the brief work-related self-affirming implementation intention developed by Morgan and Harris [page 5]
Actual treatment fidelity	Not reported
Other details	None

CII (N = 21)

Brief name	The control implementation intention [page 5]
Rationale/theory/Goal	Not applicable
Materials used	Questionnaire including ethical rights, demographic and outcome measures as well as the control task. [page 5]
Procedures used	<ul style="list-style-type: none"> Participants were asked to rewrite the sentence stem followed by their chosen option on three blank lines, beginning with “If . . .”. Participants were asked to write out the same sentence stem as in the experimental condition. However, they were then required to choose one of four statements, which did not give participants the opportunity to self-affirm.

	<ul style="list-style-type: none"> These statements were adapted by Morgan and Harris from existing control tasks. The first option, “. . . think about the shops and buildings I pass on a journey I travel regularly”. The second option, “. . . remember the food I have eaten in the last 48 hours”, food control, and the third and fourth options, “. . . think about the most satisfying season of the year”, and “. . . think about the best flavour for ice-cream”. <p>[page 5]</p>
Provider	Written instructions to complete task [page 5]
Method of delivery	Written instructions [page 5]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Follow up after 2 weeks [page 6]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.97 Mori, 2014

Bibliographic Reference

Mori, Makiko; Tajima, Miyuki; Kimura, Risa; Sasaki, Norio; Somemura, Hironori; Ito, Yukio; Okanoya, June; Yamamoto, Megumi; Nakamura, Saki; Tanaka, Katsutoshi; A web-based training program using cognitive behavioral therapy to alleviate psychological distress among employees: randomized controlled pilot trial.; JMIR research protocols; 2014; vol. 3 (no. 4); e70

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Dec-2011
Aim	To examine the effect of a brief training program based on CBT in alleviating psychological distress among employees and facilitating self-evaluation of stress management skills, including improving the ability to recognise dysfunctional thinking patterns, transform dysfunctional thoughts to functional ones, cope with stress, and solve problems.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: information technology • Organisation size: not reported • Contract type: not reported • Seniority: not management • Income: not reported
Inclusion criteria	Non-management employees

Exclusion criteria	No exclusion criteria were set
Method of randomisation	Computer-generated randomisation with a 1:1 ratio and block size of 6
Method of allocation concealment	Randomisation performed by independent researcher with no direct contact with the participants
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • To determine the effects of the training program, primary and secondary outcomes were measured, and differences in scores before and after implementation for the training and control groups were calculated. • The long-term effect was calculated by subtracting the baseline scores from those obtained after 6 months. • Baseline characteristics were compared between groups using t-test for numerical values and chi-squared test for categorical values (no differences found). • The sample size necessary to obtain an effect size of 0.42 with a probability of Type I error less than .05 and Type II error β less than .20 was 90 for each group. • ITT analysis • To satisfy the ITT requirement that analyses be conducted for all participants, a multiple imputation (MI) method was used on the assumption that data could be considered missing at random.
Attrition	Follow-up questionnaires after 6 months were completed by 67 (81%) respondents in the training group and by 72 (85%) in the control group
Study limitations (author)	<ul style="list-style-type: none"> • Participants were employees of an information technology company and might therefore have been more likely to consent to Web-based CBT than the general population • The reliability and validity of the original question items have not been evaluated. Therefore, the results of secondary outcomes cannot be confirmed. • Study was non-blinded and the participants in the training and control groups worked in the same office and might have shared information. • One primary outcome and four secondary outcomes were measured, which might have increased the possibility of a Type I error.

	<ul style="list-style-type: none"> The sample size was insufficient to obtain an effect size of 0.42.
Study limitations (reviewer)	Self-reported outcomes
Source of funding	not reported

Study arms

CBT training (N = 83)

83 participants were randomised to receive CBT training. Participants were recruited from a single company where participation was voluntary.

Wait list (N = 85)

85 participants were randomised to a wait list group. Participants were recruited from a single company where participation was voluntary.

Characteristics

Arm-level characteristics

Characteristic	CBT training (N = 83)	Wait list (N = 85)
Age		
Mean (SD)	38.4 (8.1)	38.4 (8.4)

Characteristic	CBT training (N = 83)	Wait list (N = 85)
Gender		
Men	n = 67 ; % = 80.7	n = 64 ; % = 75.3
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Follow-up 6 months after programme completion.)

Employee outcomes

Outcome	CBT training, 6 month vs Baseline, N = 83	Wait list, 6 month vs Baseline, N = 85
Mental health symptoms		
Self-reported- Kessler-6 (K6)	-0.14 (0.64)	0.83 (0.55)
Mean (SD)		

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - CBT training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

CBT training (N = 83)

Brief name	Web-based CBT [page 2]
Rationale/theory/Goal	Based on cognitive-behaviour therapy [page 2]
Materials used	Group lectures, homework sheets, group discussion. [page 2]

Procedures used	<p>Training program included a group class presented by a qualified CBT expert on cognitive behavior therapy and 1 month of homework via Web-based CBT. The following three topics were covered in the group education program: an overview of CBT, problem-solving techniques, and cognitive restructuring techniques. [page 2]</p> <p>Occupational health nurses sent a total of four emails, prepared by a CBT expert, to each participant to provide supplementary information and tips regarding the cognitive restructuring techniques. The nurses received a 150-minute training session before the study from a CBT expert and then answered questions from participants regarding Web-based CBT procedures, with a CBT expert answering any remaining questions. [page 3]</p>
Provider	Group class was provided by a qualified CBT expert [page 2] and support was provided by occupational health nurses [page 3]
Method of delivery	Group and online [page 2]
Setting/location of intervention	Workplace [page 2]
Intensity/duration of the intervention	A single 150-minute class followed by 1 month of homework via web program [page 2]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Wait list (N = 85)

Brief name	Control group [page 2]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	For ethical reasons, this training program was provided to the control group after follow-up [page 2]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

D.98 Moyle, 2013

Bibliographic Reference

Moyle, Wendy; Cooke, Marie; O'Dwyer, Siobhan T; Murfield, Jenny; Johnston, Amy; Sung, Billy; The effect of foot massage on long-term care staff working with older people with dementia: a pilot, parallel group, randomized controlled trial.; BMC nursing; 2013; vol. 12; 5

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	ACTRN12612000659808
Study start date	Oct-2011
Study end date	Nov-2011
Aim	Pilot trial to explore the feasibility of a larger trial to investigate the effect of foot massage on long-term care staff working with older people with dementia.
Country/geographical location	Australia
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: social care (long-term care facility for residents with dementia) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mostly personal care workers

Inclusion criteria	<p>The members of care staff:</p> <ul style="list-style-type: none"> • providing direct care to residents (e.g., Registered Nurses (RNs), Enrolled Nurses (ENs), Personal Care Workers (PCWs), Assistants In Nursing (AINs)) • regularly working \geq two dayshifts a week • aged \geq 18 years • willing and able to complete short, self-report scales on aspects of their health, such as mood • willing to have their BP and anxiety measured after each foot massage and silent resting activity • available for work at the facility for the duration of the project, with no annual leave planned • providing written informed consent.
Exclusion criteria	Staff were excluded from participating if they had evidence of skin infection or skin tears on one or both feet.
Method of randomisation	Randomisation was conducted using a computer program to undertake the permuted-block randomization process, with block sizes set at six.
Method of allocation concealment	A member of the research team, who was blinded to the identity of eligible participants and not involved with data collection conducted randomisation.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • The success of the randomisation process was tested on the one preintervention variable (age) that permitted statistical analysis (because of the small sample size), via an independent samples t-test. • An Intention-To-Treat framework was applied to the analyses, so that all randomised participants were included and the small sample size preserved. Any missing values in the outcome variables were imputed with the respective series mean produced in PASW. • Total scores were computed for the POMS-Bipolar and SEWDRQ (the two self-report measures) at pre- and postintervention, respectively. • Two, repeated measure ANOVAs were then undertaken to explore whether there were any differences in the measures when comparing foot massage versus silent resting (i.e., group differences).

	<ul style="list-style-type: none"> This study sought a sample of 20 LTC facility care staff. In the absence of a comparable study from which to calculate a sample size, this was considered sufficient for an exploration of the feasibility of the foot massage intervention and to provide initial pilot data.
Attrition	No attrition
Study limitations (author)	<ul style="list-style-type: none"> Challenges to the research design included the environmental limitations, and this demonstrates the importance of undertaking a relaxation intervention in a room where participants felt comfortable. The generalizability of the study's findings are hindered by the sample size and the characteristics of the sample, which included 19 women from one LTC facility.
Study limitations (reviewer)	<ul style="list-style-type: none"> Self-reported outcomes No long-term follow up
Source of funding	Dementia Collaborative Research Centre

Study arms

Foot massage (N = 9)

9 participants were randomised to receive a foot massage intervention. Clinical Coordinators and the Director of Nursing at the LTC facility identified potential participants and provided them with informed consent materials so they could make a decision whether to participate.

Control - silent resting (N = 10)

9 participants were randomised to receive a silent resting control. Clinical Coordinators and the Director of Nursing at the LTC facility identified potential participants and provided them with informed consent materials so they could make a decision whether to participate.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 19)
Age	23 to 63
Range	
Age	49 (11.44)
Mean (SD)	
Gender	n = 19 ; % = 100
Women	
No of events	
Certificate in aged care/nursing	n = 14 ; % = 82
No of events	
Diploma of nursing	n = 2 ; % = 12
No of events	
Bachelor of nursing	n = 2 ; % = 12
No of events	
Women's health education	n = 1 ; % = 6
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post intervention)

Employee outcomes

Outcome	Foot massage, Baseline, N = 9	Foot massage, 0 week, N = 9	Control - silent resting , Baseline, N = 10	Control - silent resting , 0 week, N = 10
Mental health symptoms Self-reported - Profile of Mood States- Bipolar (POMS-Bipolar) Mean (SD)	53.63 (7.49)	53.91 (7.76)	47.11 (6.62)	46.52 (5.02)
job satisfaction Self-reported - Staff Experience of Working with Demented Residents' Questionnaire (SEWDRQ) Mean (SD)	58.56 (10.75)	56.11 (8.22)	49.48 (10.14)	48.75 (6.89)

Mental health symptoms - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Foot massage - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Foot massage - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Foot massage (N = 9)

Brief name	Foot massage [page 3]
Rationale/theory/Goal	Caring for a person with dementia can be physically and emotionally demanding, with many long-term care facility staff experiencing increased levels of stress and burnout. Massage has been shown to be one way in which nurses' stress can be reduced. [page 1]
Materials used	Unscented Sorbolene (8-10mls) was applied as a lubricant for the massage. [page 4]
Procedures used	<ul style="list-style-type: none"> • The foot massage was delivered individually • in a separate room with a closed door displaying a 'Do not disturb' sign. • In each session, participants received a standardized five-minute massage on each foot (10-min in total), involving the application of light pressure with long, gliding, rhythmical strokes of the entire foot and ankle, and toe

	and ankle rotation, flexion and extension. Unscented Sorbolene (8-10mls) was applied as a lubricant for the massage. [pages 3 and 4]
Provider	Foot massage was delivered by one of two RAs trained by an expert certified therapist in the massage technique. [page 4]
Method of delivery	Individual [page 3]
Setting/location of intervention	Workplace [page 3]
Intensity/duration of the intervention	Each session lasted 10-min, and staff members could receive up to three sessions a week during their allocated shift, for four weeks. [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	A standardized procedures manual detailing the protocol for both treatment and control; and spot-checks of data collection paperwork and the massage technique at regular intervals during the study period (checked by having the intervention A give the foot massage to the trainer). [page 4]
Actual treatment fidelity	Treatment fidelity was upheld through: recruitment of two intervention Research Assistants (RA) who were practicing massage therapists and had previously been trained in the foot massage technique for another research project; comprehensive training of intervention RAs in the implementation of foot massage and silent resting, and in measuring BP and anxiety; recruitment of a Project Manager (PM) to oversee the study.
Other details	None

Control - silent resting (N = 10)

Brief name	Silent resting [page 4]
Rationale/theory/Goal	The purpose of the silent resting condition was to help isolate whether any observed effects were because of the foot massage specifically, or because the participant received special attention and had the opportunity to be away from the work environment for a quiet time. [page 4]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Silent resting control sessions were administered to participants individually, in a separate room with a closed door displaying a 'Do not disturb' sign. • Participants sat silently with their eyes closed and legs slightly elevated on a beanbag for 10-min. A trained RA stayed outside the room for the 10-min period. <p>[pages 3 and 4]</p>
Provider	Not applicable
Method of delivery	Individual
Setting/location of intervention	Workplace
Intensity/duration of the intervention	Each session lasted 10-min, and staff members could receive up to three sessions a week during their allocated shift, for four weeks. [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	<p>A standardized procedures manual detailing the protocol for both treatment and control; and spot-checks of data collection paperwork and the massage technique at regular intervals</p> <p>during the study period (checked by having the intervention RA give the foot massage to the trainer). [page 4]</p>

Actual treatment fidelity	Treatment fidelity was upheld through recruitment of two intervention Research Assistants (RA) who were practicing massage therapists and had previously been trained in the foot massage technique for another research project; comprehensive training of intervention RAs in the implementation of foot massage and silent resting, and in measuring BP and anxiety; recruitment of a Project Manager (PM) to oversee the study. [pages 3 and 4]
Other details	None

D.99 Mueller, 2018

Bibliographic Reference Mueller, Karen; Prins, Roberta; de Heer, Hendrik D; An Online Intervention Increases Empathy, Resilience, and Work Engagement Among Physical Therapy Students.; Journal of allied health; 2018; vol. 47 (no. 3); 196-203

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2015
Aim	To explore the impact of an evidence-based online course on physical therapy student empathy, resilience, and work engagement during their clinical internships.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare

	<ul style="list-style-type: none"> • Organisation size: not reported • Contract type: students • Seniority: students • Income: students
Inclusion criteria	Participants included entry-level DPT students in a southwestern program who were beginning their first 10-week internship after completing their didactic education.
Exclusion criteria	Not reported
Method of randomisation	Participants were randomly assigned (via a blinded shuffle of cards) to an immediate intervention group or a delayed intervention group. The deck included only the numbered cards (to ensure an even 50/50 split) and group assignment based on evens or odds.
Method of allocation concealment	Blinded shuffle of cards.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Independent samples t-tests or chi-square analyses were used for baseline differences. • Repeated measures analyses of variance (ANOVA) were used to compare whether changes followed a priori predicted patterns. • ITT analysis- not reported • No power calculations were reported
Attrition	Of the 37 students, 1 withdrew from the project due to a pregnancy-related delay in her internships. Thirty-six students completed the project.
Study limitations (author)	<ul style="list-style-type: none"> • The sample size was restricted to a group of 36 physical therapy students in one program. • The follow-up period was relatively modest (10 weeks) • The baseline scores on the empathy scale were already fairly high, limiting the potential magnitude of improvement.

	<ul style="list-style-type: none"> No systematic qualitative data were collected,
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	The authors report no funding or conflicts of interest related to this study.

Study arms

Online professional development programme (N = 19)

19 participants were assigned to an online professional development programme. Third-year students were approached and invited to participate.

Wait list (N = 18)

18 participants were assigned to a wait list. Third-year students were approached and invited to participate.

Characteristics

Arm-level characteristics

Characteristic	Online professional development programme (N = 19)	Wait list (N = 18)
Age		
Mean (SD)	28.49 (3.89)	26.34 (2.58)

Characteristic	Online professional development programme (N = 19)	Wait list (N = 18)
Gender n calculated from percentage by reviewer	n = 4 ; % = 21.1	n = 5 ; % = 29.4
No of events		

Outcomes

Study timepoints

- Baseline
- 10 week (Outcomes were measured after 10 weeks)

Employee outcomes

Outcome	Online professional development programme, Baseline, N = 19	Online professional development programme, 10 week, N = 19	Wait list, Baseline, N = 18	Wait list, 10 week, N = 18
job satisfaction Self-reported- Utrecht work engagement scale	n = 18 ; % = 94.7	n = 18 ; % = 94.7	n = 18 ; % = 100	n = 18 ; % = 100
Sample size				
job satisfaction Self-reported- Utrecht work engagement scale	4.6 (0.5)	4.9 (0.5)	4.7 (0.4)	4.5 (0.8)
Mean (SD)				

Outcome	Online professional development programme, Baseline, N = 19	Online professional development programme, 10 week, N = 19	Wait list, Baseline, N = 18	Wait list, 10 week, N = 18
Resilience Self-reported- 12-item GRIT scale	n = 18 ; % = 94.7	n = 18 ; % = 94.7	n = 18 ; % = 100	n = 18 ; % = 100
Sample size				
Resilience Self-reported- 12-item GRIT scale	4.21 (0.4)	4.37 (0.3)	4.02 (0.5)	4.09 (0.5)
Mean (SD)				

job satisfaction - Polarity - Higher values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - job satisfaction - Online professional development programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Resilience - Online professional development programme - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Online professional development programme (N = 19)

Brief name	Online Called to Care course [page 197]
Rationale/theory/Goal	Called to Care was developed specifically oriented to physical therapists. The purpose of Called to Care is to improve patient outcomes through the development of optimal physical therapist behaviours. The course is grounded in the science of positive psychology, the study of factors and interventions that support human happiness and wellbeing. [page 197]
Materials used	Online course [page 198]
Procedures used	<ul style="list-style-type: none"> • An orientation to the Called to Care curriculum was provided. • The immediate intervention group was provided access to the course on the first day of their internship, which continued for the duration of their 10-week experience. • Participants were able to proceed through the 11, one-hour modules at their own pace. Each module included a video lecture, readings, and an asynchronous discussion board containing 4 to 5 questions pertaining to the application of module content. • Participants were required to post and respond at least once for each of the modules. <p>[page 198]</p>
Provider	A staff member of the organization that developed the Called to Care curriculum, Evidence in Motion, provided access to Called to Care for participants. [page 198]
Method of delivery	Online [page 198]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	11 hours over 10 weeks [page 198]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Participants were required to post and respond at least once for each of the modules. One of the authors (KM) monitored discussion board posts. [page 198]
Actual treatment fidelity	Discussion board postings were not systematically analysed for the study. [pages 198 and 199]
Other details	None

Wait list (N = 18)

Brief name	Wait list [page 198]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • An orientation to the Called to Care curriculum was provided. • The delayed group completed the course during their second internship. <p>[page 198]</p>

Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.100 Muller, 2016

Bibliographic Reference

Muller, Andreas; Heiden, Barbara; Herbig, Britta; Poppe, Franziska; Angerer, Peter; Improving well-being at work: A randomized controlled intervention based on selection, optimization, and compensation.; Journal of occupational health psychology; 2016; vol. 21 (no. 2); 169-81

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Sep-2012
Study end date	Sep-2013
Aim	To develop, implement, and evaluate an occupational health intervention that is based on the theoretical model of selection, optimization, and compensation (SOC).
Country/geographical location	Germany
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • organisation size: large • Contract type: permanent employees with mixed full-time and part-time contracts • Seniority: not reported • Income: professional
Inclusion criteria	Nurses
Exclusion criteria	None reported
Method of randomisation	Participants were stratified by speciality. Details of randomisation were not reported.

Method of allocation concealment	To enable individual matching of the two measurements, pseudonymization was carried out by assigning a five-digit code to each participant. The nurses received a personally addressed and sealed envelope containing additional information about the study, a consensus form, and their questionnaire.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • T tests and chi-square tests for analyses of differences between the IG and the CG regarding demographic characteristics and baseline values of our outcome measures were conducted. • ANCOVA was conducted to evaluate whether the IG and the CG differ regarding the relative change in the outcome over time, we used ANCOVA. • Both intention-to-treat and per-protocol analyses were presented • No power calculations were presented
Attrition	<ul style="list-style-type: none"> • Intervention: 5/36 participants were lost to follow-up (13.9%) • Control: 7/34 participants were lost to follow-up (20.6%)
Study limitations (author)	<ul style="list-style-type: none"> • The evaluation of the training was exclusively based on economic self-report measures to achieve a good participation rate for the initial evaluation of the SOC training. • The study exclusively included members of one professional group, which limits the generalisability of the results. • Women were overrepresented in the sample, even considering the usually high proportion of women in the nursing profession (more than 80% in Germany. This might restrict the generalisability of the observed training effects.
Study limitations (reviewer)	None
Source of funding	German Research Foundation and Munich Center of Health Sciences

Study arms

SOC (N = 36)

36 participants were randomised to an intervention that aimed to reduce stress through training participants in selection, optimisation and compensation. Nurses were invited to information meetings and received leaflets about the interventions.

Wait list (N = 34)

34 participants were randomised to a wait list. Nurses were invited to information meetings and received leaflets about the interventions.

Characteristics**Arm-level characteristics**

Characteristic	SOC (N = 36)	Wait list (N = 34)
Age		
Mean (SD)	44.67 (9.34)	42.74 (9.91)
Gender		
Sample size	n = 34 ; % = 94.4	n = 32 ; % = 94.1

Outcomes**Study timepoints**

- Baseline
- 1 month (Outcomes were measured about 1 month after the intervention)

Employee outcomes

Outcome	SOC, Baseline, N = 36	SOC, 1 month, N = 36	Wait list, Baseline, N = 34	Wait list, 1 month, N = 34
Mental wellbeing (0 - 100) Self-reported- the German version of the World Health Organization's Well-Being Index (WHO-5)	n = 31 ; % = 86.1	n = 31 ; % = 86.1	n = 27 ; % = 79.4	n = 27 ; % = 79.4
Sample size				
Mental wellbeing (0 - 100) Self-reported- the German version of the World Health Organization's Well-Being Index (WHO-5)	4.06 (0.98)	4.3 (0.75)	3.75 (1.05)	3.79 (0.87)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Stress management - SOC - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

SOC (N = 36)

Brief name	Selection, optimisation compensation intervention [page 169 - title]
Rationale/theory/Goal	The SOC training aimed to promote nurses' individual strategies to cope actively with their working conditions. Three important outcomes were proposed to evaluate the effectiveness of the training: (a) mental well-being as the core of subjective health, (b) perceived workability as an indicator of adequate fit between available resources and job demands, and (c) job control as important contextual job resource for health and well-being. [page 170]
Materials used	<ul style="list-style-type: none"> • Manuals with information on work stress, SOC, goal selection, and action planning • Worksheets for a structured goal evaluation and step-by-step action plan • A diary to monitor the personal projects <p>[page 172]</p>
Procedures used	<ul style="list-style-type: none"> • The sessions were distributed over three modules, each with a different focus. • At the beginning of the first session in Module I, the trainer introduced training goals and provided some input on stress and well-being at the workplace. Participants were then required to note personally relevant causes of work stress, which they would seek to cope with more successfully. The causes were then discussed. Afterward, the SOC model was introduced and practical examples in the field of nursing were provided. A few facts about SMART goal setting were mentioned. Based on this input, participants individually developed up to three goals for

	<p>coping better with job demands or for activating job resources. Afterward, participants assessed each goal using a standardized scaling scheme with SMART criteria. These goal profiles were discussed regarding feasibility and control.</p> <ul style="list-style-type: none"> • During the second session, the participants developed an action plan to achieve the selected goal in an optimal way and to initiate necessary action. • Module II addressed the practical implementation and adaptation of the individual action plans. • Module III aimed for reflection of goal attainment and for sustainability of the training. Every participant received individual counselling by the trainer. <p>[page 172]</p>
Provider	A female trainer (experienced occupational health professional) and a female student assistant [page 172]
Method of delivery	<ul style="list-style-type: none"> • Groups of 6 to 8 participants • Individual counselling <p>[page 172]</p>
Setting/location of intervention	Workplace in a quiet room [page 172]
Intensity/duration of the intervention	Six sessions (16.5 hr) over a 9-month period [page 172]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Other details	None
Wait list (N = 34)	
Brief name	Wait list [page 171]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received the training one year later [page 171]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.101 Muller, 2015

Bibliographic Reference Muller, Jasmin; Handlin, Linda; Harlen, Mikael; Lindmark, Ulrika; Ekstrom, Anette; Mechanical massage and mental training programmes affect employees' anxiety, stress susceptibility and detachment-a randomised explorative pilot study.; BMC complementary and alternative medicine; 2015; vol. 15; 302

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	ACTRN12615000020583
Study start date	2013
Study end date	2013
Aim	To evaluate possible effects on employees' experience of levels of "Anxiety", "Stress Susceptibility", "Detachment" and "Social Desirability" when using mechanical massage and mental training programmes, both separately and in combination, during working hours.
Country/geographical location	Sweden
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public and private

	<ul style="list-style-type: none"> • Industry: mixed (education, healthcare, automotive, and construction industry) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed (mixed education levels)
Inclusion criteria	<p>Workplaces: Only companies who no prior experience pf the armchair were included in the study.</p> <p>Participants: Healthy employees (i.e., without self-reported serious and/or chronic (physical or mental) illnesses and able to perform their work assignment) with no previous experience of using mechanical chair massage and/or the mental training programmes were asked if they wanted to participate in the study. The participants should work between 75 % and 100 % within their own organisations, and they should have a variety of positions and responsibilities.</p>
Exclusion criteria	Employees who were pregnant, or who were—at the time—suffering from influenza, colds, fevers or had a skin or kidney disease were excluded from the study due to health risks.
Method of randomisation	Randomisation occurred at each workplace where each participant was randomly assigned to one of the following five study groups.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Baseline data are presented as mean and standard deviation (SD) to compare similar studies. • Since the number of participants in each group was relatively small and a normal distribution could not be taken for granted, non-parametric statistical tests were used to analyse the results. To test for differences between groups on the three separate occasions (start, four weeks and eight weeks) the Kruskal Wallis Test for independent samples, as well as the Mann–Whitney Test for independent samples, were used. To test for differences within each group during the entire study period Friedman’s Two-way Analysis of Variance by Rank was used. When significant, or tendencies to significant, changes were observed with this test the Wilcoxon Signed-Rank Test was used to test for differences between two occasions within the study group.

	<ul style="list-style-type: none"> • Only answers from individuals who completed the questionnaire at all three time points were included in the analysis. • Calculation of estimated number of participants was performed based on the results of previous studies using KSP.
Attrition	<ul style="list-style-type: none"> • Massage and mental training: 18/19 (94.7%) • Massage: 18/19 (94.7%) • Mental training; 16/19 (84.2%) • Pause: 13/19 (68.4%) • Control: 14/17 (84.2%)
Study limitations (author)	<ul style="list-style-type: none"> • The study was probably underpowered to detect significant between-group difference • Findings may not be generalisable to all workplaces • In the present study the control group continued with their work as usual, however they still displayed several positive changes during the study period. A possible explanation might be the “Hawthorne Effect”.
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow-up • Participants were self-selected • Outcomes were self-reported
Source of funding	The Knowledge Foundation, Sweden

Study arms

Massage and mental training (N = 19)

19 participants were randomised to a massage and mental training group. Employees from selected workplaces volunteered to participate.

Massage (N = 19)

19 participants were randomised to a massage group. Employees from selected workplaces volunteered to participate.

Mental training (N = 19)

19 participants were randomised to a mental training group. Employees from selected workplaces volunteered to participate.

Pause (N = 19)

19 participants were randomised to a pause group. Employees from selected workplaces volunteered to participate.

Control (N = 17)

19 participants were randomised to a control group. Employees from selected workplaces volunteered to participate.

Characteristics**Arm-level characteristics**

Characteristic	Massage and mental training (N = 19)	Massage (N = 19)	Mental training (N = 19)	Pause (N = 19)	Control (N = 17)
Age					
Mean (SD)	50.4 (8.37)	46.5 (12.1)	49.3 (14.1)	47.9 (9.24)	46.6 (10.5)
Women					
No of events	n = 16 ; % = 84.2	n = 15 ; % = 78.9	n = 13 ; % = 68.4	n = 13 ; % = 68.4	n = 12 ; % = 70.6
Men					
	n = 3 ; % = 15.8	n = 4 ; % = 21.1	n = 6 ; % = 31.6	n = 6 ; % = 31.6	n = 5 ; % = 29.4

Characteristic	Massage and mental training (N = 19)	Massage (N = 19)	Mental training (N = 19)	Pause (N = 19)	Control (N = 17)
No of events					
Compulsory school	n = 1 ; % = 5.3	n = 1 ; % = 5.3	n = 1 ; % = 5.3	n = 0 ; % = 0	n = 1 ; % = 5.9
No of events					
Senior high school	n = 5 ; % = 26.3	n = 3 ; % = 15.8	n = 2 ; % = 10.5	n = 4 ; % = 21.1	n = 2 ; % = 11.8
No of events					
Higher education	n = 11 ; % = 57.9	n = 12 ; % = 63.29	n = 14 ; % = 73.7	n = 12 ; % = 63.2	n = 13 ; % = 76.5
No of events					

Outcomes

Study timepoints

- Baseline
- 8 week (Outcomes measured after 8 weeks)

Employee outcomes

Outcome	Massage and mental training, Baseline, N = 19	Massage and mental training, 8 week, N = 19	Massage, Baseline, N = 19	Massage, 8 week, N = 19	Mental training, Baseline, N = 19	Mental training, 8 week, N = 19	Pause, Baseline, N = 19	Pause, 8 week, N = 19	Control, Baseline, N = 17	Control, 8 week, N = 17
Job stress	n = 19 ; % = 100	n = 18 ; % = 94.7	n = 19 ; % = 100	n = 18 ; % = 94.7	n = 17 ; % = 89.5	n = 16 ; % = 84.2	n = 18 ; % = 94.7	n = 13 ; % = 72.2	n = 17 ; % = 100	n = 14 ; % = 82.4
Self-reported - stress susceptibility scale of										

Outcome	Massage and mental training, Baseline, N = 19	Massage and mental training, 8 week, N = 19	Massage, Baseline, N = 19	Massage, 8 week, N = 19	Mental training, Baseline, N = 19	Mental training, 8 week, N = 19	Pause, Baseline, N = 19	Pause, 8 week, N = 19	Control , Baseline, N = 17	Control , 8 week, N = 17
Swedish Scale of Personality - Pause and Control groups to be pooled in Revman for Control										
Sample size										
Job stress Self-reported - stress susceptibility scale of Swedish Scale of Personality - Pause and Control groups to be pooled in Revman for Control	2.05 (0.5)	1.93 (0.5)	2.23 (0.6)	2.28 (0.7)	1.97 (0.5)	1.96 (0.5)	2.15 (0.5)	2.04 (0.4)	1.88 (0.5)	1.84 (0.5)
Mean (SD)										
Mental health symptoms Self-reported - Psychic Trait Anxiety subscale of Swedish Scale of Personality - Pause and Control groups to be pooled in Revman for Control	n = 19 ; % = 100	n = 18 ; % = 94.7	n = 19 ; % = 100	n = 18 ; % = 94.7	n = 17 ; % = 89.5	n = 16 ; % = 84.2	n = 18 ; % = 94.7	n = 13 ; % = 72.2	n = 17 ; % = 100	n = 14 ; % = 82.4

Outcome	Massage and mental training, Baseline, N = 19	Massage and mental training, 8 week, N = 19	Massage, Baseline, N = 19	Massage, 8 week, N = 19	Mental training, Baseline, N = 19	Mental training, 8 week, N = 19	Pause, Baseline, N = 19	Pause, 8 week, N = 19	Control, Baseline, N = 17	Control, 8 week, N = 17
Sample size										
Mental health symptoms Self-reported - Psychic Trait Anxiety subscale of Swedish Scale of Personality - Pause and Control groups to be pooled in Revman for Control	2.01 (0.6)	2.01 (0.7)	1.88 (0.7)	1.9 (0.7)	1.82 (0.5)	1.64 (0.5)	1.84 (0.5)	1.78 (0.4)	1.79 (0.5)	1.76 (0.54)
Mean (SD)										

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Massage and mental training - Massage - Mental training - Pause - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Massage and mental training - Massage - Mental training - Pause - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Massage and mental training (N = 19)

Brief name	Massage and mental training [page 4]
Rationale/theory/Goal	Back massage applied by an automated massage chair has been shown to produce a general muscle relaxation. This type of artificial massage seems to be especially useful for people who dislike being touched by other people. The mental training programmes include soft music combined with verbal instructions which are designed to help achieve a relaxing mental state. [pages 2 and 4]
Materials used	<ul style="list-style-type: none"> • The armchair used in the present study was the “Recovery Chair” included in the “Concept of Recovery”™, provided by Promas AB, Sweden. The armchair is equipped with the ability to give massages to the neck, shoulders, back and calves. [page 4] • Audiotapes [page 3]
Procedures used	<ul style="list-style-type: none"> • Participants all used the same massage programme but were able to make individual adjustments regarding the strength of the massage. • Participants listened to different programmes in the following order: “Recovery”–week one, “Mindfulness–learn to live in the present”–week two, “The way to a better and deeper sleep”–week three, “Reduce the negative stress”–week four, “Learn to think positively”–week five, “Increase your

	<p>mental strength”–week six, “How to get a greater enjoyment of life”–week seven and “Recovery”–week eight.</p> <ul style="list-style-type: none"> All the armchairs were located in a room where a door could be shut, so that that user could be completely separated from other activities while sitting in the chair. <p>[pages 3 and 4]</p>
Provider	Not applicable
Method of delivery	Audiotapes and mechanical chair [page 3]
Setting/location of intervention	Workplace preferably between 1 pm and 4 pm [page 4]
Intensity/duration of the intervention	15-minute sessions three times per week for 8 weeks [page 3]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Massage (N = 19)

Brief name	Mechanical massage [page 4]
Rationale/theory/Goal	Back massage applied by an automated massage chair has been shown to produce a general muscle relaxation. This type of artificial massage seems to be especially useful for people who dislike being touched by other people. [pages 2]

Materials used	The armchair used in the present study was the “Recovery Chair” included in the “Concept of Recovery”™, provided by Promas AB, Sweden. The armchair is equipped with the ability to give massages to the neck, shoulders, back and calves. [page 4]
Procedures used	<ul style="list-style-type: none"> • Participants all used the same massage programme but were able to make individual adjustments regarding the strength of the massage. • All the armchairs were located in a room where a door could be shut, so that that user could be completely separated from other activities while sitting in the chair. <p>[pages 3 and 4]</p>
Provider	Not applicable
Method of delivery	Mechanical chair [page 3]
Setting/location of intervention	Workplace preferably between 1 pm and 4 pm [page 4]
Intensity/duration of the intervention	15-minute sessions three times per week for 8 weeks [page 3]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None
Mental training (N = 19)	
Brief name	Mental training [page 4]

Rationale/theory/Goal	The mental training programmes include soft music combined with verbal instructions which are designed to help achieve a relaxing mental state. [page 4]
Materials used	Audiotapes [page 3]
Procedures used	<ul style="list-style-type: none"> • Participants listened to different programmes in the following order: "Recovery"–week one, "Mindfulness–learn to live in the present"–week two, "The way to a better and deeper sleep"–week three, "Reduce the negative stress"–week four, "Learn to think positively"–week five, "Increase your mental strength"–week six, "How to get a greater enjoyment of life"–week seven and "Recovery"–week eight. • All the armchairs were located in a room where a door could be shut, so that that user could be completely separated from other activities while sitting in the chair. <p>[pages 3 and 4]</p>
Provider	Not applicable
Method of delivery	Audiotapes [page 3]
Setting/location of intervention	Workplace preferably between 1 pm and 4 pm [page 4]
Intensity/duration of the intervention	15-minute sessions three times per week for 8 weeks [page 3]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Pause (N = 19)

Brief name	Pause [page 4]
Rationale/theory/Goal	Not reported [page 4]
Materials used	The armchair used in the present study was the “Recovery Chair” included in the “Concept of Recovery”™, provided by Promas AB, Sweden. The armchair is equipped with the ability to give massages to the neck, shoulders, back and calves. [page 4]
Procedures used	The participants in the Pause group took a break from their regular work and sat in the chair for 15 minutes three times each week, however they did not use either the massage programme or listen to the mental training programmes. [page 4]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Workplace preferably between 1 pm and 4 pm [page 4]
Intensity/duration of the intervention	15-minute sessions three times per week for 8 weeks [page 3]
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 17)

Brief name	Control [page 4]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • Participants continued their work as usual. In one of the workplaces, due to a hectic schedule, the participants were assigned specific times to use the chair. [page 4] • The armchair was left for an additional eight weeks at the company after the study had ended. This so that the control group could experience the armchair as well if they wanted. [page 7]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.102 Myers, 2017

Bibliographic Reference Myers, Nicholas D; Prilleltensky, Isaac; Prilleltensky, Ora; McMahon, Adam; Dietz, Samantha; Rubenstein, Carolyn L; Efficacy of the Fun For Wellness Online Intervention to Promote Multidimensional Well-Being: a Randomized Controlled Trial.; Prevention science : the official journal of the Society for Prevention Research; 2017; vol. 18 (no. 8); 984-994

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jun-2015
Study end date	Aug-2015
Aim	To provide an initial evaluation of the efficacy of Fun for Wellness (FFW) to increase subjective well-being in multiple dimensions in a universal sample.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: large • Contract type: not reported • Seniority: mixed (all employees) • Income: mixed (all employees)

Inclusion criteria	<ul style="list-style-type: none"> • greater than or equal to age 18 years • employed at the university
Exclusion criteria	<ul style="list-style-type: none"> • less than age 18 years • not employed by the university
Method of randomisation	Random assignment to the intervention (FFW) or usual care (UC) groups was determined by computer software that was specified to achieve a 1:1 group (i.e., FFW/UC) assignment.
Method of allocation concealment	Study was double-blind
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Mean and SD were presented in Myers 2018 • ITT analysis • Three general models were fit in Mplus 7.4 under maximum-likelihood (ML) estimation with robust standard errors. • In each of the models, an effect size was calculated by dividing the mean difference by the square root of the variance pooled across the UC and FFW groups. • Missing data were initially handled with a full information ML approach under the assumption that data were missing at random (MAR), conditional on the observed data. • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • Intervention: 126 out of 237 randomised completed 60-day follow-up (53%) • Control: 161 out of 242 randomised completed 60-day follow-up (67%)
Study limitations (author)	<ul style="list-style-type: none"> • There is uncertainty regarding the efficacy of our definition of "full" participation.

	<ul style="list-style-type: none"> Analyses modelled only direct (or equivalently, "overall") effects of treatment and did not investigate possible mechanisms (e.g., BET I CAN drivers of change) through which the FFW intervention may indirectly influence multidimensional wellbeing. Analyses assumed additivity of treatment effects for all demographic covariates. The data were not analysed in a longitudinal framework, in part, because the "sample size" in the complier class was quite modest (e.g., less than 100) for some dimensions of well-being (e.g., community) which made the potential quality and precision of the estimation of random effects uncertain. The relatively narrow population from which the sample was drawn. Given that the study was conducted with university employees and many participants held graduate degrees, a more diverse sample with a wider range of educational attainment may provide different results.
Study limitations (reviewer)	<ul style="list-style-type: none"> Outcome measures were self-reported Conflict of Interest two authors were partners in Wellnuts LLC, which may commercialise the FFW intervention described in this study.
Source of funding	Erwin and Barbara Mautner Endowed Chair in Community Well-Being at University of Miami School of Education and Human Development.

Study arms

Wellness intervention (N = 237)

237 participants were randomised to receive the Fun For Wellness intervention. All participants from a single workplace were recruited via emails from HR.

Usual care (N = 242)

242 participants were randomised to receive usual care. All participants from a single workplace were recruited via emails from HR.

Characteristics

Arm-level characteristics

Characteristic	Wellness intervention (N = 237)	Usual care (N = 242)
Age		
Mean (SD)	41.58 (11.6)	41.93 (11.77)
Gender		
Women - n was calculated from percentage by reviewer	n = 178 ; % = 75.1	n = 186 ; % = 76.9
No of events		
Hispanic		
No of events	n = 105 ; % = 44.3	n = 112 ; % = 46.3
White/non hispanic		
No of events	n = 87 ; % = 36.7	n = 88 ; % = 36.4
African-American		
No of events	n = 19 ; % = 8	n = 20 ; % = 8.3
Asian		
No of events	n = 14 ; % = 5.9	n = 13 ; % = 5.4
Other		
No of events	n = 10 ; % = 4.2	n = 8 ; % = 3.3
Socioeconomic - salary		
\$50,000 or over - n calculated from percentage by reviewer	n = 153 ; % = 64.4	n = 161 ; % = 66.5
No of events		

Outcomes

Study timepoints

- Baseline
- 60 day (60 days after baseline measures)

Employee outcomes

Outcome	Wellness intervention, Baseline, N = 237	Wellness intervention, 60 day, N = 237	Usual care, Baseline, N = 242	Usual care, 60 day, N = 242
Mental wellbeing Psychological wellbeing dimension of the COPPE Scale Mean (SD)	2.58 (0.84)	2.71 (0.74)	2.57 (0.79)	2.69 (0.73)

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Wellness intervention - Usual care

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Wellness intervention (N = 237)

Brief name	Fun for wellness [page 227 - Myers 2018]
Rationale/theory/Goal	The issue targeted by the FFW intervention is the promotion of multidimensional well-being. Self-efficacy theory provided the theoretical framework that guided the creation of 152 capability-enhancing learning opportunities (i.e., challenges) for participants to engage with. [page 227 - Myers 2018]
Materials used	Online platform [page 227 - Myers 2018]
Procedures used	<ul style="list-style-type: none"> Participants were provided with 30 days (i.e., from T1 to T2) of 24 h access to up to 152 challenges designed to promote multidimensional well-being.

	<ul style="list-style-type: none"> • Each challenge was designed by the research team and required participants to do one of the following activities: <ul style="list-style-type: none"> ○ (a) watch vignettes performed by professional actors, ○ (b) watch and/or read mini-lectures narrated by a coach, ○ (c) engage in self-reflection exercises and chat rooms, and ○ (d) play interactive games. • Participants were not told how many challenges to complete and self-selected which post-introductory challenges to complete. <p>[page 987 - Myers 2017]</p>
Provider	Online [page 987 - Myers 2017]
Method of delivery	Online [page 987 - Myers 2017]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	30-day access to online platform [page 987 - Myers 2017]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Challenges completed by each participant were tracked by computer software to provide data for a participation scoring system. This tracking was possible because accessing the intervention always required each participant to use her/his unique and secure log-in information. The potential impact of completing a particular challenge was classified as low (7 points), moderate (14 points), or high (21 points). Participation points for completing a particular challenge were further allocated by the dimension(s) of wellbeing that the challenge was focused on. Full participation (i.e., compliance) in a particular dimension of wellbeing was defined as (a) completing the four introductory challenges and (b) earning at least 21 additional participation points (i.e., the equivalent of a major post-introductory challenge) in the identified dimension of well-being. The construction of a definition of full participation for each dimension of well-being was based on both

	substantive (e.g., it would take approximately 2 h of interacting with FFW to earn sufficient participation points) and methodological (e.g., the presence of some compliers) considerations. [page 987 - Myers 2017]
Actual treatment fidelity	The number of participants who were randomized to the FFW group and were classified as a complier varied by dimension of well-being and ranged from 37 (or 15.6%) for community well-being to 130 (or 54.9%) for overall well-being. [pages 987 and 988 - Myers 2017]
Other details	Upon completion of the battery, each participant received an Amazon electronic gift card worth \$10 at T1, an additional \$15 at T2, and an additional \$25 at T3. [page 986 - Myers 2017]

Usual care (N = 242)

Brief name	Usual care [page 986 - Myers 2017]
Rationale/theory/Goal	Not applicable
Materials used	Webpage and established websites [page 986 - Myers 2017]
Procedures used	Participants were provided with 30 days (i.e., from T1 to T2) of 24 h access to a webpage that provided links to several well-established websites (e.g., http://www.centreforconfidence.co.uk/flourishing-lives.php?pid=454) that collectively focused on multidimensional well-being. [pages 986 and 987 - Myers 2017]
Provider	Online [page 986 - Myers 2017]
Method of delivery	Online [page 986 - Myers 2017]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	30 days of access to webpage Online [page 986 - Myers 2017]
Tailoring/adaptation	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	Upon completion of the battery, each participant received an Amazon electronic gift card worth \$10 at T1, an additional \$15 at T2, and an additional \$25 at T3. [page 986 - Myers 2017]

D.103 Nadler, 2020

Bibliographic Reference

Nadler, Ruby; Carswell, Julie J; Minda, John Paul; Online Mindfulness Training Increases Well-Being, Trait Emotional Intelligence, and Workplace Competency Ratings: A Randomized Waitlist-Controlled Trial.; *Frontiers in psychology*; 2020; vol. 11; 255

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The study aimed to assess the effectiveness of an online 8-week mindfulness-based training program
Country/geographical location	USA
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: not reported • Organisation size: large

	<ul style="list-style-type: none"> • Contract type: full time • Seniority: not reported • Income: mixed
Inclusion criteria	Fluent in English, able to access the online program via an internet-connected device (e.g., smartphone, computer, or tablet), and were a US-based, fulltime employee of the company hosting the study.
Exclusion criteria	Not reported
Method of randomisation	The method of randomization is not specified but its success was evaluated using a Pearson Chi-square test of significance on the randomized sample who completed baseline assessments (n = 204) with no significant differences between the intervention and waitlist control groups identified.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	A series of multivariate repeated measures analyses of covariance (MANCOVAs) were completed with pre- and post-intervention scores as dependent variables. Three analyses were performed: one with the trait mindfulness facets of the FFMQ-SF, one with the well-being-based outcome variables and one with the EI subscales of the MEIA-W.
Attrition	102/175 (58%) of those randomised provided pre and post; 26/137 (18%) randomised to the intervention arm completed the intervention
Study limitations (author)	The study used self-report measures only, the EI assessment used provides a measure of people's self-perceptions of the tendency to use EI at work, and did not assess ability; Follow-up results were not collected, so length of the benefits of the intervention are unclear. The attrition rate was high. Participants may have not been mindfulness-naïve which may have impacted the interventions efficacy.
Study limitations (reviewer)	The method of randomization has not been stated although an assessment was undertaken to assess its impact was undertaken; Allocation concealment and blinding protocols are not outlined; Intention to treat analysis was not undertaken and considering the high attrition rate (42% of those randomized did not

	provide pre and post data) and reduce potential attrition bias. Generalizability of findings may be limited due to the sample and setting
Source of funding	Ontario Centres of Excellence TalentEdge Postdoctoral Fellowship to RN and a SSHRC Insight Development Grant to JM (SSHRC IDG 430-2015-00950)

Study arms

Online workplace-based mindfulness training (N = 138)

138 participants were randomised to the intervention arm. Participants were recruited from a single organisation.

Wait list (N = 137)

137 participants were randomised to the control arm. Participants were recruited from a single organisation.

Characteristics

Study-level characteristics

Characteristic	Study (N = 102)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Online workplace-based mindfulness training (N = 138)	Wait list (N = 137)
Age	n = NR ; % = NR	n = NR ; % = NR
Sample size		
% 18–29 years	n = 1 ; % = 2.7	n = 2 ; % = 3.1
Sample size		
% 30–39 years	n = 4 ; % = 10.8	n = 13 ; % = 20
Sample size		
% 40–49 years	n = 13 ; % = 35.1	n = 19 ; % = 29.2
Sample size		
% 50–59 years	n = 13 ; % = 35.1	n = 20 ; % = 30.8
Sample size		
% 60+ years	n = 6 ; % = 16.2	n = 8 ; % = 12.3
Sample size		
% Prefer not to say	n = 0 ; % = NA	n = 3 ; % = 4.6
Sample size		
Gender (% Female)	n = 32 ; % = 86.5	n = 43 ; % = 66.2
Sample size		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Online workplace-based mindfulness training, Baseline, N = 138	Online workplace-based mindfulness training, 0 week, N = 138	Wait list, Baseline, N = 137	Wait list, 0 week, N = 137
Mental wellbeing Self-reported - positive subscale of PANAS	n = 37 ; % = 26.8	n = 37 ; % = 26.8	n = 65 ; % = 47.4	n = 65 ; % = 47.4
Sample size				
Mental wellbeing Self-reported - positive subscale of PANAS	32.76 (8.06)	36.97 (6.68)	33.86 (6.23)	32.02 (6.67)
Mean (SD)				
Job stress Self-reported - Perceived stress scale	n = 37 ; % = 26.8	n = 37 ; % = 26.8	n = 65 ; % = 47.4	n = 65 ; % = 47.4
Sample size				
Job stress Self-reported - Perceived stress scale	26.35 (7.6)	17.57 (5.4)	23.22 (8.24)	24.34 (7.96)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Online workplace-based mindfulness training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher proportion of missing data in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Job stress - Online workplace-based mindfulness training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher proportion of missing data in intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study details

Brief name	Online mindfulness
Rationale/theory/Goal	The aim of the study was to assess the potential benefits of an online mindfulness-based intervention with a group of highly educated and skilled knowledge workers using a randomized, waitlist control design, using both self-report and

	other ratings of workplace effectiveness, with the intention of providing a fuller picture of the potential benefits of an online mindfulness-based intervention in the workplace.
Materials used	Online 8-week mindfulness-based program mindfulness-based stress reduction (MBSR) program. Short video (6–12 min long), brief guided meditation practices (3-20 min long with an average length of 10 min), suggestions for how to integrate mindfulness into daily activities at work. Weekly email introducing that week's theme and content, and email to login to the program platform. meditation tracker. The program could be accessed 24 hours a day while at work or at home. Pre- and post-assessment data was collected using Qualtrics. Self-report questionnaires (Five Factor Mindfulness Questionnaire – Short Form, Perceived Stress Scale, Brief Resilience Scale, Positive Affect Negative Affect Schedule, Multidimensional Emotional Intelligence Assessment – Workplace, Workplace Competency Assessment,
Procedures used	Online 8-week mindfulness-based program mindfulness-based stress reduction (MBSR) program. Short video (6–12 min long), brief guided meditation practices (3– 20 min long with an average length of 10 min), suggestions for how to integrate mindfulness into daily activities at work. Participants were asked to watch the weekly video and practice the guided meditations 6 out of 7 days a week (for a total of 144 – 480 min depending on the length of the meditation practice).
Provider	Not reported
Method of delivery	Online
Setting/location of intervention	Online
Intensity/duration of the intervention	Online 8-week mindfulness-based program mindfulness-based stress reduction (MBSR) program. Short video (6–12 min long), brief guided meditation practices (3-20 min long with an average length of 10 min), suggestions for how to integrate mindfulness into daily activities at work. The program could be accessed 24 hours a day while at work or at home
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	Not specified

Study arms

Online workplace-based mindfulness training (N = 138)

138 participants were randomised to the intervention arm - a 8-week mindfulness-based training program. Participants were recruited from a single organisation.

Wait list (N = 137)

137 participants were randomised to the control arm. Participants were recruited from a single organisation.

D.104 Nishinoue, 2012

Bibliographic Reference Nishinoue, Nao; Takano, Tomoki; Kaku, Akiko; Eto, Risa; Kato, Noritada; Ono, Yutaka; Tanaka, Katsutoshi; Effects of sleep hygiene education and behavioral therapy on sleep quality of white-collar workers: a randomized controlled trial.; *Industrial health*; 2012; vol. 50 (no. 2); 123-31

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	Not reported
Aim	To assess if a combined individual behavioural training and sleep hygiene group education is more effective than education alone.
Country/geographical location	Japan
Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: private • Industry: Service (IT) • Organisation size: not reported • Contract type: not reported • Seniority: Mixed (26.8% were in managerial positions) • Income: mixed (mixed education levels)
Inclusion criteria	None
Exclusion criteria	Employees who has been treated for psychiatric disorders or sleep disorders
Method of randomisation	Permuted block design with a block size of 6 and no stratification
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual

Statistical method(s) used to analyse the data	<p>Power calculation was carried out using a two-tailed <i>t</i>-test and assuming a mean difference of 1.0 (SD 2.0) on the PSQI scale based on previous studies a sample size of 63 for each group was needed to ensure a statistical power of 80%.</p> <p>ITT was carried out using last observation carried forward.</p> <p>A generalized linear model was used to evaluate differences in change scores of the 3-month period.</p>
Attrition	2 out of 60 (3.3%) in the intervention group and 4 out of 65 (6.2%) of the control group dropped out
Study limitations (author)	<ul style="list-style-type: none"> • Participants were white-collar employees in a single company so finding may not be generalisable • Outcome measure was subjective and so open to bias though finding were adjusted for confounders • Number of confounding variables was limited so some important factors may have been overlooked.
Study limitations (reviewer)	None to add
Source of funding	Japan Society for the Promotion of Science

Study arms

Behavioural training + sleep hygiene (N = 62)

Sleep hygiene (N = 65)

Characteristics

Arm-level characteristics

Characteristic	Behavioural training + sleep hygiene (N = 62)	Sleep hygiene (N = 65)
Age (years)	31.3 (7)	31.3 (7.2)
Mean (SD)		
Males	n = 51 ; % = 82.3	n = 58 ; % = 89.2
Sample size		

Outcomes

Study timepoints

- Baseline
- 3 month (After the intervention)

Outcomes

Outcome	Behavioural training + sleep hygiene, 3 month vs Baseline, N = 60	Sleep hygiene , 3 month vs Baseline, N = 61
Mental health symptoms - Sleep (0-21) Using Pittsburgh Sleep Quality Index	-1.8 (0.8)	1 (0.8)
Mean (SE)		

Mental health symptoms - Sleep - Polarity - Lower values are better

Critical appraisal - RCT RoB

Outcomes-Mental health symptoms - Behavioural training + sleep hygiene - Sleep hygiene

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>self-reported outcomes</i>)

Study arms**Behavioural training + sleep hygiene (N = 62)**

Brief name	Individually-based behavioural training combined with group-based sleep hygiene education [page 125]
Rationale/theory/Goal	Sleep hygiene education includes aspects of lifestyle and behaviour as well as environmental factors such as light and noise, and is expected to serve as a preventative role in those without overt sleep disturbances, allowing it to be profitably incorporated into occupational health education. However, such education has been reported to be less effective when applied as the sole measure taken to improve sleep habits. [page 124]

Materials used	<p>Group-based sleep education:</p> <ul style="list-style-type: none"> • Educational resources <p>[page 125]</p>
Procedures used	<p>Group-based sleep education:</p> <ul style="list-style-type: none"> • Education comprised of a 30-minute lecture and 10 minutes of questions and answers • Group sessions were repeated 5 times with approximately 20 to 30 participants per session • At the end of the education, participants were asked to choose a feasible approach for improving sleep quality or any of the habitual behaviours presented in the programme, and were subsequently instructed to adopt it into their daily routine. <p>[pages 124 and 125]</p> <p>Individually based behavioural training:</p> <ul style="list-style-type: none"> • Within a week of completing the sleep hygiene education, participants received a single individual 30-minute session • Participants were interviewed regarding current sleeping habits • Participants were asked to choose a behavioural modification, and were instructed how to incorporate this into everyday life • Instructors were always available to answer questions from participants via email <p>[page 125]</p>
Provider	<p>Sleep hygiene education:</p> <ul style="list-style-type: none"> • Physician employed by the IT company

	<p>Individually based behavioural training:</p> <ul style="list-style-type: none"> Two occupational health nurses in addition to the physician employed by the company <p>[page 124]</p>
Method of delivery	Group and individual [pages 124 and 125]
Setting/location of intervention	Intervention was conducted during working hours [page 124]
Intensity/duration of the intervention	<ul style="list-style-type: none"> Sleep hygiene education: 40-minute educational session and group sessions repeated 5 times. Individually based behavioural training: single 30-minute session <p>[pages 124 and 125]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	The extent to which the participants maintained the new behaviour was not investigated [page 125]
Actual treatment fidelity	Not reported
Other details	None

Sleep hygiene (N = 65)

Brief name	Group-based sleep hygiene education [page 124 and 125]
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Rationale/theory/Goal	Sleep hygiene education includes aspects of lifestyle and behaviour as well as environmental factors such as light and noise, and is expected to serve as a preventative role in those without overt sleep disturbances, allowing it to be profitably incorporated into occupational health education. [page 124]
Materials used	Group-based sleep education: <ul style="list-style-type: none"> • Educational resources [page 125]
Procedures used	Group-based sleep education: <ul style="list-style-type: none"> • Education comprised of a 30-minute lecture and 10 minutes of questions and answers. • Group sessions were repeated 5 times with approximately 20 to 30 participants per session. • At the end of the education, participants were asked to choose a feasible approach for improving sleep quality or any of the habitual behaviours presented in the programme, and were subsequently instructed to adopt it into their daily routine. • After the completion of the study, participants were offered on-to-one behavioural assistance. [pages 124 and 125]
Provider	Sleep hygiene education: <ul style="list-style-type: none"> • Physician employed by the IT company [page 124]
Method of delivery	Group [page 124]
Setting/location of intervention	Intervention was conducted during working hours [page 124]
Intensity/duration of the intervention	Sleep hygiene education: 40-minute educational session and group sessions repeated 5 times. [page 124]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

D.105 Ohrt, 2015

Bibliographic Reference

Ohrt, Jonathan H. Prosek, Elizabeth A. Ener, Elizabeth Lindo, Natalya; The Effects of a Group Supervision Intervention to Promote Wellness and Prevent Burnout; JOURNAL OF HUMANISTIC COUNSELING; 2015; vol. 54 (no. 1); 41-58

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Aim	Intervention sought to address holistic wellness and burnout within the context of clinical supervision. The purpose of the intervention was to assist counsellors-in-training (CITs) in maintaining a sense of purpose in their work, exploring their creativity in coping, expressing their subjective experiences related to wellness, developing a positive relationship with their supervisors and other supervisees, and developing holistic wellness goals.

Country/geographical location	USA
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare (counselling) • Organisation size: not reported • Contract type: internship/practicum students • Seniority: students • Income: students
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Not specified - study refers to random allocation but does not specify the method for randomisation
Method of allocation concealment	Not reported
Unit of allocation	Class/group
Unit of analysis	Group
Statistical method(s) used to analyse the data	A multivariate analysis of variance
Attrition	88/95 (93%) of those randomized provided pre and post data with their respective clusters
Study limitations (author)	The study did not randomly assign participants to the treatment or control group to account for pre-group differences. The use of a pre-test may have influenced the participants' responses to the measures. CITs may have responded to questionnaires in a way that they believe would be desirable for a counsellor due to perceived impact on grades/clinical evaluations. There were extraneous variables that were difficult to

	control (their supervision, work environments, and severity of client; responsibility outside of school; part-time job, existing levels of support); The developed intervention may not have addressed the human complexities of burnout. The study was conducted at a single university and consisted of primarily White, non-Hispanic women and may not be generalizable. An inability to interpret some results related to the Depersonalization subscale because of the low alpha level (.44) at pre-test.
Study limitations (reviewer)	The method of randomization is unclear; Allocation concealment and blinding protocols are not reported or methods to reduce bias in the absence of these processes; the use of self-report measures and a pre-test may be a source of bias; the lack of consideration for other variables that may impact potential burnout. Generalisability findings due to sample and setting limitations. The study authors were also the intervention delivers and data collection team.
Source of funding	Not reported

Study arms

Psychoeducation (N = 51)

Three internship classes and two practicum classes were randomised to the intervention group.

Typical supervision (N = 44)

Three internship classes and two practicum classes were randomised to the control group.

Characteristics

Arm-level characteristics

Characteristic	Psychoeducation (N = 51)	Typical supervision (N = 44)
Age	31.2 (NR)	31.8 (NR)

Characteristic	Psychoeducation (N = 51)	Typical supervision (N = 44)
Mean (SD)		
Gender (% Female)	91.5	87.8
Nominal		
Ethnicity (%)	NR	<i>empty data</i>
Nominal		
% White	68.1	78
Nominal		
% Black/African American	8.5	7.3
Nominal		
% Hispanic/Latino	6.4	2.4
Nominal		
% Asian/Pacific Islander	8.5	4.9
Nominal		
% multiracial	6.4	7.3
Nominal		
% other	2.1	NR
Nominal		

Outcomes

Study timepoints

- Baseline
- 0 week (The intervention lasted a semester, and outcomes were measured in the last supervision meeting of the semester.)

Employee outcomes

Outcome	Psychoeducation, Baseline, N = 51	Psychoeducation, 0 week, N = 51	Typical supervision, Baseline, N = 44	Typical supervision, 0 week, N = 44
Job stress Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	n = 47 ; % = 92.2	n = 47 ; % = 92.2	n = 41 ; % = 93.2	n = 41 ; % = 93.2
Sample size				
Job stress Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	15.17 (9.41)	19.53 (8.81)	15.71 (7.09)	21.39 (9.99)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - cRCT RoB**Employee outcomes - Job stress - Psychoeducation - Typical supervision**

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Psychoeducation
Rationale/theory/Goal	Intervention sought to address holistic wellness and burnout within the context of clinical supervision. Previous researchers in other disciplines found lower burnout levels among students who participated in group-based interventions that focus on burnout identification and coping skills.

Materials used	Practicum instructor; 1.5-hour psychoeducational presentation developed by Ohrt (2012); Self-report questionnaires (demographic questionnaire, the 5F-Wel, and the MBI-HSS); information about wellness models and dimensions of wellness; wellness worksheet
Procedures used	Intervention participants engaged in 1.5-hour psychoeducational presentation developed by Ohrt (2012) including information about burnout (definitions, occupational and environmental risk factors, warning signs, consequences, and prevention strategies). Additionally information was presented about wellness models and dimensions of wellness (intellectual, emotional, social, spiritual, physical, and occupational). During the presentation, participants completed a wellness worksheet to identify physical and emotional signs of stress and anticipated challenges/barriers to their wellness during the upcoming semester. Participants discussed these topics together. The facilitator used group counselling skills to link CITs and promote universality and cohesion among the supervision group. Intervention participants engaged in a group wellness brainstorming activity, during which they identified specific wellness strategies. Intervention participants developed two SMART wellness goals for the semester sharing goals with the members of the supervision group. The practicum or internship supervisor conducted brief intervention wellness goal check-ins during each supervision session to give participants an opportunity to discuss their progress and adherence to wellness goals. Authors sent the supervisors weekly reminders to ensure implementation of the intervention.
Provider	University staff
Method of delivery	Group class/seminar and presentations
Setting/location of intervention	University on-campus clinic managed by the program faculty
Intensity/duration of the intervention	1.5-hour psychoeducational presentation delivered by university staff (study authors) during which a wellness worksheet was completed by participants. Participants also engaged in a group wellness brainstorming activity
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported but authors sent the supervisors weekly reminders to ensure implementation of the intervention

Actual treatment fidelity	
Other details	Not specified

Study arms

Psychoeducation (N = 51)

Three internship classes and two practicum classes were randomised to the intervention group. Intervention sought to address holistic wellness and burnout within the context of clinical supervision. The purpose of the intervention was to assist CITs in maintaining a sense of purpose in their work, exploring their creativity in coping, expressing their subjective experiences related to wellness, developing a positive relationship with their supervisors and other supervisees, and developing holistic wellness goals.

Typical supervision (N = 44)

Three internship classes and two practicum classes were randomised to the control group.

D.106 Oishi, 2018

Bibliographic Reference Oishi, Satoru Takizawa, Takeya Kamata, Naoki Miyaji, Shingo Tanaka, Katsutoshi Miyaoka, Hitoshi; Web-Based Training Program Using Cognitive Behavioral Therapy to Enhance Cognitive Flexibility and Alleviate Psychological Distress Among Schoolteachers: Pilot Randomized Controlled Trial; JMIR RESEARCH PROTOCOLS; 2018; vol. 7 (no. 1)

Study details

Study design	Randomised controlled trial (RCT)
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Trial registration number	This study was not registered because it is a pilot study.
Aim	This study aimed to determine whether stress management training using a Web-based cognitive behavioural therapy (CBT) program is effective for enhancing the cognitive flexibility of schoolteachers and alleviating their subjective distress.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Not reported
Exclusion criteria	No exclusion criteria set for study participants
Method of randomisation	An independent researcher who had no direct contact with the participants used computer-generated randomization with a 1:1 ratio and block size of 6.
Method of allocation concealment	No stratification was performed and evaluators were masked. Owing to the nature of the intervention, participants were informed of their allocation status.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	A generalized linear model was used for estimation, based on an intention-to-treat (ITT) analysis (based on a multiple imputation (MI) method on the assumption that data could be considered missing at random). To

	analyse baseline characteristics of the study participants, a test was used for numerical variables and a chi-square test for categorical variables.
Attrition	3/240 (1%) participants randomized did not provide data at post 3-months (ITT was undertaken).
Study limitations (author)	The evaluation indices utilized are refined and the way they have utilized may not be validated to evaluate psychological stress (a 1-item scale was used for each outcome). Participants were limited to teachers in a city who were in the fifth year of their career limiting the general validity of this study. Homework implementation status was not evaluated. Evaluation of outcomes was completed only at 3 months after the completion of intervention.
Study limitations (reviewer)	Use of self-reported outcomes that have been adapted and may not be validated for the outcomes its sets out to assess; Generalisability of the findings may be limited due to the sample and setting of the study
Source of funding	Not reported

Study arms

CBT (N = 120)

120 participants were randomised to the intervention arm.

Wait list (N = 120)

120 participants were randomised to the control arm.

Characteristics

Study-level characteristics

Characteristic	Study (N = 240)
Age	30.3 (5.3)
Mean (SD)	
Gender (% Female)	41.2
Nominal	
Ethnicity	NR
Nominal	

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes were measured 3 months after baseline measures)

Employee outcomes

Outcome	CBT, 3 month vs Baseline, N = 120	Wait list, 3 month vs Baseline, N = 120
Job stress (1 to 10) Self reported - single measure "How much do you perceive stress at work?"	-0.79 (0.24)	-0.13 (0.21)
Mean (SE)		

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - CBT - Wait list - tBaseline - vs - t3**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>self-reported outcomes</i>)

Study details

Brief name	CBT
Rationale/theory/Goal	Aimed to determine whether stress management training using a Web-based cognitive behavioural therapy (CBT) program is effective for enhancing the cognitive flexibility of schoolteachers and alleviating their subjective distress. CBT may improve the performance of schoolteachers as well as their stress management skills by improving their cognitive flexibility.

Materials used	Session of group education about CBT (lecture on CBT, group session using a column table - specialist in CBT; homework using the Web-based CBT program (using Mind Skill Up Training resource) for the subsequent 3 months, and 6 emails sent during the self-learning period to stimulate the implementation of the Web-based CBT program; self-report questionnaires (3 points proposed by Dennis and Vander; Beck depression inventory; degree of mental health based on the K6).
Procedures used	Participants were identified, consent obtained and randomly allocated to intervention group and control group. All participants in the intervention group were given 1 session of group education and a Web-based CBT program lasting for 3 months. The efficacy of the intervention was evaluated via self-administered questionnaire survey performed at baseline and 3 months after the completion of the CBT program.
Provider	One leader (specialist in CBT), one coleader (specialist in CBT), and three assistants.
Method of delivery	Group seminar, group training and web-based homework
Setting/location of intervention	It is unclear where the Group Cognitive Behavioral Therapy Education was undertaken. Although not specified it is assumed that the Web-Based Homework Using the Web-Based Cognitive Behavioral Therapy Program occurred at home.
Intensity/duration of the intervention	The intervention comprised 2 parts. Group Cognitive Behavioral Therapy Education - 1 session of group education about CBT (lecture on CBT, group session using a column table); and Web-Based Homework Using the Web-Based Cognitive Behavioral Therapy Program - homework using the Web-based CBT program for the subsequent 3 months, and 6 emails sent during the self-learning period to stimulate the implementation of the Web-based CBT program.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Other details	Not reported
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Study arms**CBT (N = 120)**

120 participants were randomised to the intervention arm. 1 session of group education about CBT (lecture on CBT, group session using a column table), homework using the Web-based CBT program for the subsequent 3 months, and 6 emails sent during the self-learning period to stimulate the implementation of the Web-based CBT program.

Wait list (N = 120)

120 participants were randomised to the control arm.

D.107 Oliver, 2018**Bibliographic Reference**

Oliver, Jeremy J; MacLeod, Andrew K; Working adults' well-being: An online self-help goal-based intervention.; Journal of occupational and organizational psychology; 2018; vol. 91 (no. 3); 665-680

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jul-2015

Aim	To determine whether an online self-help goal setting and planning (GAP) intervention is effective in improving the wellbeing of working adults.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: civil service • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: earned a full-time equivalent salary of £20,000-£39,999 (55.5%)
Inclusion criteria	All adult employees
Exclusion criteria	No exclusion criteria
Method of randomisation	Participants were randomly assigned in chronological order of consent to either the intervention group (N = 170) or the wait-list control group (N = 160). The randomisation schedule had been generated online using a block size of 1,000 to achieve a close approximation of simple randomisation.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Both ITT and per-protocol analyses were performed. • For ITT analysis, missing data resulting from attrition were imputed using the conservative last observation carried forward (LOCF) method.

	<ul style="list-style-type: none"> • Box–Cox transformations were applied to achieve normality and remove outliers, with lambda values determined by an iterative estimation process. • Multivariate analysis of variance (MANOVA) confirmed that the study wave in which participants were recruited was not associated with any of the dependent variables. • No power calculations were reported.
Attrition	<ul style="list-style-type: none"> • Intervention: 111/170 (65.3%) participants completed T2 outcome measures • Control: 139/160 (86.8%) participants completed T2 measures
Study limitations (author)	<ul style="list-style-type: none"> • Mechanisms of change were not measured. • There was under-representation of males, young adults, and non-White participants.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Long-term effects could not be measured as the wait-list group had access to the intervention after T2 outcomes were measured. • Outcome measures were self-reported
Source of funding	Not reported

Study arms

Self-help goal-based intervention (N = 170)

170 participants were randomised to receive a self-help goal-based intervention. Participants were invited to participate via group emails and corporate news blogs.

Wait list (N = 160)

160 participants were randomised to a wait list. Participants were invited to participate via group emails and corporate news blogs.

Characteristics

Study-level characteristics

Characteristic	Study (N = 330)
35 to 44 years	n = 109 ; % = 33
No of events	
45 to 54 years	n = 119 ; % = 36
No of events	
Gender	n = 241 ; % = 72.9
Women - n calculated by reviewer from percentage	
No of events	
Ethnicity	n = 314 ; % = 95.3
White - n calculated by reviewer from percentage	
No of events	
Socioeconomic- income	n = 183 ; % = 55.5
Full-time equivalent salary of £20,000 to £39,999- n calculated from percentage by reviewer	
No of events	

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes measured after the intervention)

Employee outcomes

Outcome	Self-help goal-based intervention, Baseline, N = 170	Self-help goal-based intervention, 0 week, N = 170	Wait list, Baseline, N = 160	Wait list, 0 week, N = 160
Mental wellbeing (10-50) Self reported- Positive affect from Positive and Negative Affect Schedule	n = 158 ; % = 92.9	n = 111 ; % = 65.3	n = 149 ; % = 93.1	n = 139 ; % = 86.9
Sample size				
Mental wellbeing (10-50) Self-reported- Positive affect from Positive and Negative Affect Schedule	32.17 (6.51)	34.24 (6.68)	32.42 (6.64)	32.12 (7.22)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Self-help goal-based intervention - Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Self-help goal-based intervention (N = 170)

Brief name	Online self-help goal setting and planning [page 665 - Title]
Rationale/theory/Goal	The GAP intervention helps individuals to identify approach-orientated, rather than avoidance-orientated, goals linked to their values, develop action steps to move towards selected goals, anticipate and deal with obstacles, and maintain motivation. [page 669]
Materials used	<ul style="list-style-type: none"> • Online course • Downloadable worksheets <p>[page 670]</p>
Procedures used	<ul style="list-style-type: none"> • The programme was delivered over 6 modules. • Module 1 asked participants to set and refine personal goals (in work or home life). • In Module 2, participants were asked to imagine achieving their goals. • Module 3 encouraged participants to make written plans for achieving their goals. • Modules 4 and 5 involved participants putting their plans into action and making amendments to goals and to plans in response to obstacles. • Module 6 provided an opportunity to review the materials in Modules 1–5, to embed skills development.

	<ul style="list-style-type: none"> Two weeks after starting the intervention, participants received a support email indicating that by now, they would ideally have completed the first three modules. The email also offered a 20-min support phone call with the researcher to review progress and discuss any issues with making plans for their chosen goals. <p>[page 669 and 670]</p>
Provider	Online [page 669]
Method of delivery	Online [page 669]
Setting/location of intervention	Online [page 670]
Intensity/duration of the intervention	Modules were designed to take around 30 min each, with all six to be completed over a 5-week period. [page 670]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	A total of 12 participants requested support calls, each of which lasted between 15 and 20 min. [page 670]
Other details	To encourage participation and adherence, participants were offered the opportunity to enter into a prize draw for one of two £100 shopping vouchers, on completion of follow-up measures. [page 670]

Wait list (N = 160)

Brief name	Wait list [page 670]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were not told that they were in the intervention wait-list control group, but were told which date they were due to start the intervention. [page 670]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	To encourage participation and adherence, participants were offered the opportunity to enter into a prize draw for one of two £100 shopping vouchers, on completion of follow-up measures. [page 670]

D.108 **Olson, 2016**

Bibliographic Reference Olson, Ryan; Thompson, Sharon V; Elliot, Diane L; Hess, Jennifer A; Rhoten, Kristy Luther; Parker, Kelsey N; Wright, Robert R; Wipfli, Brad; Bettencourt, Katrina M; Buckmaster, Annie; Marino, Miguel; Safety and Health Support for Home Care Workers: The COMPASS Randomized Controlled Trial.; American journal of public health; 2016; vol. 106 (no. 10); 1823-32

Study details

Study design	Cluster randomised controlled trial
Trial registration number	NCT02113371
Study start date	Apr-2013
Study end date	02-Oct-2014
Aim	To determine the effectiveness of the COMMunity of Practice And Safety Support (COMPASS) Total Worker Health intervention for home care workers.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: health and social cares • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: home care workers

Inclusion criteria	Participants in current employment by at least 1 public- or private-pay consumer-employers and willingness to attend monthly meetings.
Exclusion criteria	Not reported
Method of randomisation	Clusters were filled with workers who could meet at the same time and lived relatively close to each other (target cluster size was 12 members). Once 2 clusters were filled, one was randomized to intervention and the other to usual practice. control.
Method of allocation concealment	Not reported
Unit of allocation	Cluster (clusters were filled with workers who could meet at the same time and lived relatively close to each other)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Analyses were performed on outcome measures using intent-to-treat principles, with study condition as the primary predictor. Differences between intervention and usual practice groups for HCW and CE samples were assessed using generalized linear mixed models to account for clustering of participants. To examine longitudinal changes in outcomes, multilevel mixed modelling was used with identity link approach to model the hierarchical structure of the data with measurements at each time point, nested within participants, and further nested within clusters. Clustering was accounted for through random intercepts for cluster and additional random effects for study participant to account for temporal correlation of observations within a participant. Time was treated as a categorical variable to produce a profile analysis in which model parameter estimates were used to estimate means by study condition for each time point. Intervention effects were estimated from linear combinations of regression coefficients from multilevel mixed models. Standardized effect sizes were calculated. A target sample of 16 clusters with 160 workers was selected through an a priori power analysis to provide 0.85 power for detecting a medium effect size on the basis of behaviour changes observed in a previous group-based intervention.

Attrition	<ul style="list-style-type: none"> • Intervention: 75/111 (67.7%) • Control: 74/99 (74.7%)
Study limitations (author)	<ul style="list-style-type: none"> • The current analysis is limited to outcomes collected during and immediately after the intervention. Future research is needed to examine long-term maintenance of changes and effects on costly but infrequent events such as workers' compensation claims. • Although some secondary outcomes were measured directly, the study lacked more direct measures of primary outcomes such as observations of safety behaviours or actigraphy measures of physical activity. • The sample should be reasonably representative of HCWs in the 2 participating metropolitan areas, but comparison demographic information was not available from the OHCC. • The intervention was presented in English only, so workers with limited or no English proficiency may have been underrepresented in the sample.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Methods states that job stress was measured using the Perceived Stress Scale, however, these data were not presented in the results section • Self-reported outcomes
Source of funding	National Institute for Occupational Safety and Health (NIOSH) as part of the Oregon Healthy Workforce Center (U19OH010154), a NIOSH Center of Excellence in Total Worker Health.

Study arms

Safety, health and wellbeing education (N = 111)

8 clusters comprising of 111 participants were randomised to receive the COMPASS intervention. Participants were recruited through fliers, e-mails, referrals, and direct recruitment at training events. Recruitment focused on HCWs represented by the SEIU Local 503 who cared for CEs enrolled in publicly funded programs managed by the OHCC.

Usual practice (N = 99)

8 clusters comprising of 99 participants were randomised to receive usual practice. Participants were recruited through fliers, e-mails, referrals, and direct recruitment at training events. Recruitment focused on HCWs represented by the SEIU Local 503 who cared for CEs enrolled in publicly funded programs managed by the OHCC.

Outcomes

Study timepoints

- Baseline
- 12 month (Outcomes were measured 12 months after the start of the study.)

Employee outcomes

Outcome	Safety, health and wellbeing education, Baseline, N = 111	Safety, health and wellbeing education, 12 month, N = 111	Usual practice, Baseline, N = 99	Usual practice, 12 month, N = 99
Quality of life Self-reported - mental composite of SF-12	n = 75 ; % = 67.6	n = 75 ; % = 67.6	n = 74 ; % = 74.7	n = 74 ; % = 74.7
Sample size				
Quality of life Self-reported - mental composite of SF-12	48.39 (1.22)	48.71 (1.29)	49.29 (1.22)	49.29 (1.33)
Mean (SE)				

Quality of life - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Quality of life - Safety, health and wellbeing education - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Some concerns (<i>Secondary outcome measure not reported</i>)
Overall bias	Risk of bias judgement	High (<i>Self-reported outcome and lack of outcome measure reporting</i>)

Study arms

Safety, health and wellbeing education (N = 111)

Brief name	COMmunity of Practice And Safety Support (COMPASS) Total Worker Health intervention [page 1823 - abstract]
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Rationale/theory/Goal	COMPASS integrates several evidence-based intervention tactics, including elements of effective social support groups, scripted team-based health promotion programs, and goal setting with behavioural self-monitoring. [page 1824]
Materials used	Intervention participants received a brief intervention orientation and additional materials (workbook, knee pad, step counter) before finishing enrolment. [page 1824]
Procedures used	<ul style="list-style-type: none"> • After baseline data collection, participants received immediate feedback on physical measurements relative to normal or healthy standards and were informed of their random assignment. • The intervention involved a researcher-led half-day workshop followed by 12 monthly peer-led meetings that were implemented by using scripted workbooks and supporting materials. • Team leader manuals included additional instructions for peer leaders, who were predominantly recruited from the COMPASS pilot through peer nomination. • Peer leaders received brief facilitator training at the beginning and midway through the program. • The repeating monthly meeting routine involved a WorkLife check-in, educational lesson, goal setting, healthy meal break, Work-Life support, and a reflection. Educational lessons and goals alternated between safety and health or well-being topics. • Participants were asked to complete workbook readings before meetings and the team leader manual provided discussion questions. <p>[pages 1824 and 1825]</p>
Provider	Peer leaders who had received brief facilitator training [page 1825]
Method of delivery	Peer-led group sessions [page 1825]
Setting/location of intervention	Participants met with researchers at Service Employees International Union facilities to complete informed consent, surveys, and objective physical measurements. [page 1824]
Intensity/duration of the intervention	A half-day workshop followed by 12 monthly meetings [page 1825]
Tailoring/adaptation	For 2 teams that did not have a leader from the pilot, 2 peer coleaders were selected from volunteers. [page 1825]
Unforeseen modifications	Not reported

Planned treatment fidelity	Team leader manuals [page 1825]
Actual treatment fidelity	Not reported
Other details	<ul style="list-style-type: none"> • Participants received a \$10 gift card for responding to brief surveys. • Participants were initially paid \$11 an hour for attending data collection periods and intervention meetings. Following a negotiated wage increase in October 2013, participants were compensated \$15 an hour for study activities with a \$30 retention bonus for each follow-up. Each measurement time point included lottery drawings for supplemental compensation awards totalling \$1000. • Participants also received study-branded materials at baseline (tote bag), 6months (t-shirt), and 12 months (lunch bag). • Intervention participants were provided individual and team “certification” incentives for meeting certain attendance and goal completion criteria. <p>[pages 1824 and 1825]</p>

Usual practice (N = 99)

Brief name	Usual practice [page 1825]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • After baseline data collection, participants received immediate feedback on physical measurements relative to normal or healthy standards and were informed of their random assignment. • Participants had access to the usual resources provided by the Service Employees International Union and the Oregon Home Care Commission (OHCC). These included leadership development and service opportunities with the union and paid 3-hour classes offered by the OHCC (multiple monthly offerings; > 20 total courses).

	<ul style="list-style-type: none"> Therefore, it was possible for control participants to attend monthly paid training that matched or exceeded total paid monthly activities for intervention participants. <p>[page 1825]</p>
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.109 Oude Hengel, 2012

Bibliographic Reference Oude Hengel, Karen M; Blatter, Birgitte M; Joling, Catelijne I; van der Beek, Allard J; Bongers, Paulien M; Effectiveness of an intervention at construction worksites on work engagement, social support, physical workload, and need for recovery: results from a cluster randomized controlled trial.; BMC public health; 2012; vol. 12; 1008

Study details

Study design	Cluster randomised controlled trial
Trial registration number	NTR1278
Study start date	Mar-2008
Study end date	Apr-2010
Aim	to investigate the effectiveness of a worksite prevention programme on social support at work, work engagement, physical workload and need for recovery at construction worksites.
Country/geographical location	The Netherlands
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: construction industry • Organisation size: medium and large • Contract type: not reported • Seniority: mixed (construction workers and supervisors) • Income: blue collar workers (bricklayers and carpenters)

Inclusion criteria	The study population consists of construction workers performing actual construction work (i.e., blue collar workers). These workers are contracted by six companies which are specialized in house-, commercial- or industrial building. The other inclusion criteria were (1) available for the study for the following 12 months, (2) sufficient mastery of the Dutch language and (3) having signed a written informed consent. No exclusion took place based on age or gender.
Exclusion criteria	None reported
Method of randomisation	Cluster randomisation took place at the level of department within each company using a computer generated random-sequence table. In order to avoid intervention group contamination, to accommodate a potential work-related intervention, to obtain maximal cooperation of employers and employees, and to enhance participants' compliance, cluster randomization was considered the best randomization strategy for this study.
Method of allocation concealment	The randomisation was performed by a research assistant who had no prior information about the departments. For practical reasons, randomisation was performed before the baseline measurements.
Unit of allocation	Cluster (department)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All analyses were performed according to the intention-to-treat principle. • Baseline characteristics of the workers in the two groups were compared using the unpaired Student t-test and Pearson's chi-square test. To evaluate the effects of the intervention, multilevel analyses were performed for all outcome variables. • The sample size of workers was calculated according to the number of cases needed to identify an effect on health status which was measured by the SF-12. Because of the cluster randomisation design, a certain loss of efficiency associated with cluster randomisation relative to individual randomisation was taken into account. An effect size of 0.40 was considered to be the lower boundary of a 'medium' effect size. This effect size can be detected with a power ($1-\beta$) of 0.80 and a two-tailed alpha of 0.05 with two groups of 100. Taking a loss to follow-up of about 10% into account, 220 workers were required at baseline. • Linear mixed models were used to evaluate the effects on work engagement, social support and physical workload, and logistic mixed models to evaluate the effects on need for recovery.
Attrition	<ul style="list-style-type: none"> • Intervention at 12 months: 120/171 (70%)

	<ul style="list-style-type: none"> Control at 12 months: 93/122 (76%)
Study limitations (author)	<ul style="list-style-type: none"> The study design was two-armed (control versus intervention), which does not allow a separate evaluation of the individual components of the prevention program. As a consequence, the effectiveness of the program can only be attributed to the entire program. The sample size calculation was based on a change in health status. The sample size might therefore be too small to detect a significant change in outcomes measures. Data were obtained solely from questionnaires. As a result, all data were self-reported, inducing a potential risk of bias due to socially desirable answers. Participation in the program was voluntary, and bias due to non-response could therefore not be ruled out in intervention studies. The loss-to-follow-up was higher than expected due to the economic crisis and health-related absenteeism of the workers. As a consequence of the economic recession, one company was forced to lay-off workers, and to offer the remaining workers a temporary part-time job during the intervention program. Participants who were lost-to-follow up were higher educated. However, as no other differences between completers and non-completers were found, authors assumed the bias due to selective loss-to-follow-up was limited.
Study limitations (reviewer)	Participants were mostly men; therefore, the findings cannot be generalised to all workplaces
Source of funding	The Netherlands Organization for Health Research and Development

Study arms

Multicomponent intervention (N = 171)

8 departments consisting of 171 participants were randomised to a worksite prevention programme.

Usual practice (N = 122)

7 departments consisting of 122 participants were randomised to usual practice.

Characteristics

Arm-level characteristics

Characteristic	Multicomponent intervention (N = 171)	Usual practice (N = 122)
Age		
Mean (SD)	41.8 (12.7)	44.3 (12.7)
Gender		
Men	n = 171 ; % = 100	n = 120 ; % = 98
No of events		
Bricklayer		
No of events	n = 39 ; % = 23	n = 16 ; % = 12
Carpenter		
No of events	n = 116 ; % = 68	n = 92 ; % = 75
Other		
No of events	n = 16 ; % = 9	n = 14 ; % = 12

Outcomes

Study timepoints

- Baseline
- 12 month (Outcomes were measured at 12 months.)

Employee outcomes

Outcome	Multicomponent intervention, Baseline, N = 171	Multicomponent intervention, 12 month, N = 171	Usual practice, Baseline, N = 122	Usual practice, 12 month, N = 122
job satisfaction Self-reported - work engagement - modified version of the Utrecht Work Engagement Scale (UWES-9) Mean (SD)	4.3 (0.8)	4.3 (0.8)	4.3 (0.8)	4.2 (0.9)
Quality of life Self-reported - mental health subscale of the SF-12 - custom value relates to sample size adjusted with an ICC of 0.01 Sample size	n = 155 ; % = 90.6	n = 104 ; % = 60.8	n = 112 ; % = 91.8	n = 80 ; % = 65.6
Quality of life Self-reported - mental health subscale of the SF-12 - custom value relates to sample size adjusted with an ICC of 0.01 Custom value	133	93	96	72
Quality of life Self-reported - mental health subscale of the SF-12 - custom value relates to sample size adjusted with an ICC of 0.01 Mean (SD)	55 (5.5)	54.5 (5.3)	53.4 (7.7)	52.6 (7.5)

job satisfaction - Polarity - Higher values are better

Quality of life - Polarity - Higher values are better

Employer outcomes

Outcome	Multicomponent intervention, Baseline, N = 171	Multicomponent intervention, 12 month, N = 171	Usual practice, Baseline, N = 122	Usual practice, 12 month, N = 122
Absenteeism Company records	n = 42 ; % = 25	n = 63 ; % = 24	n = 20 ; % = 17	n = 33 ; % = 30
No of events				
Absenteeism Company records	n = 170 ; % = 99.4	n = 148 ; % = 86.5	n = 119 ; % = 97.5	n = 111 ; % = 91
Sample size				

Absenteeism - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Employee outcomes - job satisfaction - Multicomponent intervention - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Multicomponent intervention (N = 171)

Brief name	Worksite prevention programme [Oude Hengel 2012 page 1 - abstract]
Rationale/theory/Goal	The intervention was developed using the Intervention Mapping approach, meaning that theoretical information from literature was combined with practical information from stakeholders (employers, supervisors, workers, health professionals, and providers). By applying the Intervention Mapping approach, the intervention is not only tailored to the construction workers but also to the abilities and opportunities of the implementers. [Oude Hengel 2012 page 2]
Materials used	Rest-break tool [Oude Hengel 2012 page 2]
Procedures used	A prevention program was developed which consisted of a physical and a mental component: <ul style="list-style-type: none"> Physical component:

	<ul style="list-style-type: none"> ○ Participants received two individual training sessions of a physical therapist and a Rest-Break tool. ○ During the first training session of the physical therapist, a quick scan questionnaire was followed by a 15-minute observation at the workplace. Participants were provided with three recommendations on how to improve physical workload. ○ The Rest-Break tool aimed to raise awareness about the importance of reducing fatigue by taking flexible rest breaks, and to stimulate to actually take rest breaks. ○ The workers were asked to fill in the tool weekly, alone or with colleagues, and to discuss the results with their supervisor. ● Mental component: <ul style="list-style-type: none"> ○ Participants received two interactive empowerment training sessions to improve their influence at the worksite. ○ Influence at the worksite could be improved by (i) taking responsibility for their own behaviour and health, (ii) discussing with colleagues about this responsibility, and (iii) improving the communication with the supervisor. <p>[Oude Hengel 2012 page 2]</p>
Provider	Physical therapist and empowerment trainer [Oude Hengel 2012 page 2]
Method of delivery	Group and individual [Oude Hengel 2011 page 1484]
Setting/location of intervention	Workplace [Oude Hengel 2010 page 3]
Intensity/duration of the intervention	6-month intervention [Oude Hengel 2012 pages 2 and 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 122)

Brief name	Usual practice [Oude Hengel 2012 page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.110 Page, 2013

Bibliographic Reference

Page, Kathryn M; Vella-Brodrick, Dianne A; The working for wellness program: RCT of an employee well-being intervention.; Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being; 2013; vol. 14 (no. 3); 1007-1031

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the effect of a positive psychology-based employee wellbeing programme on wellbeing.
Country/geographical location	Australia

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: government • Organisation size: large • Contract type: permanent • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Online random allocation system
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Means and standard deviations for groups over time were presented • Hypotheses were tested using a 2 by 4 mixed ANOVA design, including group (intervention versus control) by time (pre-intervention and one week, three-month, and six-month follow-up). • A series of independent sample t-tests conducted on all baseline measures confirmed random group assignment - there were no pre-existing differences in well-being between groups • Chi Square and t-tests showed no differences between those that completed all four surveys (n=23) and those who did not (n=27) in terms of group or demographics except that those who dropped out were more likely to work in a branch office than state headquarters. • ITT analysis-not reported

	<ul style="list-style-type: none"> No power calculations were presented
Attrition	<ul style="list-style-type: none"> Intervention: 21/31 participants (67.7%) completed 6-month follow-up measures. Control: 13/30 participants (43.3%) completed 6-month follow-up measures.
Study limitations (author)	<ul style="list-style-type: none"> The current study was limited by participant attrition. This in turn reduced statistical power and prevented further analysis. Potential mediating and moderating variables, such as strengths use, flow, role autonomy and managerial effectiveness were not included because of the already lengthy survey. The study did not include an active control group, which means that confounding factors such as social interaction cannot be ruled out.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Not reported

Study arms

Positive psychology-based wellness programme (N = 31)

31 participants were randomised to receive a positive psychology-based wellness programme. Participants were recruited via advertisements in the host organisation's newsletter.

Control (N = 30)

30 participants were randomised to a control. Participants were recruited via advertisements in the host organisation's newsletter.

Characteristics

Study-level characteristics

Characteristic	Study (N = 50)
Age Characteristics relate to participants who completed baseline measures	21 to 57
Range	
Age Characteristics relate to participants who completed baseline measures	39.7 (10)
Mean (SD)	
Gender Characteristics relate to participants who completed baseline measures - n calculated from percentage by reviewer	n = 37 ; % = 73
No of events	

Outcomes**Study timepoints**

- Baseline
- 6 month (Outcomes were measured after 6 months)

Employee outcomes

Outcome	Positive psychology-based wellness programme, Baseline, N = 31	Positive psychology-based wellness programme, 6 month, N = 31	Control, Baseline, N = 30	Control, 6 month, N = 30
Mental wellbeing Self-reported- Aggregate of Positive and	n = 31 ; % = 100	n = 21 ; % = 67.7	n = 19 ; % = 63.3	n = 13 ; % = 43.3

Outcome	Positive psychology-based wellness programme, Baseline, N = 31	Positive psychology-based wellness programme, 6 month, N = 31	Control, Baseline, N = 30	Control, 6 month, N = 30
Negative Affect Schedule (PANAS) and Satisfaction with Life Score (SWLS)				
Sample size				
Mental wellbeing Self-reported- Aggregate of Positive and Negative Affect Schedule (PANAS) and Satisfaction with Life Score (SWLS)	66.38 (14.85)	70.21 (14.76)	66.51 (6.8)	54.82 (16.02)
Mean (SD)				
job satisfaction Self-reported- Workplace Wellbeing Index (WWBI)	n = 31 ; % = 100	n = 21 ; % = 67.7	n = 19 ; % = 63.3	n = 13 ; % = 43.3
Sample size				
job satisfaction Self-reported- Workplace Wellbeing Index (WWBI)	61.73 (23.36)	57.56 (18.03)	71.14 (15.43)	58.75 (30.6)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Positive psychology-based wellness programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - job satisfaction - Positive psychology-based wellness programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Positive psychology-based wellness programme (N = 31)

Brief name	Positive psychology-based employee wellbeing programme [page 2 - abstract]
Rationale/theory/Goal	The program was designed to help participants to identify and apply their strengths, by striving for self-concordant goals, crafting their jobs, getting into flow, and cultivating relationships in order to enhance well-being. [page 6]
Materials used	Activity books and resource packs were provided to participants as training materials and included the program activities and relevant background information, including theories, tips and resources, respectively. [page 10]

Procedures used	<ul style="list-style-type: none"> Participants focused on their strengths and learnt from their best (or peak) experiences, to increase motivation and facilitative change, as per Appreciative Inquiry. Care was taken to optimize well-being and learning outcomes for participants by facilitating sessions in a positive, supportive and affirming environment and providing opportunities for autonomy and group discussion. <p>[page 10]</p>
Provider	Researcher [page 10]
Method of delivery	Small group-based sessions [page 10]
Setting/location of intervention	Participants completed the intervention during their normal working week. [page 9]
Intensity/duration of the intervention	Six-week programme made up of one hour session per week [page 9]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Intervention was delivered according to a set training manual. The facilitator recorded adherence to this approach using field notes and ratings (five-point Likert scale where 1 = poor adherence and 5 = strong adherence), which was completed at the end of each session. Notes and ratings were also taken regarding other elements of delivery, including fidelity and participant attendance. [page 10]
Actual treatment fidelity	According to the process evaluation, the intervention was delivered as planned, encouraged participants to engage in PP activities, focused on their strengths, and used a positive, affirming facilitation style. Slightly more emphasis was given to applying activities outside of work; this is what most participants tended to prefer (note: this preference was not quantitatively assessed but appeared in the field notes). The facilitator delivered all program activities with a high level of consistency across groups. [page 13]
Other details	Participants were invited to a debriefing and feedback focus group, facilitated by the first author, one year after the program had commenced. It included a brief presentation of results, an opportunity for both groups to reflect on their

experiences with their peers, and the collection of additional participant feedback. A trained observer recorded the feedback and these data were analysed as part of the process evaluation. [page 11]

Control (N = 30)

Brief name	Usual practice [page 9]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	<ul style="list-style-type: none"> • Participants did not receive an intervention and completed the four questionnaires only. • participants received training materials at the conclusion of the study. <p>[pages 9 and 10]</p>
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.111 Palumbo, 2012

Bibliographic Reference

Palumbo, M.V.; Wu, G.; Shaner-McRae, H.; Rambur, B.; McIntosh, B.; Tai Chi for older nurses: A workplace wellness pilot study; Applied Nursing Research; 2012; vol. 25 (no. 1); 54-59

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	The purpose of this pilot study was to assess the feasibility of a Tai Chi workplace wellness program as a cost-effective way of improving physical and mental health, reducing work related stress, and improving work productivity among older nurses.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported

	<ul style="list-style-type: none"> • Industry: healthcare • Organisation size; large • Contract type: not reported • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	Registered Nurses or Licensed Practical Nurses who are 40 years or older, currently employed full time or part time in staff nurse position which involved lifting patients. Nurses must have worked at least one year in the study setting to be eligible to participate in the study.
Exclusion criteria	Individuals who were unable to attend 15 weeks of class due to work or family scheduling conflicts.
Method of randomisation	No details reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Data were first examined descriptively, and then the changes across time in both study groups (intervention versus control) were compared on continuous outcome variables (work limitations, health status, stress, and physical functioning) using a Wilcoxon Two-Sample Test. • No power calculations were reported • ITT analysis- not reported
Attrition	<ul style="list-style-type: none"> • Intervention: 6/7 (85.7%) • Control: 5/7 (71.4%)

Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • The baseline differences between the control and treatment group could not be statistically controlled, due to the small sample size • the self-selected nature of the convenience sample does not address applicability beyond those potentially interested in such techniques • The study was done in a single geographic area and lacked underrepresented populations and men • It is also impossible to dissect instructor effects due to individual style, which impacts external validity
Study limitations (reviewer)	<ul style="list-style-type: none"> • No long-term follow-up • Self-reported outcome measured
Source of funding	National Institute of Health

Study arms

Tai Chi (N = 7)

7 participants were randomised to a Tai Chi intervention group. Fourteen study participants were selected from 70 respondents on a first come first served basis.

Usual practice (N = 7)

7 participants were randomised to a usual practice control group. Fourteen study participants were selected from 70 respondents on a first come first served basis.

Characteristics

Study-level characteristics

Characteristic	Study (N = 14)
Gender Women	n = 14 ; % = 100
No of events	

Outcomes

Study timepoints

- Baseline
- 15 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Tai Chi, 15 week vs Baseline, N = 7	Usual practice, 15 week vs Baseline, N = 7
Job stress Self-reported - Perceived Stress Scale	n = 6 ; % = 85.7	n = 5 ; % = 71.4
Sample size		
Job stress Self-reported - Perceived Stress Scale	-2.8 (2.4)	-1.4 (3.9)
Mean (SD)		
Quality of life Self-reported - mental health subscale of SF-36	n = 6 ; % = 85.7	n = 5 ; % = 71.4
Sample size		

Outcome	Tai Chi, 15 week vs Baseline, N = 7	Usual practice, 15 week vs Baseline, N = 7
Quality of life Self-reported - mental health subscale of SF-36	2.5 (9.3)	7 (9.1)
Mean (SD)		

Job stress - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Employer outcomes

Outcome	Tai Chi, Baseline, N = 7	Tai Chi, 15 week, N = 7	Usual practice, Baseline, N = 7	Usual practice, 15 week, N = 7
Absenteeism HR records - Four Month Average unscheduled combined time off hrs over previous year	<i>empty data</i>	3 (7)	<i>empty data</i>	3 (3)
Mean (SD)				

Absenteeism - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Tai Chi - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Significantly higher perceived stress outcome in intervention group</i>)

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Baseline differences, missing outcome data and self-reported outcomes)</i>

Employee outcomes - Quality of life - Tai Chi - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Significantly higher perceived stress outcome in intervention group)</i>

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Baseline differences, missing outcome data and self-reported outcomes)</i>

Employer outcomes - Absenteeism - Tai Chi - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Significantly higher perceived stress outcome in intervention group)</i>

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Baseline differences in key outcome</i>)

Study arms

Tai Chi (N = 7)

Brief name	Tai Chi [page 3]
Rationale/theory/Goal	Tai Chi has been studied as an intervention to promote physical and mental health, especially in adults aged 65 and older. Tai chi is an ancient Chinese martial art with a set of slowly paced and smoothly connected movements of all body parts. Tai Chi emphasizes mind-body connection during these movements. [page 2]
Materials used	Not reported

Procedures used	<ul style="list-style-type: none"> Each Tai Chi class lasted 45 minutes, with 10 minutes of breathing exercises, followed by 30 minutes of Tai Chi practice, and ended with five minutes of visualization/cool down exercises. Participants were asked to practice on their own for 10 minutes each day at least 4 days per week for 15 weeks. <p>[page 3]</p>
Provider	The Tai Chi instructor, had 22 years of experience teaching simplified Yang style Tai Chi. [page 3]
Method of delivery	Group [page 3]
Setting/location of intervention	Worksite [page 3]
Intensity/duration of the intervention	15-week intervention with weekly 45-minute classes and 10 minutes of home practice for 10 minutes 4 times per week. [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 7)

Brief name	Usual practice [page 3]
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Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants in the control group did not receive any intervention but were promised a Tai Chi class at the end of the study. [page 3]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.112 Park, 2020**Bibliographic Reference**

Park, J.S.; Choi, Y.-J.; The Effect of a Simulated Fire Disaster Psychological First Aid Training Program on the Self-efficacy, Competence, and Knowledge of Mental Health Practitioners; Disaster medicine and public health preparedness; 2020; 1-7

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported - quasi-experimental study with non-equality pre- and post-design
Study start date	Dec-2018
Study end date	Jan-2019
Aim	To develop a simulation program using standardized patients for the training of mental health practitioners in psychological first aid (PFA) and evaluated its effect on learners' self-efficacy and psychological first aid performance competence and knowledge; with the aim of providing an effective education method for the PFA training of mental health practitioners and provide resources for further research into advanced education methods.
Country/geographical location	South Korea
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare (mental health practitioners) • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional

Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Not reported - study refers to participants being randomly assigned to one of three groups but not details provided regarding the method used.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	The study variables were analysed using a paired t-test, a Kruskal-Wallis test, and a ranked ANCOVA and ANCOVA, followed by a Bonferroni correction. Variables that were not normally distributed were analysed using the non-parametric Kruskal-Wallis test.
Attrition	30/30 participants randomized provided pre and post data and completed study
Study limitations (author)	Small sample size (n = 30) with participants selected mainly from mental health care centres in Seoul and the Gyeonggi; most of the participants were female; and the scenario developed in this study only featured a fire disaster scenario limiting generalizability of the results . Each group took the post-test after a different time interval which may introduce some potential bias.
Study limitations (reviewer)	Lack of detail regarding method of randomisation; no blinding or allocation concealment protocols outlined; unclear how sampling was undertaken and measures to reduce/consider potential bias (was it a self-selecting sample?); Self-report measures utilized.
Source of funding	National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT) (NRF-2020R1A2B5B0100208).

Study arms

Simulation education programme (N = 10)

10 participants were randomised to the intervention arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers.

Comparison group (N = 10)

10 participants were randomised to the comparison arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers.

Control (N = 10)

10 participants were randomised to the control arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers.

Characteristics

Arm-level characteristics

Characteristic	Simulation education programme (N = 10)	Comparison group (N = 10)	Control (N = 10)
Age	36.1 (6.47)	35.5 (7.28)	33 (6.15)
Mean (SD)			
Gender (% Female)	80	100	90
Nominal			
Ethnicity	NR	NR	NR
Nominal			

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Simulation education programme, Baseline, N = 10	Simulation education programme, 0 week, N = 10	Comparison group, Baseline, N = 10	Comparison group, 0 week, N = 10	Control, Baseline, N = 10	Control, 0 week, N = 10
Mental wellbeing (16 to 80) Self-reported - General self-efficacy scale - comparison and control groups were combined in Revman Mean (SD)	62 (8.19)	67.8 (6.46)	61.6 (4.37)	65.7 (5.55)	61.6 (8.14)	63.3 (9.08)

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Simulation education programme - Comparison group - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Simulation education program
Rationale/theory/Goal	The study sought to develop a PFA simulation education program that utilized fire situation scenarios, and standardized patients for training disaster mental health practitioners; and evaluate the effectiveness of the program on self-efficacy, PFA performance competence, and PFA knowledge. Examining the improvement in these factors, this study aimed to provide an effective education method for the PFA training of mental health practitioners and provide resources for further research into advanced education methods.
Materials used	The simulation training program structured according to PFA objectives and behavioural guidelines - based on the module used in the Chung-Ang university in Seoul ; training and training script of standardized patient to understand their role in simulation; a two-hour lecture, including content about using the Psychological Life Support (PLS) application; pre-simulation group briefing of 30 minutes, individual simulation training sessions that lasted 15 minutes per participant, and individual debriefing sessions of 15 minutes each that involved the participants, the Standardized Patient, and the researcher. Self-report tools (General Self-Efficacy Scale, An instrument for measuring the core performance of disaster nursing, PFA knowledge measurement instrument).

Procedures used	Data were collected from December 2018 to January 2019. Recruitment was done by sending notices to mental health welfare centres, and the participants were selected from among the volunteers, consent obtained and randomised. Experimental group participated in the simulation training after attending a 2-hour lecture; comparison group received the lecture only and the control group were given handouts about the principles of PFA only for self-study. All three groups underwent pre and post-test.
Provider	Not specified
Method of delivery	Group/class-based followed by one-to-one
Setting/location of intervention	Not specified
Intensity/duration of the intervention	Experimental group participated in the simulation training after attending a 2-hour lecture; comparison group received the lecture only and the control group were given handouts about the principles of PFA only for self-study. All three groups underwent pre and post-test.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Simulation education programme (N = 10)

10 participants were randomised to the intervention arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers. The PFA training was in two stages. First, a two-hour lecture, including content about using the Psychological Life Support (PLS) application followed by a pre-simulation group briefing of 30 minutes, individual simulation training sessions of 15 minutes per participant, and individual debriefing sessions of 15 minutes.

Comparison group (N = 10)

10 participants were randomised to the comparison arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers. A two-hour lecture, including content about using the Psychological Life Support (PLS) application only.

Control (N = 10)

10 participants were randomised to the control arm. Participants were recruited by sending notices to mental health welfare centres, and the participants were selected from among the volunteers. Provided with handouts about the principles of PFA to study by themselves

D.113 Pidd, 2015

Bibliographic Reference

Pidd, Ken; Roche, Ann; Fischer, Jane; A recipe for good mental health: A pilot randomised controlled trial of a psychological wellbeing and substance use intervention targeting young chefs.; *Drugs: Education, Prevention & Policy*; 2015; vol. 22 (no. 4); 352-361

Study details

Study design	Cluster randomised controlled trial
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Trial registration number	Not reported
Aim	Workforce entry is a key transition period. It offers an ideal, but under-utilised opportunity to implement intervention strategies to prevent mental health and substance use problems among young people. A brief psychological wellbeing and substance use intervention targeting a high-risk group – apprentice chefs – was undertaken to explore this opportunity.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: catering • Organisation size: not reported • Contract type: apprenticeship • Seniority: training • Income: trainee chefs
Inclusion criteria	Participants were commercial cookery trainees and were enrolled at TAFE colleges located in a large Australian city. All were undertaking a 3-year training course and participated in the study at the beginning of their first year of training. These trainees attended training 1 day per week at TAFE college premises and worked full time as apprentice chefs 4 days per week.
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Cluster (associated training college)

Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis - not reported • Independent sample t tests were conducted to compare between group (control and intervention) differences in continuous variables at T1 and T2, while paired sample t-tests were conducted to examine within group differences in continuous variables from T1 to T2. • ANCOVAs were then conducted to examine intervention effects on T2 continuous variables while controlling for observed differences between groups at T1. • Statistically significant between group differences in categorical variables were determined using Pearson's Chi-square and Fisher's exact test (in the cases of cell sizes 55). Statistically significant within group differences in categorical variables were determined using uncorrected McNemar's test and Wilcoxon signed rank test. • Where appropriate, Bonferroni corrections for multiple comparisons were made. • Sample size calculations indicated that a sample of 64 control and 64 intervention group participants would be required to provide statistical power greater than 0.8 to detect an effect size of 0.10.
Attrition	Due to circumstances beyond the researchers' control, only 71 trainees completed the T1 survey (intervention group n=44; control group n=27) and 50 (intervention group n=30; control group n=20) completed the T2 survey (an attrition rate of 30%).
Study limitations (author)	<ul style="list-style-type: none"> • The small sample size may impact on the reliability of the results. • As the sample was restricted to commercial cookery trainees, the results may not be generalisable to vocational trainees employed in other occupations and industries. • The study was undertaken with commercial cookery trainees in only two locations, and while these locations involved the largest cookery training provider in the state, findings may not generalise to trainees in other locations. • Post-intervention outcomes were only measured at one point in time, 4 months after exposure. • As changes in behaviour were assessed by self-report, social desirability bias may have played a role, especially for self-reports of non-validated measures of improved communication and coping skills.
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms

Psychological wellbeing and substance use intervention (N = 44)

Participants from a single training college were randomised to receive a psychological wellbeing and substance use intervention. Participation was voluntary, and non-participants were assigned to another classroom.

Usual practice (N = 27)

Participants from a single training college were randomised to receive usual practice. Participation was voluntary, and non-participants were assigned to another classroom.

Characteristics

Arm-level characteristics

Characteristic	Psychological wellbeing and substance use intervention (N = 44)	Usual practice (N = 27)
18 to 24 years	n = 19 ; % = 63.3	n = 10 ; % = 50
No of events		
Over 24 years	n = 11 ; % = 36.7	n = 10 ; % = 50
No of events		
Men	n = 23 ; % = 76.7	n = 13 ; % = 65
No of events		
Women	n = 7 ; % = 23.3	n = 7 ; % = 35
No of events		

Outcomes

Study timepoints

- Baseline
- 4 month (Outcomes were measured 4 months after the intervention.)

Employee outcomes

Outcome	Psychological wellbeing and substance use intervention, Baseline, N = 44	Psychological wellbeing and substance use intervention, 4 month, N = 44	Usual practice, Baseline, N = 27	Usual practice, 4 month, N = 27
Mental health symptoms Self-reported - Kessler Psychological Distress Scale (K10) Sample size	n = 30 ; % = 68.2	n = 30 ; % = 68.2	n = 20 ; % = 74.1	n = 20 ; % = 74.1
Mental health symptoms Self-reported - Kessler Psychological Distress Scale (K10) Mean (SD)	18.5 (6.5)	16.9 (4.8)	17.7 (6.5)	19.6 (9)
Quality of life Self-reported - poor/very poor quality of life - single item measure No of events	n = 2 ; % = 6.7	n = 0 ; % = 0	n = 3 ; % = 10	n = 0 ; % = 0

Outcome	Psychological wellbeing and substance use intervention, Baseline, N = 44	Psychological wellbeing and substance use intervention, 4 month, N = 44	Usual practice, Baseline, N = 27	Usual practice, 4 month, N = 27
Quality of life Self-reported - poor/very poor quality of life - single item measure	n = 30 ; % = 68.2	n = 30 ; % = 68.3	n = 20 ; % = 74.1	n = 20 ; % = 74.1
Sample size				

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Employee outcomes - Mental health symptoms - Psychological wellbeing and substance use intervention - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low

Section	Question	Answer
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Low
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Employee outcomes - Quality of life - Psychological wellbeing and substance use intervention - Usual practice

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Low
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Study arms**Psychological wellbeing and substance use intervention (N = 44)**

Brief name	Psychological wellbeing and substance use intervention [page 352 - abstract]
Rationale/theory/Goal	The intervention focused on enhancing coping and communication skills and understanding and reducing risk of alcohol and other drug (AOD)-related harm. [page 354]
Materials used	Alcohol and other drug (AOD) and workplace bullying information sheets [page 354]
Procedures used	<ul style="list-style-type: none"> • The intervention included practical exercises to assess individual stress levels and practice alternative stress reduction techniques. • The intervention also included practical exercises to improve communication skills. • The intervention addressed workplace factors that contribute to harmful AOD use and implications for workplace safety and career progression. An AOD decision making exercise was also included as decisions to engage in risky behaviours can be influenced by affective motivators such as anticipatory regret. <p>[page 354]</p>
Provider	Not reported
Method of delivery	Group [page 3]
Setting/location of intervention	Training classroom during normal training times [page 3]
Intensity/duration of the intervention	Two sessions (1x2 h and 1x1 h) over a 2-week period [page 354]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 27)

Brief name	Control group [page 354]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Control group participants received AOD and workplace bullying information sheets, but no other input. [page 354]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.114 Ploukou, 2018

Bibliographic Reference

Ploukou, Stella; Panagopoulou, Efharis; Playing music improves well-being of oncology nurses.; Applied nursing research : ANR; 2018; vol. 39; 77-80

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	This study examined the effects of a music intervention on anxiety, depression, and psychosomatic symptoms of oncology nurses.
Country/geographical location	Greece

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional
Inclusion criteria	<p>Inclusion criteria were:</p> <ol style="list-style-type: none"> 1. at least one year working experience in the hospital 2. no previous experience of any music classes 3. intention to attend the music intervention if randomized in that group 4. involved in the care of cancer patients rather than administrative tasks
Exclusion criteria	Participants currently on leave or on any form of psychotropic medication were excluded from participation.
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intention-to-treat analysis was conducted. • Repeated Measures Analysis was used to assess between-group differences in change scores of psychological well-being from baseline to after the intervention. • Paired Samples t-Test and Wilcoxon Signed Ranks Test statistical procedures were used for parametrical and non-parametrical variables.

	<ul style="list-style-type: none"> No power calculations were reported
Attrition	None of the 48 participants who entered the trial, dropped out.
Study limitations (author)	<ul style="list-style-type: none"> The study did not assess other possible factors which could contribute to the effect of the intervention, (e.g., nurses getting together and having just fun). Due to the homogeneity of the sample, (female nurses working in the same department), no subgroup analyses were conducted. The generalisation of the results of this study is limited by the small number of participants and the specific setting where they worked. No follow up was conducted to assess to what extent the effects of the intervention were maintained over time.
Study limitations (reviewer)	<ul style="list-style-type: none"> Most of the participants were women, so the findings may not be generalisable to all workplaces. Outcome measures were self-reported
Source of funding	Music classes funded by Medical School of Aristotle University of Thessaloniki.

Study arms

Music therapy (N = 22)

22 participants were randomised to receive a music therapy intervention. Nurses were recruited through an ad in the hospital notice boards.

Wait list (N = 26)

26 participants were randomised to a wait list. Nurses were recruited through an ad in the hospital notice boards.

Characteristics

Arm-level characteristics

Characteristic	Music therapy (N = 22)	Wait list (N = 26)
Women	n = 21 ; % = 95.5	n = 25 ; % = 96.2
No of events		
Men	n = 1 ; % = 4.5	n = 1 ; % = 3.8
No of events		
Nurse assistants	n = 6 ; % = 27	n = 4 ; % = 15
No of events		
Registered nurses	n = 16 ; % = 73	n = 22 ; % = 85
No of events		

Outcomes**Study timepoints**

- Baseline
- 0 hour (Outcomes were measured immediately after the last music class.)

Employee outcomes

Outcome	Music therapy, Baseline, N = 22	Music therapy, 0 hour, N = 22	Wait list, Baseline, N = 26	Wait list, 0 hour, N = 26
Mental health symptoms Self-reported - depression subscale of Hospital Anxiety and Depression Scale (HADS)	14.68 (3.43)	13.23 (2.83)	12.73 (2.6)	13.04 (2.72)
Mean (SD)				

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Music therapy - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Music therapy (N = 22)

Brief name	Music intervention [page 78]
Rationale/theory/Goal	Music therapy in specific has been found to have significant effects on physical and psychological health in several settings. music is seen as an alternative expressive modality and a way to get in touch with emotions and develop relationships. [page 78]
Materials used	Percussion was selected as Bongo drum, Djembe, Doumbek and in some cases Maraca, Castanets, Triangle, Wood block, Ratchet and Tambourine. [page 78]
Procedures used	A music teacher helped the group to play and improvise music using percussion instruments. Courses consisted of varied multitask exercises of progressive difficulty, sometimes involving team playing, or individual performances. The intervention group attended four weekly supervised group classes of percussion music playing. [page 78]
Provider	Music teacher [page 78]
Method of delivery	Group [page 78]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Each percussion music session lasted 60 min and took place once a week. [page 78]
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 26)

Brief name	Usual practice [page 78]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	The control group maintained standard lifestyle habits, for one month. [page 78]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable

Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.115 Pollak, 2020

Bibliographic Reference

Pollak, Kathryn I; Gao, Xiaomei; Arnold, Robert M; Arnett, Kelly; Felton, Sue; Fairclough, Diane L; Kutner, Jean S; Feasibility of using communication coaching to teach palliative care clinicians Motivational Interviewing.; Journal of Pain and Symptom Management; 2020; vol. 59 (no. 4); 787-793

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Clinical Trial Registration: NCT03332615
Aim	The aim of this pilot study was to test the feasibility, acceptability, and preliminary efficacy of a Motivational Interviewing (MI) communication coaching intervention at improving MI skills, decreasing burnout, and improving patient and caregiver perceptions of palliative care encounters.
Country/geographical location	USA

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professionals
Inclusion criteria	Patients and family caregivers >18 years of age who were receiving palliative care from one of the participating clinicians, had an advanced illness (patient), or were the family caregiver for a patient who had an advanced illness, and spoke English.
Exclusion criteria	Those requiring interpreter services
Method of randomisation	Study outlines that randomized palliative care clinicians to either the intervention arm or the wait-list control arm occurred. The study does not outline the methods or process used in the randomization process
Method of allocation concealment	Not specified
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Descriptive statistics used to describe the patients and clinicians across each arm and MI skills used during first and second recordings.
Attrition	All the participants randomly assigned (n=22) provided pre and post data at the end of the study
Study limitations (author)	Study was a pilot feasibility trial that had a small sample and represented a limited number of clinical sites in one geographic area.
Study limitations (reviewer)	Randomisation, allocation concealment or blinding protocols are not specified; No sample size calculation; Purposively selected sample; Generalizability may be limited due to the small sample size and setting; use

	of self-report; Unclear how other factors that may have impacted the outcome interest were considered and controlled for.
Source of funding	Funding was provided by the National Palliative Care Research Center.

Study arms

Motivational interviewing (N = 11)

11 participants were randomised to the intervention arm. Participants were recruited from a single organisation.

Wait list (N = 11)

11 participants were randomised to the control arm. Participants were recruited from a single organisation.

Characteristics

Arm-level characteristics

Characteristic	Motivational interviewing (N = 11)	Wait list (N = 11)
Age		
Nominal	NR	NR
Gender (% Female)		
Nominal	55	82
Ethnicity		
Nominal	NR	NR

Characteristic	Motivational interviewing (N = 11)	Wait list (N = 11)
% White	82	91
Nominal		
% Black	9	0
Nominal		
% Asian	9	0
Nominal		
% More than one race	0	1
Nominal		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured post-intervention)

Employee outcomes

Outcome	Motivational interviewing, Baseline, N = 11	Motivational interviewing, 0 week, N = 11	Wait list, Baseline, N = 11	Wait list, 0 week, N = 11
Job stress (0-54) Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	n = 11 ; % = 100	n = 9 ; % = 81.8	n = 11 ; % = 100	n = 10 ; % = 90.9

Outcome	Motivational interviewing, Baseline, N = 11	Motivational interviewing, 0 week, N = 11	Wait list, Baseline, N = 11	Wait list, 0 week, N = 11
Sample size				
Job stress (0-54) Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	18.7 (9.3)	18 (11.6)	20.6 (8.4)	23.1 (14)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Motivational interviewing - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Motivational interview
Rationale/theory/Goal	Motivational Interviewing (MI) has tools to address ambivalence and reluctance. The aim of this pilot study was to test the feasibility, acceptability, and preliminary efficacy of an MI communication coaching intervention.
Materials used	Experienced MI coach; didactic session focused on open-ended questions, reflective statements, praise statements (to build self efficacy), and emotion-handling skills as part of 'Compassion,' audio-record device; measurement tools (Maslach Burnout Inventory).
Procedures used	Participants were personally invited, baseline data collected and randomised to intervention or waiting-list control; An experienced MI coach met with each palliative care clinician in the intervention arm three times to coach on MI (total time 3.5 hours). Coaching involved an initial one-hour didactic session covering the tenets of MI followed by a same day 1:1 initial meeting in which the coach discussed how to implement MI into clinical encounters. After the didactic session, the clinicians set a goal for two MI skills they would try. Then each clinician audio-recorded two clinical palliative care encounters. The coach then coded transcriptions of those encounters and met with clinicians for an individual coaching session in which she provided feedback (30 minutes). Then the clinician audio-recorded two more challenging clinical palliative care encounters, followed by a second coaching session (30 minutes).
Provider	Experienced MI coach
Method of delivery	Class/group based followed by one-to-one sessions
Setting/location of intervention	Academic community health system in the Mountain West and in a community-based hospice and palliative care organization

Intensity/duration of the intervention	An experienced MI coach met with each palliative care clinician in the intervention arm three times to coach on MI (total time 3.5 hours).
Tailoring/adaptation	Not reported but the time between the didactic and 1:1 session and each of the feedback sessions varied depending on when the palliative care clinicians could audio-record encounters.
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Feasibility and acceptability were measured. An a priori benchmark that 75% would complete study participation was set for feasibility and an a priori benchmark that 75% of participating clinicians would report that the intervention was helpful (at least four on a six-point scale where 1 = not at all helpful and 6 = extremely helpful) and that they would recommend it to a colleague (1 = definitely would not recommend and 6 = definitely would recommend) was set for acceptability. The 75% benchmark for feasibility was met (86% completed all study activities) The 75% benchmark for acceptability was met (88% of clinicians in the intervention arm rating the intervention as helpful and 100% said they would recommend it to a colleague).

Study arms

Motivational interviewing (N = 11)

11 participants were randomised to the intervention arm. Participants were recruited from a single organisation. MI coach met with each palliative care clinician three times to coach on MI (total time 3.5 hours). The coaching model uses adult learning principles that involve reinforcing behaviours done correctly and offering suggestions for minor “tweaks” when communication could be improved by the use of MI tools.

Wait list (N = 11)

11 participants were randomised to the control arm. Participants were recruited from a single organisation. Palliative care clinicians randomized to the wait-list control arm recorded four routine palliative care encounters, after which we offered them the MI training

D.116 Poulsen, 2015

Bibliographic Reference Poulsen, Anne A; Sharpley, Christopher F; Baumann, Kathryn C; Henderson, Julie; Poulsen, Michael G; Evaluation of the effect of a 1-day interventional workshop on recovery from job stress for radiation therapists and oncology nurses: A randomised trial.; Journal of medical imaging and radiation oncology; 2015; vol. 59 (no. 4); 491-8

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the effects of an educational intervention to improve recovery from job stress, increase satisfaction with current self-care practices and improve sleep quality.
Country/geographical location	Australia
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: mixed (full time and part time) • Seniority: not reported

	<ul style="list-style-type: none"> Income: Professional (radiation therapists and oncology nurses)
Inclusion criteria	Radiation therapists and oncology nurses
Exclusion criteria	Not reported
Method of randomisation	Computer-generated random integers
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Background variables were reported for frequency and correlations with the dependent variables. Dependent variables were examined for normality Power analysis was conducted for a medium effect size ($f = 0.4$), with $\alpha = 0.05$ and $\beta = 0.95$. With two groups of participants (experimental, control), a total sample of 64 was required, and we therefore recruited 80 participants to allow for dropouts and incomplete datasets. ITT analysis- not clear. 10 participants were not included due to incomplete datasets. Means (standard deviation) and MANOVA results for pre-training versus post-training were reported for experimental versus control group participants.
Attrition	<ul style="list-style-type: none"> Experimental: 30 out of 40 participants (75%) had useable datasets Control: 40 out of 40 participants (100%) had useable datasets
Study limitations (author)	<ul style="list-style-type: none"> Although the study was open to all RTs and ONs, there may have been some selection bias because participants were self-selected and may have been more interested in the proposed training programme than non-participating RTs and ONs.

	<ul style="list-style-type: none"> • Further research is needed to explore the mechanisms of action for each particular component of the 1-day workshop. • No precise assessment of the ongoing use of acquired skills was conducted at follow-up.
Study limitations (reviewer)	Self-reported outcomes
Source of funding	Princess Alexandra Hospital Research Foundation

Study arms

Recovery training programme (N = 40)

40 participants were randomised to receive the recovery training workshop plus written education materials. Participants were invited from two hospitals, where information was disseminated during staff meetings.

Control (N = 40)

40 participants were randomised to receive only written educational materials. Participants were invited from two hospitals, where information was disseminated during staff meetings.

Characteristics

Arm-level characteristics

Characteristic	Recovery training programme (N = 40)	Control (N = 40)
Younger than 25 years	n = 2 ; % = 7	n = 3 ; % = 8
No of events		

Characteristic	Recovery training programme (N = 40)	Control (N = 40)
25 to 35 years	n = 9 ; % = 30	n = 17 ; % = 42
No of events		
36 to 45 years	n = 8 ; % = 27	n = 6 ; % = 15
No of events		
Older than 45 years	n = 11 ; % = 37	n = 14 ; % = 35
No of events		
Men	n = 4 ; % = 13	n = 8 ; % = 20
No of events		
Women	n = 26 ; % = 87	n = 32 ; % = 80
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Follow-up at 6 weeks after workshop)

Employee outcomes

Outcome	Recovery training programme, Baseline, N = 40	Recovery training programme, 6 month, N = 40	Control, Baseline, N = 40	Control, 6 month, N = 40
Mental health symptoms (0-10) Self-reported- perceived sleep quality- single item from Pittsburgh sleep quality index	n = 30 ; % = 75	n = 30 ; % = 75	n = 40 ; % = 100	n = 40 ; % = 100
Sample size				
Mental health symptoms (0-10) Self-reported- perceived sleep quality- single item from Pittsburgh sleep quality index	7.1 (2.12)	8.2 (1.73)	6.9 (2.21)	6.7 (2.13)
Mean (SD)				

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Recovery training programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in intervention group)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (Outcome measures were self-reported)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (Missing outcome data and self-reported outcomes)

Study arms

Recovery training programme (N = 40)

Brief name	Recovery training workshop plus written education materials [page 493]
Rationale/theory/Goal	Based on four recovery pathways used by Hahn and colleagues to include a module on social support during goal-setting, using the vehicle of peer mentoring.[page 496]
Materials used	Workshop (including practical exercises and interactive discussions.) plus education leaflets [page 493]
Procedures used	Participants in both experimental and control arms completed consent forms and pre-test questionnaires. [page 493]
Provider	Not reported
Method of delivery	Face to face workshop [page 493]

Setting/location of intervention	Not reported
Intensity/duration of the intervention	1 day [page 493]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Workshop plus written education materials

Control (N = 40)

Brief name	Written education materials only [page 492]
Rationale/theory/Goal	Not reported
Materials used	Written education materials [page 493]
Procedures used	Participants in both experimental and control arms completed consent forms and pre-test questionnaires. [page 493]
Provider	Not reported

Method of delivery	Not reported
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Written education materials only

D.117 Proudfoot, 2009

Bibliographic Reference Proudfoot, Judith G; Corr, Philip J; Guest, David E; Dunn, Graham; Cognitive-behavioural training to change attributional style improves employee well-being, job satisfaction, productivity, and turnover.; Personality and Individual Differences; 2009; vol. 46 (no. 2); 147-153

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether a cognitive-behavioural training programme is effective in changing attributional style, and improving employee wellbeing, job satisfaction, productivity and turnover.

Country/geographical location	UK
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: not reported • Seniority: sales agents • Income: not reported
Inclusion criteria	Sales agents from four Divisions in South-East England
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Power calculations, based on independent t-tests of pre-post change scores between groups in a previous study (Proudfoot, 1996), showed that to detect a difference of 0.5 standard deviation at 80% power and with a 0.05a, 64 participants were needed in each condition. • Analysis of covariance (using the regress command of Stata release 10 – StataCorp, 2008) was used to test for differences between the two study groups on each psychological variable (with separate analyses at each follow-up time). Covariates included division membership (four levels) and the corresponding baseline measure of the

	<p>variable. Comparison of the pre- and post-training psychological data for the waiting-list control group was undertaken by t-tests. Resignation data were analysed by χ^2 tests and survival analysis.</p> <ul style="list-style-type: none"> • ITT- not reported
Attrition	Not reported
Study limitations (author)	<ul style="list-style-type: none"> • The follow-up period, which was restricted to 3 months for organisational reasons • Sample was 98% male limits the generalisability of finding
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • Lack of clarity around participant numbers and analysis type (ITT)
Source of funding	<ul style="list-style-type: none"> • Legal & General Assurance Co., Ltd. • UK Economic and Social Research Council (ESRC).

Study arms

Cognitive behavioural training (N = 81)

81 participants were randomised to receive cognitive behavioural training. Participants from a major insurance company were invited to attend the programme.

Wait list (N = 85)

85 participants were randomised to a wait list. Participants from a major insurance company were invited to attend the programme.

Characteristics

Arm-level characteristics

Characteristic	Cognitive behavioural training (N = 81)	Wait list (N = 85)
Age Wait list group characteristics reported as n=81	36.2 (9)	36.2 (9)
Mean (SD)		
Gender Men - Wait list group characteristics reported as n=81- n calculated from percentage by reviewer	n = 83 ; % = 98	n = 83 ; % = 98
No of events		

Outcomes**Study timepoints**

- Baseline
- 3 month (Follow-up at 3 months from end of intervention.)

Employee outcomes

Outcome	Cognitive behavioural training, Baseline, N = 81	Cognitive behavioural training, 3 month, N = 81	Wait list, Baseline, N = 85	Wait list, 3 month, N = 85
Mental wellbeing Self-reported- self-esteem- adapted professional self-esteem scale (adapted from Beehr, 1976)	3.85 (0.88)	4.46 (0.94)	3.97 (0.85)	3.86 (0.75)
Mean (SD)				

Outcome	Cognitive behavioural training, Baseline, N = 81	Cognitive behavioural training, 3 month, N = 81	Wait list, Baseline, N = 85	Wait list, 3 month, N = 85
job satisfaction (15-105) Self-reported- overall job satisfaction scale (Warr, Cook, & Wall, 1979) Mean (SD)	74.1 (11.57)	79.21 (11.65)	72.32 (12.33)	73.36 (13.42)
Psychological distress (0-30) Self-reported- General health questionnaire-30- GHQ-30 Mean (SD)	81 (7.67)	2.88 (6.57)	7.09 (6.79)	4.37 (5.86)

Mental wellbeing - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Psychological distress - Polarity - Lower values are better

Employer outcomes

Outcome	Cognitive behavioural training, Baseline, N = 81	Cognitive behavioural training, 3 month, N = 81	Wait list, Baseline, N = 85	Wait list, 3 month, N = 85
Employee turnover Number of resignations No of events	<i>empty data</i>	n = 3 ; % = 4	<i>empty data</i>	n = 10 ; % = 12

Employee turnover - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Cognitive behavioural training - Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Employee outcomes - job satisfaction - Cognitive behavioural training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - Employee turnover - Cognitive behavioural training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Low

Study arms

Cognitive behavioural training (N = 81)

Brief name	Cognitive-behavioural training [Title]
Rationale/theory/Goal	Based on cognitive-behavioural therapy principles [page 147]
Materials used	Group discussion, homework [page 147]
Procedures used	Not reported
Provider	Not reported
Method of delivery	Face to face sessions [page 147]
Setting/location of intervention	Workplace [page 147]
Intensity/duration of the intervention	Seven weekly sessions (3 hours per week) following by a 6-week maintenance program and a review session after 3 months [page 147]
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Wait list (N = 85)

Brief name	Wait list [Abstract]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants allocated to the waiting-listed group received the training program after the completion of 3-month follow-up [page 148]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

D.118 Rankhambe, 2020

Bibliographic Reference

Rankhambe, H.B.; Pande, S.; Effect of "om" chanting on anxiety in bus drivers; National Journal of Physiology, Pharmacy and Pharmacology; 2020; vol. 10 (no. 12); 1138-1141

Study details

Trial registration number	Not reported
Aim	Study the effect of Om chanting on anxiety levels in bus drivers
Country/geographical location	India
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: transport • Organisation size: not reported

	<ul style="list-style-type: none"> • Contract type: not reported • Seniority: not reported • Income: bus drivers
Inclusion criteria	Inclusion Criteria: Bus drivers in the age group of 25–40 years; No history of any major medical or psychiatric illness; Not taking any anxiolytic drugs; Have not done Om chanting or any other yoga practice in the past or present.
Exclusion criteria	Exclusion Criteria: Subjects who have done Om chanting or any other yoga previously or with history of any psychiatric illness in the past.
Method of randomisation	Not specified - study refers to random allocation but not the process/method utilized
Method of allocation concealment	Not specified
Unit of allocation	Individual - bus driver
Unit of analysis	Individual
Statistical method(s) used to analyse the data	For comparison of anxiety scores between control and intervention groups, the unpaired t-test was used. For comparison of anxiety scores before and after the intervention in the same group, paired t-test was used.
Attrition	87/100 (87%) participants provided pre and post data
Study limitations (author)	Not reported
Study limitations (reviewer)	Randomisation procedure has not been specified; Allocation concealment and blinding protocols not specified; no sample size calculation; demographics not reported; Generalizability of findings may be limited due to population (Male Indian bus drivers aged between 25-40 years).
Source of funding	Not specified

Study arms**Om chanting (N = 50)**

50 participants were randomised to the intervention arm. Participants were from a single organisation.

Control (N = 50)

50 participants were randomised to the control arm. Participants were from a single organisation.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 87)
Age	25 to 40
Range	
Gender	100
Nominal	
Ethnicity (% Indian)	100
Nominal	

Outcomes**Study timepoints**

- Baseline

- 4 week (Outcomes were measured after the study of 4 weeks)

Employee outcomes

Outcome	Om chanting, Baseline, N = 50	Om chanting, 4 week, N = 50	Control, Baseline, N = 50	Control, 4 week, N = 50
Mental health symptoms Self-reported - the Hamilton anxiety rating scale (HAM-A)	n = 42 ; % = 84	n = 42 ; % = 84	n = 45 ; % = 90	n = 45 ; % = 90
Sample size				
Mental health symptoms Self-reported - the Hamilton anxiety rating scale (HAM-A)	14.83 (4.3)	12.48 (3.26)	14.16 (3.62)	13.98 (3.47)
Mean (SD)				

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Om chanting - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Om chanting
Rationale/theory/Goal	Study the specific effect of Om chanting on anxiety levels in bus drivers
Materials used	Practice session of Om chanting prior to intervention commencement; yoga teacher; daily attendance sheet; measurement tools (hamilton anxiety rating scale)
Procedures used	A practice session of Om chanting was conducted for the before the start of the study. The intervention group practiced Om chanting once for 20 min in a day for 6 days/week for 4 weeks under the supervision of a yoga teacher. The control group was not involved in chanting Om or any other relaxation techniques. A daily attendance sheet was maintained for all the subjects in the intervention group for the entire duration of 4 weeks of the study.
Provider	Not reported - study refers to tertiary hospital and supervision of activities by a yoga teacher

Method of delivery	Participant led (Om chanting once for 20 min in a day for 6 days/week for 4 weeks) under the supervision of a yoga teacher
Setting/location of intervention	Tertiary hospital
Intensity/duration of the intervention	Om chanting once for 20 min in a day for 6 days/week for 4 weeks
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Om chanting (N = 50)

Om chanting once for 20 min in a day for 6 days/week for 4 weeks of study duration under the supervision of a yoga teacher.

Control (N = 50)

50 participants were randomised to the control arm. Participants were from a single organisation.

D.119 Redhead, 2011**Bibliographic Reference**

Redhead, K.; Bradshaw, T.; Braynion, P.; Doyle, M.; An evaluation of the outcomes of psychosocial intervention training for qualified and unqualified nursing staff working in a low-secure mental health unit; Journal of Psychiatric and Mental Health Nursing; 2011; vol. 18 (no. 1); 59-66

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the outcomes of an experimental PSI training programme on the knowledge, attitudes and levels of clinical burnout of qualified and unqualified nursing staff working in the LSU and to assess evidence of implementation of PSI in practice.
Country/geographical location	UK
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: full time • Seniority: not reported • Income: mixed (qualified and unqualified nurses)
Inclusion criteria	1. Staff working on the LSU for a minimum of 35 h a week.

	2. Who have direct contact with service users.
Exclusion criteria	Staff who have been previously trained in PSI.
Method of randomisation	Participants were stratified by qualified/unqualified, ward, gender and day/night duty. Details not reported.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Differences between the groups in knowledge, attitudes and burnout were examined using the t-test for independent samples. Significance was set at 95% where $P < 0.05$. • Effect sizes were also calculated using Cohen's d where values of 0.2, 0.5 and 0.8 indicate small, medium and large effect sizes. • The data for qualified and unqualified nursing staff was analysed separately as they attended separate PSI training courses. • ITT analysis - no attrition • No power calculations were calculated
Attrition	No attrition
Study limitations (author)	<ul style="list-style-type: none"> • The sample size was small and no a priori power calculation was conducted. • No comparison of the staff who volunteered to participate in the study with those who did not volunteer was undertaken, and therefore we do not know if the characteristics of the 42 nurses who took part differed in any significant way from the 37 LSU staff who did not participate. This means that only speculative conclusions about the generalisability of the findings to staff working in other LSU can be made. • A number of statistical tests were conducted, which heightens the potential for Type I error.

	<ul style="list-style-type: none"> Given that the two groups of staff worked together in the LSU it is possible that new knowledge and skills acquired by nurses in the experimental group may have been vicariously passed on to their colleagues in the control group, thus experimental contamination may have been an issue.
Study limitations (reviewer)	<ul style="list-style-type: none"> No long-term follow-up Self-reported outcome measures
Source of funding	Not reported

Study arms

Psychosocial intervention (N = 22)

22 participants were randomised to a psychosocial intervention group. Participants were volunteers from a single NHS low-secure unit.

Wait list (N = 20)

20 participants were randomised to a wait list group. Participants were volunteers from a single NHS low-secure unit.

Characteristics

Arm-level characteristics

Characteristic	Psychosocial intervention (N = 22)	Wait list (N = 20)
Age		
Mean and SD were combined for qualified and unqualified nursing staff by reviewer	38.45 (11.46)	40.46 (9.42)
Mean (SD)		

Characteristic	Psychosocial intervention (N = 22)	Wait list (N = 20)
Men	n = 8 ; % = 36.4	n = 9 ; % = 45
No of events		
Women	n = 14 ; % = 63.6	n = 11 ; % = 55
No of events		
Qualified nursing staff	n = 12 ; % = 54.5	n = 9 ; % = 45
No of events		
Unqualified nursing staff	n = 10 ; % = 45.5	n = 11 ; % = 55
No of events		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measures post training)

Employee outcomes

Outcome	Psychosocial intervention, Baseline, N = 22	Psychosocial intervention, 0 week, N = 22	Wait list, Baseline, N = 20	Wait list, 0 week, N = 20
Job stress Self-reported - emotional exhaustion subscale of Maslach	20.09 (13.33)	20.41 (12.29)	17.4 (9.55)	22.8 (9.82)

Outcome	Psychosocial intervention, Baseline, N = 22	Psychosocial intervention, 0 week, N = 22	Wait list, Baseline, N = 20	Wait list, 0 week, N = 20
Burnout Inventory (MBI) - mean and SD were combined for qualified and unqualified nursing staff by reviewer				
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Psychosocial intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Psychosocial intervention (N = 22)

Brief name	Psychosocial intervention [page 59 - title]
Rationale/theory/Goal	Psychosocial interventions describe a range of new ways of helping to improve the quality of life of people experiencing psychotic symptoms. The interventions are generally delivered in conjunction with medication used to treat the symptoms. Research has shown that training nurses and other mental health professionals in these new ways of working makes them more effective when helping people with severe mental health problems. It has also been shown that nurses receiving the training experience lower levels of job-related stress. [page 59 - accessible summary]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> As the learning outcomes for qualified and unqualified staff were different, they were trained on separate courses. In the training programme for qualified staff, the content covered a broad range of PSI including cognitive behavioural approaches for managing symptoms. In the training for unqualified staff sessions focussed on understanding symptom related behaviours, relationship formation and helping services users to cope with symptoms. Teaching sessions were supplemented by small group supervision, each being facilitated by a member of teaching team. Participants were asked to bring care plans of service users that they were working with, which formed the focus of discussion and helped to integrate theory with practice. <p>[page 61]</p>
Provider	Not reported
Method of delivery	Group sessions [page 61]

Setting/location of intervention	Meeting room at workplace [page 61]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • The training programme for qualified staff consisted of 16 half-day sessions delivered over 8 months. • The training for unqualified staff was delivered in 8 half-day sessions. <p>[page 61]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 20)

Brief name	Wait list [page 59 - abstract]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Nurses allocated to the control group continued to work on the LSU as usual and apart from being assessed [page 61]

Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.120 Ripp, 2016

Bibliographic Reference

Ripp, Jonathan A; Fallar, Robert; Korenstein, Deborah; A Randomized Controlled Trial to Decrease Job Burnout in First-Year Internal Medicine Residents Using a Facilitated Discussion Group Intervention.; Journal of graduate medical education; 2016; vol. 8 (no. 2); 256-9

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jun-2013
Study end date	May-2014
Aim	To determine whether a facilitated discussion group intervention would reduce incidences of burnout among first-year internal medicine residents.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: residents • Income: professional
Inclusion criteria	All incoming first-year internal medicine residents
Exclusion criteria	Not reported
Method of randomisation	Participants were clustered into groups of 3 (“triplets”) based on clinical rotation schedule and randomly assigned the resulting triplets to the intervention or control arm.

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intervention and control group demographic data were compared using univariate analyses. • All metrics (e.g., DP, EE) were dichotomized into high level versus all others; pre-values and post-values were compared using chi-square analyses. Fisher exact test was utilized when cell sizes were small (n<5). • Power calculations based on prior research indicated that 60 participants would be necessary to minimize the likelihood of a Type I error to 0.05 when comparing burnout rates between the test and control groups. • ITT analysis- not reported
Attrition	<ul style="list-style-type: none"> • Intervention 21/27 participants completed outcome measures (77.8%) • Control: 17/24 participants completed outcome measures (70.8%)
Study limitations (author)	<ul style="list-style-type: none"> • Prior to the study, power calculations assumed 30 participants each in the test and control groups; however, the actual incoming class size was 9 fewer than the anticipated number of 60. • Although statistically similar, the 2 study arms had differences that could have biased the results.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported • No long-term follow-up
Source of funding	Feldstein Medical Foundation and National Cancer Institute Cancer Center

Study arms

Facilitated discussion group (N = 27)

27 participants were assigned to take part in facilitated discussion groups. Participants were randomly selected from a convenience sample (the incoming resident class).

Control (N = 24)

24 participants were assigned to a control group. Participants were randomly selected from a convenience sample (the incoming resident class).

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes measures at the end of the intervention.)

Employee outcomes

Outcome	Facilitated discussion group, Baseline, N = 27	Facilitated discussion group, 0 week, N = 27	Control, Baseline, N = 24	Control, 0 week, N = 24
Job stress Self-reported- number of participants with high scores on emotional exhaustion subscale of the Maslach Burnout Inventory	n = 5 ; % = 24	n = 13 ; % = 62	n = 3 ; % = 18	n = 12 ; % = 71
No of events				
Job stress Self-reported- number of participants with high scores on emotional exhaustion subscale of the Maslach Burnout Inventory	n = 21 ; % = 77.8	n = 21 ; % = 77.8	n = 17 ; % = 70.8	n = 17 ; % = 70.8

Outcome	Facilitated discussion group, Baseline, N = 27	Facilitated discussion group, 0 week, N = 27	Control, Baseline, N = 24	Control, 0 week, N = 24
Sample size				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Facilitated discussion group - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms**Facilitated discussion group (N = 27)**

Brief name	Facilitated discussion [page 256]
Rationale/theory/Goal	Based in theory that increased emotional support during training has the potential to prevent burnout in residents. [page 256]
Materials used	Session guide (for group leaders) [page 256]
Procedures used	<p>Each session was organized around a theme (e.g., death and dying, coping mechanisms) with an accompanying session guide that included teaching points, discussion questions, and associated readings.</p> <p>Group leaders were compensated \$100 per session.</p> <p>Participating residents were provided a complimentary lunch and had no clinical duties during the sessions (though they carried pagers) [page 257]</p>
Provider	Group leaders [page 257]
Method of delivery	Group sessions [page 257]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	18 one-hour sessions held twice-monthly [page 265 - 257]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 24)

Brief name	Control [page 256]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not applicable
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

D.121 Roeser, 2013

Bibliographic Reference Roeser, Robert W; Schonert-Reichl, Kimberly A; Jha, Amishi; Cullen, Margaret; Wallace, Linda; Wilensky, Rona; Oberle, Eva; Thomson, Kimberly; Taylor, Cynthia; Harrison, Jessica; Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials.; Journal of Educational Psychology; 2013; vol. 105 (no. 3); 787-804

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2009
Study end date	2010
Aim	To determine the effects of mindfulness training on psychological and physiological indicators of teachers' occupational stress and burnout.

Country/geographical location	Canada and the US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: education • Size of organisation: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers with mixed education: bachelors', master's, JD or PhD)
Inclusion criteria	Not reported
Exclusion criteria	In the Canadian sample, participants were excluded who had completed the mindfulness-based Mind-Up intervention previously.
Method of randomisation	No details of randomisation were reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis not reported • No power calculations were reported • Baseline characteristics of the two sample populations (Canada and the US) were compared using chi-square statistics and cross-tabulations with adjusted standardized residuals (results showed equivalence in terms of sex and school level of teachers)

	<ul style="list-style-type: none"> Analyses of variance (ANOVAs) were used to examine group differences by study condition (mindfulness training vs. waitlist control), research site (Canada vs. United States), and their interaction in teachers' age and years of teaching experience. Simple ANOVAs on baseline measures of study outcomes were conducted with study condition, research site, and their interaction as the between-subjects factors (participants in both sites randomised to the control reported higher levels of occupational burnout compared with the intervention group). Efficacy of the intervention was tested by simple analysis of covariance (ANCOVA) models for mean levels of outcomes at post-program and follow-up, controlling for baseline measures of each outcome. Where there was a significant difference, secondary ANCOVA models were run that included the interaction of study condition by research site as an effect. Effect sizes were calculated {Cohen's d}
Attrition	<ul style="list-style-type: none"> Intervention: Two participants withdrew from the Canadian sample prior to completion; reasons included the onset of a personal difficulty unrelated to the program (n = 1) and reason unknown (n = 1). Four participants withdrew in the US study prior to program completion; reasons included onset of major health crisis (n = 1), perception of MT as being too much of a time commitment (n = 2), and reason unknown (n = 1). All withdrawals occurred within the first 1 - 2 weeks of the program Control: no information reported
Study limitations (author)	<ul style="list-style-type: none"> Self-reported outcomes There was no active control Teachers self-selected Lack of certainty around reported models
Study limitations (reviewer)	<ul style="list-style-type: none"> Evidence was not presented for absences at follow up, despite the methods section reporting that these outcomes were measured Participants in both sites randomised to the control reported higher levels of occupational burnout compared with the intervention group Most of participants were women, meaning that the findings may not be generalisable to all workplaces
Source of funding	Spencer Foundation, the Fetzer Institute, Mind and Life Institute, Portland State University

Study arms

Mindfulness training (N = 54)

26 participants from the Canadian population, and 28 participants from the US sample were randomised to the intervention group. Participants self-selected from flyers that were sent to teachers by school district staff.

Wait list (N = 59)

32 participants from the Canadian population, and 27 participants from the US population were randomised to the wait list control group. Participants self-selected from flyers that were sent to teachers by school district staff.

Characteristics

Study-level characteristics

Characteristic	Study (N =)
European Canadian	n = 39 ; % = 67
No of events	
Asian Canadian	n = 10 ; % = 18
No of events	
Other race/ethnicities	n = 9 ; % = 15
No of events	
European American	n = 51 ; % = 93
No of events	

Characteristic	Study (N =)
Mixed ethnicities	n = 3 ; % = 5
No of events	
Asian American	n = 1 ; % = 2
No of events	

Arm-level characteristics

Characteristic	Mindfulness training (N = 54)	Wait list (N = 59)
Age Canadian sample - intervention n=26, control n=32. IQR is range	50 (28 to 59)	46 (29 to 63)
Median (IQR)		
Gender Women - Canadian sample - intervention n=26, control n=32. n calculated by reviewer from percentage	n = 24 ; % = 92	n = 28 ; % = 88
No of events		
Age US sample - intervention n=28, control n=27. IQR is range	52 (35 to 63)	48 (27 to 64)
Median (IQR)		
Gender Women US sample - intervention n=28, control n=27. n calculated by reviewer from percentage	n = 23 ; % = 82	n = 25 ; % = 93
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Follow up 3 months after intervention)

Employee outcomes

Outcome	Mindfulness training, Baseline, N = 54	Mindfulness training, 3 month, N = 54	Wait list, Baseline, N = 59	Wait list, 3 month, N = 59
Job stress (1-7) Self-reported - Maslach Burnout Inventory Mean (SD)	2.74 (0.8)	2.48 (0.77)	3.19 (0.88)	3.05 (0.95)
Mental health symptoms (0-57) Self-reported - Beck Depression Inventory - extracted for meta-analysis - Measured in US population only Sample size	n = 28 ; % = 51.9	n = 28 ; % = 51.9	n = 27 ; % = 45.8	n = 27 ; % = 45.8
Mental health symptoms (0-57) Self-reported - Beck Depression Inventory - extracted for meta-analysis - Measured in US population only Mean (SD)	27.46 (7.15)	21.09 (4.32)	30.57 (5.22)	28.43 (5.28)
Mental health symptoms (20 to 80) Self-reported - Anxiety - State subscale of the State–Trait Anxiety Inventory (STAI) for Adults - measured in US population only	n = 28 ; % = 51.9	n = 28 ; % = 51.9	n = 27 ; % = 45.8	n = 27 ; % = 45.8

Outcome	Mindfulness training, Baseline, N = 54	Mindfulness training, 3 month, N = 54	Wait list, Baseline, N = 59	Wait list, 3 month, N = 59
Sample size				
Mental health symptoms (20 to 80) Self-reported - Anxiety - State subscale of the State-Trait Anxiety Inventory (STAI) for Adults - measured in US population only	44.93 (13.66)	34.68 (8.79)	47.74 (10.28)	46.71 (13.27)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes- Job stress - Mindfulness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Participants randomised to the intervention group reported significantly higher job stress at baseline)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Baseline job stress was significantly higher in the intervention group and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Depression - Mindfulness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Participants randomised to the intervention group reported significantly higher job stress at baseline)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Baseline job stress was significantly higher in the intervention group and self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Anxiety - Mindfulness training vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High (<i>Participants randomised to the intervention group reported significantly higher job stress at baseline</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Baseline job stress was significantly higher in the intervention group and self-reported outcomes</i>)

Study arms

Mindfulness training (N = 54)

Brief name	Mindfulness training programme [page 790]
Rationale/theory/Goal	The mindfulness training was designed to foster mindfulness and self-compassion as resources that teachers can use to cope with stress more effectively and manifest emotional resilience more quickly. [page 790]
Materials used	<ul style="list-style-type: none"> • Mindfulness emotion diary [page 790] • Home mindfulness practice instructions and CDs [[page 794]

Procedures used	<ul style="list-style-type: none"> • The programme uses five main teaching activities to teach mindfulness and self-compassion to teachers: guided mindfulness and yoga practices, group discussions of mindfulness practice, small-group activities to practice skills in real-life scenarios, lecture and guided home practices, and homework assignments. • Taught practices included body scans, focused-attention meditation, open-monitoring meditation and loving-kindness meditation. • The programme included two lectures on how to use mindfulness to regulate emotions and stress and on how to use mindfulness to regulate emotions and stress more effectively. • Weekly group discussions of home practice and homework assignments were conducted • Teachers were invited to complete a mindfulness emotion diary. <p>[page 790]</p>
Provider	The primary author of the mindfulness training curriculum [page 791]
Method of delivery	Group classes, group discussion and home practice [page 790]
Setting/location of intervention	Not reported [page 790]
Intensity/duration of the intervention	8 weeks made up of 11 sessions with a total of 36 contact hours [page 790]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	On average, participants who did not drop out of the program attended 92%, or 10, of the 11 sessions. Overall, 52 of 60 teachers (87%) who began the mindfulness training completed the program by attending eight or more of the 11 sessions (6 dropouts, 2 participants with 4 absences). Sixty percent of the participants returned mindfulness practice journals;

	these showed an average of 16 minutes of home practice per day across the day in Canada and 15 minutes of home practice per day in the US. [page 794]
Other details	Participating teachers received the MT for free and were compensated monetarily for their time spent completing assessments. [page 790]

Wait list (N = 59)

Brief name	Wait list [page 790]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were offered the mindfulness training programme after the study period [page 790]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.122 Rollins, 2016

Bibliographic Reference Rollins, Angela L; Kukla, Marina; Morse, Gary; Davis, Louanne; Leiter, Michael; Monroe-DeVita, Maria; Flanagan, Mindy E; Russ, Alissa; Wasmuth, Sara; Eliacin, Johanne; Collins, Linda; Salyers, Michelle P; Comparative Effectiveness of a Burnout Reduction Intervention for Behavioral Health Providers.; Psychiatric services (Washington, D.C.); 2016; vol. 67 (no. 8); 920-3

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jan-2013
Study end date	Sep-2014
Aim	To determine the effectiveness of BREATHE for reducing burnout among health providers.
Country/geographical location	US

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: highly education
Inclusion criteria	Employees of one of five organizations providing behavioural health care services in three Midwestern cities, including 109 employees of three U.S. Department of Veterans Affairs (VA) medical centres providing both inpatient and outpatient services and 36 employees of two community social service agencies providing a range of behavioural health services.
Exclusion criteria	Employees who received more than three hours of burnout training in the past two years were excluded (N=0).
Method of randomisation	Randomization was stratified by organisation
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Study groups did not differ on demographic characteristics, and therefore these were not controlled for in analyses • Because of missing data, researchers selected a pattern mixture model to estimate the effect of study condition on outcomes. • Longitudinal changes within groups were tested by using multilevel models to account for the nested structure of the data: baseline, six-week, and six-month data were nested within participants. Models were tested separately for the control and BREATHE groups. For all analyses, significance levels were set at p less than or equal to 0.05. • No power calculations were reported

	<ul style="list-style-type: none"> • ITT- lack of detail
Attrition	26 participants in the control condition (38%) did not participate in all three assessments compared with 13 participants in the intervention group (17%).
Study limitations (author)	<ul style="list-style-type: none"> • It is possible that the most distressed clinicians declined study participation. • Sample attrition also was a study limitation; 39 (27%) participants did not complete all surveys, with greater dropout in the control group. Staff who volunteer for a study aiming to reduce burnout may be less engaged if they are assigned to a control condition. • Federal policy limits the incentives that can be provided for completion of surveys.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcome measures • Lack of detail around the number of participants that completed outcome measures at different timepoints
Source of funding	U.S. Department of Veterans Affairs

Study arms

Burnout prevention programme (N = 76)

76 participants were randomised to receive a burnout prevention programme. Participants were recruited from one of five organisations, and recruitment occurred by circulating brochures about the study at routine meetings, placing the brochures in staff mailboxes, and sending an electronic version of the brochure by e-mail.

Control (N = 69)

69 participants were randomised to a control group. Participants were recruited from one of five organisations, and recruitment occurred by circulating brochures about the study at routine meetings, placing the brochures in staff mailboxes, and sending an electronic version of the brochure by e-mail.

Characteristics

Arm-level characteristics

Characteristic	Burnout prevention programme (N = 76)	Control (N = 69)
Age		
Mean (SD)	44.9 (11)	46.5 (12.1)
Gender		
Women	n = 55 ; % = 72	n = 48 ; % = 70
No of events		
Ethnicity		
White	n = 59 ; % = 78	n = 52 ; % = 75
No of events		
Associate degree, some college, or high school		
	n = 6 ; % = 8	n = 9 ; % = 13
No of events		
Bachelor's degree		
	n = 13 ; % = 17	n = 11 ; % = 16
No of events		
Master's degree		
	n = 42 ; % = 55	n = 37 ; % = 54
No of events		
Doctorate degree		
	n = 15 ; % = 20	n = 11 ; % = 16
No of events		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes were measured at 6 months)

Employee outcomes

Outcome	Burnout prevention programme, Baseline, N = 76	Burnout prevention programme, 6 month, N = 76	Control, Baseline, N = 69	Control, 6 month, N = 69
Job stress Self reported- emotional exhaustion subscale of Maslach Burnout Inventory (MBBI) Mean (SD)	2.9 (1.3)	2.5 (1.4)	2.7 (1.3)	2.7 (1.3)
job satisfaction (1-7) Self reported- five items from the Job Diagnostic Survey Mean (SD)	5 (1.4)	5.1 (1.4)	5 (1.1)	4.8 (1.2)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Employer outcomes

Outcome	Burnout prevention programme, Baseline, N = 76	Burnout prevention programme, 6 month, N = 76	Control, Baseline, N = 69	Control, 6 month, N = 69
Absenteeism Self-reported- sick hours absent in the last 6 months	25.9 (23.1)	24.1 (20.4)	33.3 (28.6)	26.2 (33.6)

Outcome	Burnout prevention programme, Baseline, N = 76	Burnout prevention programme, 6 month, N = 76	Control, Baseline, N = 69	Control, 6 month, N = 69
Mean (SD)				
employee retention (1-4) Self-reported- Likely to leave job in next 6 months	3.5 (0.8)	3.3 (1.1)	3.4 (0.9)	3.3 (0.9)
Mean (SD)				

Absenteeism - Polarity - Lower values are better

employee retention - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Burnout prevention programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (Higher attrition in control group)

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Missing outcome data and self-reported outcomes</i>)

Employee outcomes - job satisfaction - Burnout prevention programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Higher attrition in control group</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employer outcomes - Absenteeism - Burnout prevention programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employer outcomes - employee retention - Burnout prevention programme - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms**Burnout prevention programme (N = 76)**

Brief name	Burnout Reduction: Enhanced Awareness, Tools, Handouts, and Education (BREATHE) [Abstract]
Rationale/theory/Goal	BREATHE is consistent with differentiated job demands and resources model and addresses burnout by enhancing providers' personal resources for reducing emotional exhaustion and cynicism and increasing their sense of personal accomplishment and work engagement. [page 921]
Materials used	Workshop, workbook, personalised plan [page 921]
Procedures used	Organizational leaders approved administrative leave for workshop participation. and recruitment for and scheduling of the workshops occurred in two waves over ten months to diffuse the burden of staff absences. [page 921]
Provider	Psychologists with experience in mindfulness and cognitive-behavioural therapy approaches [page 921]
Method of delivery	Face to face workshop [page 921]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	1 day [page 921]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Control (N = 69)	
Brief name	Workshop on person-centred treatment planning [page 921]
Rationale/theory/Goal	Not reported
Materials used	Workshop [page 921]
Procedures used	Organizational leaders approved administrative leave for workshop participation. and recruitment for and scheduling of the workshops occurred in two waves over ten months to diffuse the burden of staff absences. [page 921]
Provider	Psychologists [page 921]
Method of delivery	Face to face workshop [page 921]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	1 day [page 921]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
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D.123 Rosas-Santiago, 2019

Bibliographic Reference Rosas-Santiago, Francisco Javier; Cognitive behavioral and psychoeducational intervention to modify coping styles and burnout syndrome in civil servants: An experimental study.; *Ansiedad y Estrés*; 2019; vol. 25 (no. 2); 91-96

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not specified
Study start date	Nov-2016
Study end date	May-2017
Aim	The objective of this study was to evaluate the effect of cognitive behavioural and psychoeducational intervention on coping strategies, burnout syndrome symptoms and symptoms associated with stress in public officials.
Country/geographical location	Mexico
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: civil service • Organisation size: large • Contract type: not reported

	<ul style="list-style-type: none"> • Seniority: not reported • Income: not reported
Inclusion criteria	The inclusion criteria were: agreeing to participate in the study, answering the questionnaires and signing an informed consent form.
Exclusion criteria	The exclusion criteria were: participants declaring they were undergoing a psychotherapeutic process and/or receiving psychopharmacological treatment. The main elimination criterion was failing to attend at least six of the eight sessions of the treatment or incorrectly filling in a questionnaire before or after the eight-week treatment.
Method of randomisation	A convenience sample of 31 civil servants were randomly assigned to two groups but the method of randomisation has not been specified
Method of allocation concealment	Not specified
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	The sociodemographic characteristics of the participants of both groups were described using the mean and standard deviation for continuous variables, as well as frequencies for the categorical ones and the equivalence of all of them was reviewed using the X ² and Student t-tests. The comparisons of pre- and post inter- and intra-group scores were made with the Student's t test (paired or independent versions). An ANCOVA analysis was undertaken to determine whether the effect of the intervention expressed in the post-test measurement scores was influenced by the scores obtained in the measurement of all the psychological variables prior to the intervention. In addition, the intergroup effect of the intervention was analysed using Cohen's d test.
Attrition	All participants provided pre and post data.
Study limitations (author)	The study authors highlight the small sample size and the measurement instruments validation in populations other than the one used in this study as limitations. Lack of consideration and controlling for other mediating factors that could influence the impact of the intervention; Lack of investigator blinding - the professional responsible for the

	research knew the results of the evaluations before the intervention, which was delivered by the same professional
Study limitations (reviewer)	The randomisation process is not specified. Allocation concealment and blinding protocols have not been specified. Self-selecting sample introduces potential sampling bias. The generalisability of the findings may be limited due sample make up and setting. No sample size calculation.
Source of funding	Not specified

Study arms

Cognitive behavioural and psychoeducational intervention (N = 15)

15 participants were randomised to the treatment arm. Participants were recruited from a single organisation.

Wait list (N = 16)

16 participants were randomised to the control arm. Participants were recruited from a single organisation.

Characteristics

Study-level characteristics

Characteristic	Study (N = 31)
Gender	NR
Nominal	
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Cognitive behavioural and psychoeducational intervention (N = 15)	Wait list (N = 16)
Age		
Mean (SD)	40.43 (11.09)	41.2 (13.25)

Outcomes**Study timepoints**

- Baseline
- 8 week (Outcomes were measured post intervention)

Employee outcomes

Outcome	Cognitive behavioural and psychoeducational intervention, Baseline, N = 15	Cognitive behavioural and psychoeducational intervention, 8 week, N = 15	Wait list, Baseline, N = 16	Wait list, 8 week, N = 16
Job stress				
Self-reported - Emotional exhaustion subscale of the Maslach Burnout Inventory	11.6 (4.37)	8.13 (4.29)	10.12 (4.13)	10.25 (4.04)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Cognitive Behavioral and psychoeducational intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns <i>(Self-reported outcomes)</i>

Study details

Brief name	Cognitive Behavioral Intervention
Rationale/theory/Goal	To determine the effect of a Cognitive Behavioral Intervention on coping rates and BS in a sample of public servants working at an autonomous public institution through an experimental study.
Materials used	Cognitive Behavioral Intervention - a two-hour session per week for eight sessions. Measurement tools (Maslach Burnout Inventory - General Survey, The Scale Measuring Coping with Extreme Risks, Stress-Associated Symptoms Inventory). Project and informational material; Informed consent forms; use of work centre facilities; therapist with CBI training; manual explaining the content of each work session and some examples and related exercises; service evaluation forms

Procedures used	An orientation session was held; Randomization occurred;
Provider	Therapist with CBI training
Method of delivery	Group intervention delivered in a workplace facility
Setting/location of intervention	Workplace - work centre facilities
Intensity/duration of the intervention	A group intervention, involving a two-hour session per week for a total of eight sessions.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not specified but at the end of each intervention session, a randomly selected participant was given a form to evaluate the integrity of the treatment to confirm that the objectives of each session were being covered by the psychologist.
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Cognitive behavioural and psychoeducational intervention (N = 15)

Cognitive Behavioral Intervention (CBI) designed to develop strategies in the staff to actively cope with problems based on Psychoeducation (PE) and Problem Solving Therapy (PST) techniques.

Wait list (N = 16)

16 participants were randomized to the control arm. Participants were recruited from a single organisation.

D.124 Saadat, 2012**Bibliographic Reference**

Saadat H; Snow DL; Ottenheimer S; Dai F; Kain ZN; Wellness program for anesthesiology residents: a randomized, controlled trial.; Acta anaesthesiologica Scandinavica; 2012; vol. 56 (no. 9)

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	This study evaluates the effects of a wellness program on anaesthesiology residents' well-being.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: residents

	<ul style="list-style-type: none"> Income: professional
Inclusion criteria	First- to third-year anaesthesiology residents (30 residents during each of two subsequent years) at a large teaching hospital in an urban community.
Exclusion criteria	Not reported
Method of randomisation	30 participants each year (10 from each year of training) were randomly assigned (in a 1:1:1 ratio) to the well ness intervention group (WIG), the no-treatment control group with release time (NTC-RT), and the no-treatment control group with routine duties (NTC-RD), using a random block methodology.
Method of allocation concealment	A closed opaque envelope with coded identification numbers was given to each participant.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Descriptive statistics were calculated for continuous data using means and standard deviations (SDs), and for categorical data using n (percentage). An a priori power analysis suggested a total sample size of 60 participants (20 in each of three groups) achieved a statistical power of = 0.80 (two-sided type I error rate 0.05) to detect a group difference of 0.3 SD using a repeated measure design. ITT analysis- not reported
Attrition	<ul style="list-style-type: none"> Intervention: 19/20 completed (95%) Control: 39/40 completed (97.5%)
Study limitations (author)	<ul style="list-style-type: none"> Relatively small sample size that could have resulted in less power than needed to detect certain program effects. Lack of follow-up assessment after completion of the trial that does not allow assessment of whether program effects remained over time or decayed, or whether any positive, delayed effects would have been observed. The study relied on self-report measures

Study limitations (reviewer)	None
Source of funding	Foundation of Anesthesia and Education in Research (FAER)

Study arms

Stress management training (N = 20)

20 participants received an intervention aimed at helping participants cope with work and family stress. All anaesthesiology students were informed about the study.

Control (N = 40)

Pooled from two arms where one arm (n=20) received treatment as usual with release time, and one group received treatment as usual with routine duties (n=20). All anaesthesiology students were informed about the study.

Characteristics

Arm-level characteristics

Characteristic	Stress management training (N = 20)	Control (N = 40)
Age Characteristics for completers only	30.7 (2.3)	31.6 (3.9)
Mean (SD)		
Women	n = 10 ; % = 52.6	n = 17 ; % = 43.6
No of events		

Characteristic	Stress management training (N = 20)	Control (N = 40)
Men	n = 9 ; % = 47.4	n = 22 ; % = 56.4
No of events		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured immediately following the 16 week intervention.)

Employee outcomes

Outcome	Stress management training, Baseline, N = 20	Stress management training, 0 week, N = 20	Control, Baseline, N = 40	Control, 0 week, N = 40
Job stress Self-reported- 48-item Role Quality Scale	n = 19 ; % = 95	n = 19 ; % = 95	n = 39 ; % = 97.5	n = 39 ; % = 97.5
Sample size				
Job stress Self-reported- 48-item Role Quality Scale	36.1 (7.6)	36.1 (7.4)	35.9 (7.6)	37.6 (9.3)
Mean (SD)				
Mental health symptoms Self-reported- Centre for Epidemiologic Studies Depression Scale	n = 19 ; % = 95	n = 19 ; % = 95	n = 39 ; % = 97.5	n = 39 ; % = 97.5
Sample size				

Outcome	Stress management training, Baseline, N = 20	Stress management training, 0 week, N = 20	Control, Baseline, N = 40	Control, 0 week, N = 40
Mental health symptoms Self-reported- Centre for Epidemiologic Studies Depression Scale	20.4 (9.2)	19.8 (7.3)	20.8 (7.4)	23.1 (7.2)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management training - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Stress management training - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms**Stress management training (N = 20)**

Brief name	Coping with Work and Family Stress [page 1131]
Rationale/theory/Goal	The intervention is based on a risk and protective factor model, which posits that decreases in risk factors (e.g., stressors, avoidance coping) and increases in protective factors (e.g., active coping, social support) will lead to reductions in negative health outcomes. [page 1130]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • The intervention consists of four components. • The first is aimed at eliminating or modifying sources of stress so that continuing efforts to cope with a particular stressor are less needed. This component includes training on the identification of stressful situations and the use of effective problem-solving and communication skills, and strategies for increasing residents' social networks. • The second component involves instruction in approaches to modify cognitive and appraisal processes. • The third component emphasizes stress management (e.g., deep breathing, muscle relaxation, healthy eating and exercise) and minimizing the use of avoidance coping (e.g., reducing problem avoidance or use of alcohol to reduce tension, and teaching refusal skills). • The final component integrates the course material through the creation of participants' own personal stress management plans. • Residents were relieved from their clinical duties prior to each session. <p>[page 1131]</p>
Provider	Not reported
Method of delivery	Group sessions [page 1131]
Setting/location of intervention	Workplace [page 1131]
Intensity/duration of the intervention	The intervention consisted of sixteen 1.5-hour weekly sessions. [page 1131]

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Individual residents attended 70% of the sessions. [page 1136]
Other details	None

Control (N = 40)

Brief name	Pooled control groups [page 1131]
Rationale/theory/Goal	Not applicable
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Two study arms were pooled as part of analyses • No-treatment control with release time (n=20): participants were relieved from their clinical duties for 16 1.5-h consecutive weekly sessions, gathered in the same room used to conduct the wellness intervention, and were told that they could use the time for reading, studying, or relaxing. • No-treatment control with routine duties (n=19): residents in this group continued with their routine daily clinical assignments and only were asked to complete the assessment instruments before and after the study period. <p>[page 1131]</p>
Provider	Not reported

Method of delivery	<ul style="list-style-type: none"> No-treatment control with release time (n=20): group. No-treatment control with routine duties (n=19): not applicable <p>[page 1131]</p>
Setting/location of intervention	<ul style="list-style-type: none"> No-treatment control with release time (n=20): workplace No-treatment control with routine duties (n=19): not applicable <p>[page 1131]</p>
Intensity/duration of the intervention	<ul style="list-style-type: none"> No-treatment control with release time (n=20): sixteen 1.5-hour consecutive weekly sessions No-treatment control with routine duties (n=19): not applicable <p>[page 1131]</p>
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	No-treatment control with routine duties (n=19): Individual residents attended 70% of the sessions. [page 1136]
Other details	None

D.125 Schoeps, 2019

Bibliographic Reference

Schoeps, Konstanze; Tamarit, Alicia; de la Barrera, Usue; Gonzalez Barron, Remedios; Effects of emotional skills training to prevent burnout syndrome in schoolteachers.; *Ansiedad y Estrés*; 2019; vol. 25 (no. 1); 7-13

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether an emotional-skills training programme is effective in promoting mental health and wellbeing in school teachers.
Country/geographical location	Spain
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public and private • Industry: education • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	Teachers working at a school with children or adolescents
Exclusion criteria	Not reported
Method of randomisation	Details not reported
Method of allocation concealment	Not reported

Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Descriptive analyses and analyses of variance (MANOVA, ANOVA) were performed to identify possible differences between the experimental and control group at baseline (T1). • Analyses of covariance (MANCOVA, ANCOVA) were carried out to test the impact of the intervention at T2 and T3, controlling for T1 scores and teachers' education level (covariables). • The effect size (Cohen's d) was calculated to estimate the magnitude of difference between groups. • Multiple hierarchical regression analyses were performed to examine the effectiveness of the intervention program • No power calculations were reported • ITT analysis- not reported
Attrition	Of the initial 340 participants who responded to the first evaluation T1, data from 52.65% of the participants was lost in T2 and 43.48% in T3. No information provided at arm level.
Study limitations (author)	<ul style="list-style-type: none"> • Self-reported data • High dropout, especially in control group • Intervention and control groups showed significant differences in initial levels of burnout and emotional symptoms • Participants in the study were mostly women, restricting the variability of the sample • Study was conducted with as ample of Spanish school teachers, and the results may differ in other countries with different school systems and cultural contexts
Study limitations (reviewer)	Arm-specific dropout rates were not reported
Source of funding	Ministry of Economy, Industry and Competitiveness and the University of Valencia

Study arms

Emotional skills training (N = 135)

135 participants were randomised to receive emotional skills training. Participants were recruited through the Centre for Teachers' Permanent Professional Training of Valencia.

Control (N = 205)

205 participants were randomised to a control group. Participants were recruited through the Centre for Teachers' Permanent Professional Training of Valencia.

Characteristics

Study-level characteristics

Characteristic	Study (N = 340)
Age	42.64 (9)
Mean (SD)	
Women	n = 252 ; % = 74.04
No of events	
Men	n = 88 ; % = 25.96
No of events	

Outcomes

Study timepoints

- Baseline
- 6 month (Follow-up at 6 months)

Employee outcomes

Outcome	Emotional skills training, Baseline, N = 135	Emotional skills training, 6 month, N = 135	Control, Baseline, N = 205	Control, 6 month, N = 205
Mental wellbeing Self-reported- adapted Rosenberg Self-esteem Scale Mean (SD)	34.23 (4.51)	35.1 (4.32)	33.2 (4.97)	33.65 (5.7)
Job stress Self-reported- stress subscale of the Spanish version of the Depression, Anxiety and Stress Scales (DASS) Mean (SD)	12.73 (9.33)	8.29 (6.83)	10.92 (8.02)	9.5 (7.71)
Mental health symptoms- depression Self-reported- depression subscale of the Spanish version of the Depression, Anxiety and Stress Scales (DASS) - used in meta-analysis Mean (SD)	7.57 (8.14)	3.18 (5.08)	4.6 (5.97)	3.38 (4.95)
Mental health symptoms- anxiety Self-reported- anxiety subscale of the Spanish version of the Depression, Anxiety and Stress Scales (DASS) Mean (SD)	7.5 (8.5)	3.02 (4.88)	4.93 (5.33)	4.08 (4.67)

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms- depression - Polarity - Lower values are better

Mental health symptoms- anxiety - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes -Mental wellbeing - Emotional skills training - Control**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Burnout and emotional symptoms significantly different)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Employee outcomes - Job stress - Emotional skills training - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Burnout and emotional symptoms significantly different)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(High attrition)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation, missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - anxiety - Emotional skills training - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High <i>(Burnout and emotional symptoms significantly different)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Study arms

Emotional skills training (N = 135)

Brief name	Emotional skills training [Title]

Rationale/theory/Goal	Based on the ability model of emotional intelligence and aimed to reduce work-related stress and enhance psychological well-being by developing emotional abilities and skills [page 9]
Materials used	Visualisation/meditation, role-playing exercises, individual retrospection, group discussion, homework [page 9]
Procedures used	The first five sessions were devoted to group cohesion and to work on the four abilities of the emotional intelligence model The two sessions focused on real world application of emotional abilities in their relationship with assertiveness, conflict resolution, self-esteem, and empathy [page 9]
Provider	Not reported
Method of delivery	Group session [page 9]
Setting/location of intervention	Centre for Teachers' Permanent Professional Training of Valencia. [page 9]
Intensity/duration of the intervention	Seven 2-hours sessions over three months [page 9]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

Control (N = 205)

Brief name	Control group [page 9]
Rationale/theory/Goal	Not applicable
Materials used	Textbook or digital material about social emotional learning in the classroom as a gift but without face-to-face explanation [page 9]
Procedures used	Not reported
Provider	Not reported
Method of delivery	Not reported
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported

D.126 **Schroeder, 2018**

Bibliographic Reference Schroeder, David A. Stephens, Elizabeth Colgan, Dharmakaya Hunsinger, Matthew Rubin, Dan Christopher, Michael S.; A Brief Mindfulness-Based Intervention for Primary Care Physicians: A Pilot Randomized Controlled Trial; AMERICAN JOURNAL OF LIFESTYLE MEDICINE; 2018; vol. 12 (no. 1); 83-91

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported - Author's outlines that it was not applicable
Study start date	Dec-2014
Study end date	May-2015
Aim	To examine the impact of a brief mindfulness-based intervention (MBI) on burnout, stress, mindfulness, compassion, and resilience among physicians.
Country/geographical location	USA
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income professional (physicians)
Inclusion criteria	Inclusion criteria were: employed as a primary care physician by Providence Medical Group (PMG), (b) working at least 30% time in direct patient care, (c) aged between 25 and 75 years, (d) willing to be

	randomized to the intervention or waitlist control group, and (e) no prior participation in the same MBI offered at PMG.
Exclusion criteria	Not specified
Method of randomisation	Authors outline that participants were randomized 1:1 into the intervention or a waitlist control. The method of randomization is not specified
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Multilevel modelling (MLM) approach with restricted maximum likelihood estimation (REML) to examine linear change in our physician self-report outcomes over time as a fixed effect.
Attrition	29/33 (89%) provided data post intervention; 26/33 (79%) provided data at 3-month follow-up
Study limitations (author)	Authors outline that the small sample size reduced statistical power and multiple comparisons may have increased the likelihood of type I errors. The generalizability of the findings was considered to be limited because participants volunteered to participate in the study, introducing selection bias. A potential variable that was not controlled for, but may have been influential, was enhanced social support which would impact outcomes under investigation.
Study limitations (reviewer)	Method of randomisation unclear. Allocation concealment and blinding protocols not specified. Generalisability may be limited due self-selecting sample, motivation levels and a predominantly female sample (73%)
Source of funding	Providence Health System Clinical Transformation Council

Study arms

Mindfulness-based intervention (N = 16)

16 participants were randomised to the intervention arm. Participants were recruited via email from two departments at a single hospital.

Wait list (N = 17)

17 participants were randomised to the control arm. Participants were recruited via email from two departments at a single hospital.

Characteristics

Study-level characteristics

Characteristic	Study (N = 33)
Age	42.76 (8.43)
Mean (SD)	
Gender (% Female)	73
Nominal	
Ethnicity	NR
Nominal	

Outcomes

Study timepoints

- Baseline
- 3 month (Outcomes were measured 3 months after the training)

Employee outcomes

Outcome	Mindfulness-based intervention , Baseline, N = 16	Mindfulness-based intervention , 3 month, N = 16	Wait list, Baseline, N = 17	Wait list, 3 month, N = 17
Job stress Self-reported - Perceived stress scale	n = 16 ; % = 100	n = 13 ; % = 81.3	n = 17 ; % = 100	n = 13 ; % = 76.5
Sample size				
Job stress Self-reported - Perceived stress scale	19.43 (5.3)	13.23 (5.19)	21.64 (4.52)	20.21 (6.65)
Mean (SD)				
Resilience Self-reported - The Brief Resilience Scale	n = 16 ; % = 100	n = 13 ; % = 81.3	n = 17 ; % = 100	n = 13 ; % = 76.5
Sample size				
Resilience Self-reported - The Brief Resilience Scale	21.62 (4.45)	24.15 (5.47)	18.7 (5.13)	18.28 (5.32)
Mean (SD)				

Job stress - Polarity - Lower values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Resilience - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Mindfulness
Rationale/theory/Goal	Examine the impact of a brief mindfulness-based intervention (MBI) on burnout, stress, mindfulness, compassion, and resilience among physicians.
Materials used	MMC is a 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend; Qualtrics, a secure web-based survey system used for recruitment; Instructors in MMC; Measures (The Mindful Attention Awareness Scale, Brief Resilience Scale, Perceived Stress Scale–10, Santa Clara Brief Compassion Scale, Compassionate Love Scale, Maslach Burnout Inventory, Meditation Practice Questionnaire, Consumer Assessment of Healthcare Providers and Systems–Clinician and Group Adult Visit)
Procedures used	Recruitment and data collection (December 2014 and May 2015). Potential participants were recruited via email. After completing the baseline measures, participants were randomized to MMC or a waiting list control (1:1). MMC is a 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend.
Provider	Not specified. Reference made to instructors

Method of delivery	Instructor led with reference to instructor presenting information but the study does not provide the specific detail regarding the mode of delivery or the format. MMC is a 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend.
Setting/location of intervention	Not specified
Intensity/duration of the intervention	MMC is a 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Actual treatment fidelity	Not reported
Other details	Not specified

Study arms

Mindfulness-based intervention (N = 16)

Mindful Medicine Curriculum (MMC), modified version of MBSR, with added elements of compassion skills training, brief mindfulness techniques designed to be used at work, and “SLO conversation” exercises where participants practice applying mindfulness to the core clinical skills of speaking, listening, and observing (SLO). MMC is a 13-hour weekend training program plus 2-hour follow-up sessions scheduled at 2 and 4 weeks after the weekend.

Waiting list control (N = 17)

17 participants were randomised to the control arm. Participants were recruited via email from two departments at a single hospital.

D.127 Sforzo, 2012

Bibliographic Reference Sforzo, Gary A; Kaye, Miranda P; Calleri, David; Ngai, Nancy; Free choice access to multipoint wellness education and related services positively impacts employee wellness: A randomized and controlled trial.; Journal of Occupational and Environmental Medicine; 2012; vol. 54 (no. 4); 471-477

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2010
Study end date	2010
Aim	Examine effects of voluntary participation in employer-sponsored, multipoint wellness education programming on employee wellness.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: financial services • Organisation size: large • Contract type: full-time

	<ul style="list-style-type: none"> • Seniority: not reported • Income: not reported
Inclusion criteria	Only employees who were full-time and not classified as outside contractors were eligible.
Exclusion criteria	Participation in an organized wellness (e.g., exercise or nutrition) program in the previous 6 months, enrolment at the fitness facility in the previous year, reported exercise of more than once per week, documented cardiovascular or metabolic disease, and pregnancy were additional exclusion criteria.
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • Repeated measures analysis of variance was used to inspect differences between groups (education + access; access-only; control) and times (baseline, postintervention). • Bonferroni was used to identify significant group differences. • A series of regression analyses were performed using planned contrasts to yield a working path model explaining the relationships among meaningful outcome variables. • A priori sample analysis revealed that to achieve more than 80% power, with type 1 error of 5%, a sample size of 78 was required.
Attrition	Four participants did not complete all required measures and 12 education group participants did not attend more than half the classes, a criterion to be considered wellness educated. Seven participants did not comply with study requirements because they had lost their jobs.

Study limitations (author)	The study has limited ability to clearly identify which barrier dictated the poor participation in healthful behaviours but does clarify the importance of identifying those obstacles if an impact on physical health is desired through wellness programming in an employee population with free choice.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Although the methods section stated that job satisfaction was measured with the 3-item Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (MOAQ-JSS). • Life satisfaction and health-perception scores were different between groups at baseline
Source of funding	Plus One Health Management

Study arms

Education and access (N = 21)

21 participants participating in a wellness education with wellness facility access intervention were included in final analyses. 96 participants were randomised to three arms, however, the number of individuals assigned to each arm was not reported. Participants volunteered to participate in the study from a single organisation.

Access only (N = 30)

30 participants participating in a wellness facility access intervention were included in final analyses. 96 participants were randomised to three arms, however, the number of individuals assigned to each arm was not reported. Participants volunteered to participate in the study from a single organisation.

Control (N = 29)

29 participants participating in a control group were included in final analyses. 96 participants were randomised to three arms, however, the number of individuals assigned to each arm was not reported. Participants volunteered to participate in the study from a single organisation.

Characteristics

Study-level characteristics

Characteristic	Study (N = 80)
Women	n = 46 ; % = 57.5
No of events	
Men	n = 34 ; % = 42.5
No of events	

Arm-level characteristics

Characteristic	Education and access (N = 21)	Access only (N = 30)	Control (N = 29)
Age	35.67 (9.02)	34.57 (7.3)	32.52 (6.38)
Mean (SD)			

Outcomes

Study timepoints

- Baseline
- 12 week (Outcomes were measured at the end of a 12-week intervention.)

Employee outcomes

Outcome	Education and access, Baseline, N = 21	Education and access, 12 week, N = 21	Access only, Baseline, N = 30	Access only, 12 week, N = 30	Control, Baseline, N = 29	Control, 12 week, N = 29
Job stress Self-reported - 9-item Psychological stress measure - Access only and control to be pooled in Revman for control Mean (SD)	14.57 (8.47)	14.94 (9.1)	12.03 (11.39)	12.77 (9.97)	14.55 (10.98)	17.36 (13.78)
job satisfaction Self-reported - 30-item measure of morale - Access only and control to be pooled in Revman for control Mean (SD)	114.52 (18.25)	112.35 (14.9)	121.83 (21.01)	115.08 (22)	121.93 (16.12)	111.91 (22.41)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Education and access - Access only - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Baseline differences in multiple outcomes</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Lack of clarity regarding analysis type)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity regarding missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(Data not presented for important outcome measure)</i>
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation, lack of clarity over analysis and missing outcome data, self-reported outcomes, and lack of reporting for key outcome)</i>

Employee outcomes - job satisfaction - Education and access - Access only - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Baseline differences in multiple outcomes)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Lack of clarity regarding analysis type)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Lack of clarity regarding missing outcome data)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns <i>(Data not presented for important outcome measure)</i>
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation, lack of clarity over analysis and missing outcome data, self-reported outcomes, and lack of reporting for key outcome)</i>

Study arms

Education and access (N = 21)

Brief name	Multipoint educational intervention [page 472]
Rationale/theory/Goal	This multipoint wellness education approach for the primary intervention was intended to mildly inundate employees with a consistent, company-supported wellness message. Consistent with the underlying ecological approach, it was hypothesized that influencing these multiple levels (individual, work group, organizational) was expected to lead to behaviour change, in addition to maintenance of existing health-promoting habits. [page 472]
Materials used	<ul style="list-style-type: none"> • Electronic messages • Access to the Mayo Clinic EmbodyHealth portal

	<ul style="list-style-type: none"> • Access to a Plus One– developed interactive website (i.e. “Flex”) where additional wellness information (e.g., self-quizzes, health habits diary) was available. The Flex site was also used to post information about daily healthy meal offerings available in the cafeteria. • Fitness facility <p>[page 472]</p>
Procedures used	<ul style="list-style-type: none"> • A new educational class was offered several times each week for 12 weeks and delivered nutrition, exercise, and stress management information in a didactic format. Information could be accessed via podcast if participant were unable to attend sessions. • They were also told the information could be viewed via a podcast if they could not attend. • The cafeteria tour emphasized understanding the food environment and making healthy meal choices; this educational program was available twice during the 12-week intervention period. • Electronic messages were sent three times per week with messages emphasizing healthy eating, exercise, and stress management each week. • Participants were offered corporate-sponsored, enhanced access to healthy programming. The company waived the normal fee for membership in the fitness facility and also provided a 25% discount (via Compass Group) for healthy meal choices in the cafeteria. <p>[page 472]</p>
Provider	Not reported
Method of delivery	Group classes [page 472]
Setting/location of intervention	The company’s New York City main branch [page 472]
Intensity/duration of the intervention	12 weeks with one lecture per week [page 472]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Participants were urged to attend as many of these presentations as possible and were told that taking part in more than half of these activities was desirable. [page 472]
Actual treatment fidelity	Four participants did not complete all required measures and 12 education group participants did not attend more than half the classes. [page 472]
Other details	Participants were never told their compliance was required and their \$100 incentive was never in jeopardy if they failed to attend or take part in educational activities. [page 472]

Access only (N = 30)

Brief name	Access to fitness facilities [page 472]
Rationale/theory/Goal	Not applicable
Materials used	Onsite fitness facility [page 472]
Procedures used	Participants were offered corporate-sponsored, enhanced access to healthy programming. The company waived the normal fee for membership in the fitness facility and also provided a 25% discount (via Compass Group) for healthy meal choices in the cafeteria. [page 472]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Worksite [page 472]
Intensity/duration of the intervention	12-week access [page 472]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Participation did not require attendance at the fitness facility or eating certain meals; those decisions were at the employee's discretion. [page 472]
Actual treatment fidelity	Not reported
Other details	None

Control (N = 29)

Brief name	control [page 472]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	The control group was allowed to join the fitness facility and eat healthy cafeteria meals if the participant so chose without any employer-provided, cost-saving incentive. [page 472]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable

Actual treatment fidelity	Not applicable
Other details	None

D.128 Shimazu, 2005

Bibliographic Reference Shimazu, A; Kawakami, N; Irimajiri, H; Sakamoto, M; Amano, S; Effects of web-based psychoeducation on self-efficacy, problem solving behavior, stress responses and job satisfaction among workers: a controlled clinical trial.; Journal of occupational health; 2005; vol. 47 (no. 5); 405-413

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Sep-2003
Aim	To examine the effectiveness of web-based psychoeducation on self-efficacy, problem-solving behaviour, stress responses and job satisfaction among workers.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large

	<ul style="list-style-type: none"> • Contract type: not reported • Seniority: not reported • Income: white-collar workers
Inclusion criteria	White-collar workers assigned supportive tasks (e.g., clerical and managing tasks)
Exclusion criteria	Not reported
Method of randomisation	Participants were assigned to experimental or control group according to employee number (odd number=intervention group, even number=control group).
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • All analyses were performed in an intention-to-treat basis, and data from all assigned participants were included in the analyses independent of completion of the learning if they had both T1 and T2 observation. • Sample size calculations could not be performed due to a lack of previous research and lack of quantitative information on the clinical/practical significance of outcome measures. • Change score in primary and secondary outcome variable was calculated by subtracting the score at T1 from that at T2. The difference in the scores was examined using analysis of covariance (ANCOVA) the T1 scores as the covariate.
Attrition	The retention rate was 90.7% (89.3% for the intervention group and 92.0% for the waiting list control group).
Study limitations (author)	<ul style="list-style-type: none"> • Participants were limited to white-collar workers, as blue-collar workers did not have personal computers in their workspace. • Participants in control and intervention groups shared a workspace, and it was reported that the programme had been discussed in the workplace. • There were concerns over the design of the webpage

	<ul style="list-style-type: none"> • The study did not look at the long-term effects of the intervention • concerns relating to the scale used to measure the outcome of problem solving
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Fujitsu Infosoft technology Co. Ltd. and the Japan Society for the Promotion of Science

Study arms

Web-based psychoeducation (N = 112)

112 participants were assigned to a web-based psychoeducational intervention. Participants were recruited from a single organisation and were invited to participate by industrial health staff.

Wait list (N = 113)

113 participants were assigned to a wait list. Participants were recruited from a single organisation and were invited to participate by industrial health staff.

Characteristics

Arm-level characteristics

Characteristic	Web-based psychoeducation (N = 112)	Wait list (N = 113)
Age intervention group n=105; control group n=107	41.9 (11.48)	44 (11.31)

Characteristic	Web-based psychoeducation (N = 112)	Wait list (N = 113)
Mean (SD)		
Gender Men - sample sizes corresponding to intervention group n=105; control group n=107	n = 88 ; % = 80.73	n = 94 ; % = 85.45
No of events		

Outcomes

Study timepoints

- Baseline
- 1 week (Follow-up at 1 week after the learning period.)

Employee outcomes

Outcome	Web-based psychoeducation, 1 week vs Baseline, N = 112	Wait list, 1 week vs Baseline, N = 113
Mental wellbeing Self-reported - self-efficacy using 17 items from questionnaire developed by Sherer and Maddux	n = 100 ; % = 89.3	n = 104 ; % = 92
Sample size		
Mental wellbeing Self-reported - self-efficacy using 17 items from questionnaire developed by Sherer and Maddux	0.54 (4.73)	-0.32 (5.49)
Mean (SD)		

Outcome	Web-based psychoeducation, 1 week vs Baseline, N = 112	Wait list, 1 week vs Baseline, N = 113
Job stress Self-reported- psychological stress response score calculated using the Brief Job Stress Questionnaire (BJSQ)	n = 100 ; % = 89.3	n = 104 ; % = 92
Sample size		
Job stress Self-reported- psychological stress response score calculated using the Brief Job Stress Questionnaire (BJSQ)	-1.07 (5.69)	-0.72 (6.76)
Mean (SD)		
job satisfaction Self-reported- single item of whether or not the participant was satisfied with his/her job	n = 100 ; % = 89.3	n = 104 ; % = 92
Sample size		
job satisfaction Self-reported- single item of whether or not the participant was satisfied with his/her job	0.09 (0.61)	-0.02 (0.46)
Mean (SD)		

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB**Employee outcomes - Mental wellbeing - Web-based psychoeducation - Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Quasi-randomisation)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Employee outcomes - Job stress - Web-based psychoeducation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Quasi-randomisation</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Issues with randomisation and self-reported outcomes</i>)

Employee outcomes - job satisfaction - Web-based psychoeducation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Quasi-randomisation</i>)

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Issues with randomisation and self-reported outcomes</i>)

Study arms

Web-based psychoeducation (N = 112)

Brief name	Web-based psychoeducation [page 405 - abstract]
Rationale/theory/Goal	According to social cognitive theory, it was expected that the programme would increase self-efficacy and problem-solving behaviour, which would in turn decrease psychological and physical distress, and increase job satisfaction. [page 406]
Materials used	<ul style="list-style-type: none"> Web-based programme

	<ul style="list-style-type: none"> • Emails <p>[pages 406 and 407]</p>
Procedures used	<ul style="list-style-type: none"> • Participants were asked to complete learning within 1 month. • The programme was self-paced and consisted of 3 phases (5 chapters) . • Chapters 1 and 2: participants were taught basic knowledge about stress and the importance of coping with stress. • Chapters 3 and 4: participants were taught new and more constructive methods for problem solving in coping with stress. • Chapter 5: participants were encouraged to put acquired skills into practice in the workplace. • At the end of the chapter, participants were asked to answer questions regarding the contents of the individual chapter. Participants could only move onto the next chapter when they had given the right answers to the previous chapter. • Emails were sent to participants to increase motivation and decrease drop out. <p>[pages 406 and 407]</p>
Provider	Web-based [page 406]
Method of delivery	Online [page 406]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	1 month [page 406]
Tailoring/adaptation	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	6 out of 100 participants did not complete the learning. [page 409]
Other details	None

Wait list (N = 113)

Brief name	Wait list [page 406]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were asked to wait one month before participating in the intervention. [page 406]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable

Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.129 Shirotsuki, 2017

Bibliographic Reference

Shirotsuki, K; Nonaka, Y; Abe, K; Adachi, SI; Adachi, S; Kuboki, T; Nakao, M; The effect for Japanese workers of a self-help computerized cognitive behaviour therapy program with a supplement soft drink.; BioPsychoSocial medicine; 2017; vol. 11; 23

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	UMIN000023903
Study start date	Sep-2014
Study end date	Nov-2014
Aim	To determine whether a supplement drink that includes L-carnosine enhances the effect of computerised CBT on psychological wellbeing.
Country/geographical location	Japan

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: not reported • Contract type: full time • Seniority: not reported • Income: office workers
Inclusion criteria	Participants included the employees of the group companies that created the supplement drink.
Exclusion criteria	Systolic blood pressure less than 90 mmHg, pregnancy or possible pregnancy or lactation, participating in other studies, presence of internal diseases, history of cardiovascular disease, diabetes mellitus, or investigator-determined unsuitability.
Method of randomisation	Simple randomisation
Method of allocation concealment	Randomisation was performed by an independent study controller who had no direct contact with participants.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Participants were excluded from analysis if they did not complete weekly tasks and failed to submit weekly homework sheets • Based on previous studies, it was assumed that the self-help CCBT has a moderate effect on psychological factors. From the results of power analysis, a power of 0.85 for medium effect for interaction was required. Therefore, researchers aimed to recruit 90 participants. • ANOVA was conducted to reveal group differences for all measures. • Effect size (Cohen's d) was calculated.

	<ul style="list-style-type: none"> • ANCOVA (group × time) and ANOVA for the change values of the factors was conducted when there was a significant difference in baseline values for all measures.
Attrition	At the end of the study, data from 72 completers was analysed (completion rate 82.75%). This corresponds to 23 participants in the control group (79.3%), 25 participants in the CBT group (86.2%), and 24 participants in the CBT and drink group (82.8%).
Study limitations (author)	<ul style="list-style-type: none"> • There were significant differences between groups at pre-assessment for some scales. • The study did not set a group that took only a supplement soft drink. • Participants were relatively healthy employees • All participants had full-time jobs • Relatively low sample size • Participants may have reported desirable results because they belonged to group companies of the one that created the supplement drink.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-reported outcomes • no long-term follow-up • ITT analysis was not performed, and participants were excluded due to not completing exercises
Source of funding	Suntory Global Innovation Center Limited

Study arms

Computerised CBT (N = 29)

29 participants were assigned to receive computerised CBT. Participants were recruited via email from employees working at beverage, alcoholic beverage, and food manufacturing/sales companies.

Computerised CBT + drink (N = 29)

29 participants were assigned to receive computerised CBT and a drink. Participants were recruited via email from employees working at beverage, alcoholic beverage, and food manufacturing/sales companies.

Usual practice (N = 29)

29 participants were assigned to usual practice. Participants were recruited via email from employees working at beverage, alcoholic beverage, and food manufacturing/sales companies.

Characteristics

Arm-level characteristics

Characteristic	Computerised CBT (N = 29)	Computerised CBT + drink (N = 29)	Usual practice (N = 29)
Age Characteristics for completers only	35.44 (10.29)	37.88 (9.15)	38.35 (8.83)
Mean (SD)			
Men	n = 18 ; % = 72	n = 14 ; % = 58.3	n = 17 ; % = 73.9
No of events			
Women	n = 7 ; % = 28	n = 10 ; % = 41.7	n = 6 ; % = 26.1
No of events			

Outcomes

Study timepoints

- Baseline
- 0 week (Follow-up post-intervention)

Employee outcomes

Outcome	Computerised CBT, Baseline, N = 29	Computerised CBT, 0 week, N = 29	Computerised CBT + drink, Baseline, N = 29	Computerised CBT + drink, 0 week, N = 29	Usual practice, Baseline, N = 29	Usual practice, 0 week, N = 29
Mental wellbeing Self-reported- General Self Efficacy Scale (GSES)	n = 25 ; % = 86.2	n = 25 ; % = 86.2	n = 24 ; % = 82.8	n = 24 ; % = 82.8	n = 23 ; % = 79.3	n = 23 ; % = 79.3
Sample size						
Mental wellbeing Self-reported- General Self Efficacy Scale (GSES)	7.84 (4.45)	8.04 (4.49)	8.67 (4.21)	9.33 (4.23)	9.87 (3.44)	10.35 (3.65)
Mean (SD)						
Job stress Self-reported- fatigue subscale of Japanese version of Profile of Mood Scale (POMS)	n = 25 ; % = 86.2	n = 25 ; % = 86.2	n = 24 ; % = 82.8	n = 24 ; % = 82.8	n = 23 ; % = 79.3	n = 23 ; % = 79.3
Sample size						
Job stress Self-reported- fatigue subscale of Japanese version of Profile of Mood Scale (POMS)	9.84 (7)	8.96 (6.91)	12.54 (7.01)	9.29 (5.34)	5.35 (4.09)	7.7 (5.5)
Mean (SD)						

Outcome	Computerised CBT, Baseline, N = 29	Computerised CBT, 0 week, N = 29	Computerised CBT + drink, Baseline, N = 29	Computerised CBT + drink, 0 week, N = 29	Usual practice, Baseline, N = 29	Usual practice, 0 week, N = 29
Mental health symptoms Self reported- depression subscale of Japanese version of Profile of Mood Scale (POMS)	n = 25 ; % = 86.2	n = 25 ; % = 86.2	n = 24 ; % = 82.8	n = 24 ; % = 82.8	n = 23 ; % = 79.3	n = 23 ; % = 79.3
Sample size						
Mental health symptoms Self reported- depression subscale of Japanese version of Profile of Mood Scale (POMS)	11.96 (12.32)	11.52 (9.65)	12.04 (11.55)	9.83 (10.64)	7.09 (8.49)	7.83 (9.12)
Mean (SD)						

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Computerised CBT - Computerised CBT + drink - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Baseline differences in POMS-fatigue outcome measure</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Issues with randomisation, per-protocol analysis and self-reported outcomes</i>)

Employee outcomes - Job stress - Computerised CBT - Computerised CBT + drink - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Baseline differences in POMS-fatigue outcome measure</i>)

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation, per-protocol analysis and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Computerised CBT - Computerised CBT + drink - Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Baseline differences in POMS-fatigue outcome measure)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation, per-protocol analysis and self-reported outcomes)</i>

Study arms

Computerised CBT (N = 29)

Brief name	Self-help CBT programme [page 3]
Rationale/theory/Goal	Self-help cognitive behaviour therapy (CBT) can provide a useful approach for the treatment of psychological problems. [page 1]
Materials used	<ul style="list-style-type: none"> • Self-monitoring sheets • E-learning system • Self-help guidebook <p>[page 3]</p>

Procedures used	<ul style="list-style-type: none"> • Participants attended a course on mental health on two occasions (30 min each) before and after the program • Participants received six weekly instalments of a self-help CBT program, consisting of psychoeducation about stress management, stress coping, behaviour activation, and cognitive restructuring. • The programme was delivered using an on-demand e-learning system and a self-help guidebook. • Participants watched weekly e-learning movie segments (5–10 min long) and read the corresponding sections of the guidebook. • Participants recorded their daily moods and weekly tasks on a monitoring sheet. <p>[page 3]</p>
Provider	Online [page 3]
Method of delivery	Online [page 3]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	6 weeks [page 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Computerised CBT + drink (N = 29)

Brief name	Self-help CBT programme with supplement drink [page 3]
Rationale/theory/Goal	Self-help cognitive behaviour therapy (CBT) can provide a useful approach for the treatment of psychological problems. It is possible that supplementation with L-carnosine may reinforce the effect of self-help CBT on work-place stress. [pages 1 and 2]
Materials used	<ul style="list-style-type: none"> • Self-monitoring sheets • E-learning system • Self-help guidebook • Supplement drink <p>[page 3]</p>
Procedures used	<ul style="list-style-type: none"> • Participants attended a course on mental health on two occasions (30 min each) before and after the program • Participants received six weekly instalments of a self-help CBT program, consisting of psychoeducation about stress management, stress coping, behaviour activation, and cognitive restructuring. • The programme was delivered using an on-demand e-learning system and a self-help guidebook. • Participants watched weekly e-learning movie segments (5–10 min long) and read the corresponding sections of the guidebook. • Participants recorded their daily moods and weekly tasks on a monitoring sheet. • Participants consumed one bottle of a supplement soft drink every morning for 6 weeks. The drink contained 200 mg of L-carnosine. <p>[page 3]</p>
Provider	Online [page 3]
Method of delivery	Online [page 3]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Not reported

Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 29)

Brief name	Control group [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Monitoring sheets [page 3]
Procedures used	Participants recorded their mood state every day on a weekly monitoring sheet. [page 3]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.130 Shulman, 1996

Bibliographic Reference

Shulman, Karen R.; Jones, Gwen E.; The Effectiveness of Massage Therapy Intervention on Reducing Anxiety in the Workplace; The Journal of Applied Behavioral Science; 1996; vol. 32 (no. 2); 160-173

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the effectiveness of an on-site chair massage therapy programme in reducing anxiety levels of employees.
Country/geographical location	US
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing

	<ul style="list-style-type: none"> • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed (clerical and professional)
Inclusion criteria	Employees working in Finance function or the Research and Development function, at both clerical and the professional levels.
Exclusion criteria	Not reported
Method of randomisation	Participants were selected randomly, within gender, for placement in either study arm. Details of randomisation were not reported.
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis - questionnaire means were entered for missing data • Means and standard deviations were reported for outcome measures • A repeated measures analysis of variance was conducted to test for overall differences across the groups and over time. • No power calculations were reported
Attrition	Of 33 participants, 5 failed to return one (of six) of the STAI measures over the course of the study.
Study limitations (author)	<ul style="list-style-type: none"> • At pre-test, the massage group exhibited a high mean stress level on both state and trait anxiety measures. • It is possible that the results of the study were affected by a Hawthorne Effect. • Participants were informed of both study conditions prior to random assignment; it is possible that individuals in the control group may have felt slighted.

Study limitations (reviewer)	<ul style="list-style-type: none"> • Outcome measures were self-reported. • There was no long-term follow-up
Source of funding	Not reported

Study arms

Chair massage (N = 18)

18 participants were randomised to receive a 6-week chair massage intervention. Thirty-four participants were recruited to the study via flyers that had been mailed to all members of the Finance and the Research and development functions at a large manufacturing organisation.

Break therapy (N = 15)

18 participants were randomised to receive a break therapy control. Thirty-four participants were recruited to the study via flyers that had been mailed to all members of the Finance and the Research and development functions at a large manufacturing organisation.

Characteristics

Arm-level characteristics

Characteristic	Chair massage (N = 18)	Break therapy (N = 15)
25 years or younger	n = 0 ; % = 0	n = 1 ; % = 7
No of events		
26 to 39 years	n = 8 ; % = 44	n = 6 ; % = 40
No of events		

Characteristic	Chair massage (N = 18)	Break therapy (N = 15)
40 to 60 years	n = 10 ; % = 56	n = 8 ; % = 53
No of events		
Men	n = 8 ; % = 44	n = 5 ; % = 33
No of events		
Women	n = 10 ; % = 56	n = 10 ; % = 67
No of events		
No college degree	n = 7 ; % = 39	n = 9 ; % = 60
No of events		
College degree	n = 11 ; % = 61	n = 5 ; % = 33
No of events		
No response	n = 0 ; % = 0	n = 1 ; % = 7
No of events		

Outcomes

Study timepoints

- Baseline
- 2 week (Outcomes were measured at 2 weeks post-intervention.)

Employee outcomes

Outcome	Chair massage, Baseline, N = 18	Chair massage, 2 week, N = 18	Break therapy, Baseline, N = 15	Break therapy, 2 week, N = 15
Mental health symptoms Self-reported - state subscale of State-Trait Anxiety Inventory	90.72 (12.31)	78.33 (14.43)	83.33 (11.96)	78.2 (18.64)
Mean (SD)				

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Chair massage - Break therapy

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	High (<i>Baseline differences in stress levels</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (Issues with randomisation and self-reported outcomes)

Study arms

Chair massage (N = 18)

Brief name	Chair massage [page 163]
Rationale/theory/Goal	Massage mitigates stress through relieving muscular tension, and many healthcare professionals regard touch as vitally important in interactions and healing [page 161]
Materials used	Not reported
Procedures used	Participants received an onsite 15-minute chair massage once per week for 6 weeks [page 163]
Provider	Massage practitioners [page 164]
Method of delivery	Individual in-personal [page 164]
Setting/location of intervention	Workplace [163]
Intensity/duration of the intervention	15-minute massage once per week for 6 weeks [page 163]
Tailoring/adaptation	Not reported

Unforeseen modifications	Not reported
Planned treatment fidelity	Massage practitioners followed an identical onsite chair massage routine [page 164]
Actual treatment fidelity	Not reported
Other details	None

Break therapy (N = 15)

Brief name	Break therapy [page 163]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were asked to take a 15-minute break during the same 2-hour period that the massage therapy was being administered to the intervention group. [page 163]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Workplace [page 163]
Intensity/duration of the intervention	Not applicable

Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.131 Skeffington, 2016

Bibliographic Reference Skeffington, Petra M; Rees, Clare S; Mazzucchelli, Trevor G; Kane, Robert T; The Primary Prevention of PTSD in Firefighters: Preliminary Results of an RCT with 12-Month Follow-Up.; PloS one; 2016; vol. 11 (no. 7); e0155873

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Australian New Zealand Clinical Trials Registry (ANZCTR) ACTRN12615001362583
Study start date	Jun-2013
Study end date	Dec-2013

Aim	To conduct a rigorous evaluation of the MAPS program in a randomised control trial with a 12-month follow up.
Country/geographical location	Australia
Setting	Workplace <ul style="list-style-type: none"> • Sector: public • Industry: Emergency services • Organisation size: Not reported • Contract type: Not reported • Seniority: Trainees • Income: Not reported
Inclusion criteria	All trainees during study period were invited to attend
Exclusion criteria	No exclusion criteria
Method of randomisation	Random allocation was decided by entering the name of each condition into sealed envelopes; an envelope was drawn by the first author to determine condition at the commencement of each participating recruit school.
Method of allocation concealment	Sealed envelopes
Unit of allocation	Cluster (School)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Power calculation found that at a per-test alpha-level of .05, 82 participants (41 in each group) would be required for an 80% chance of capturing a “small” to “moderate” effect. ITT - a Generalised Linear Mixed Model was used

Attrition	1 out of 31 (3.2%) in the intervention group and 1 out of 46 (2.2%) in the control group dropped out
Study limitations (author)	<ul style="list-style-type: none"> • Failure to directly measure help seeking behaviour • Intervention delivered was a 'watered down' and only included half the content due to time constraints
Study limitations (reviewer)	None to add
Source of funding	No funding received

Study arms

Resilience training (N = 31)

Participants from one training school were randomised to receive a 4-hour resilience training (Mental Agility and Psychological Strength training).

Training as usual (N = 46)

Participants from two training schools were randomised to receive training as usual.

Characteristics

Arm-level characteristics

Characteristic	Resilience training (N = 31)	Training as usual (N = 46)
Age (years)	29.23 (4.55)	28.58 (4.72)
Mean (SD)		

Characteristic	Resilience training (N = 31)	Training as usual (N = 46)
Male	n = 29 ; % = 96.7	n = 44 ; % = 97.8
Sample size		

Outcomes

Study timepoints

- Baseline
- 12 month (after the intervention)

Employee outcomes

Outcome	Resilience training, Baseline, N = 31	Resilience training, 12 month, N = 31	Training as usual, Baseline, N = 46	Training as usual, 12 month, N = 46
Job stress Self-reported - stress subscale of short version of DASS	n = 30 ; % = 96.8	n = 30 ; % = 96.8	n = 45 ; % = 97.8	n = 45 ; % = 97.8
Sample size				
Job stress Self-reported - stress subscale of short version of DASS	6.5 (0.87)	6.11 (1.03)	5.96 (0.64)	5.32 (0.9)
Mean (SE)				
Mental health symptoms Self-reported - depression subscale of short form of DASS	n = 30 ; % = 96.8	n = 30 ; % = 96.8	n = 45 ; % = 97.8	n = 45 ; % = 97.8

Outcome	Resilience training, Baseline, N = 31	Resilience training, 12 month, N = 31	Training as usual, Baseline, N = 46	Training as usual, 12 month, N = 46
Sample size				
Mental health symptoms Self-reported - depression subscale of short form of DASS	3.2 (1.44)	5.75 (2.36)	3.59 (1.01)	4.74 (1.51)
Mean (SE)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Resilience training - Training as usual

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low

Section	Question	Answer
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Resilience training - Training as usual

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Resilience training (N = 31)

Brief name	Resilience training intervention [page 1 - abstract]
Rationale/theory/Goal	<p>The MAPS (Mental Agility and psychological Strength 9MAPS) training programme focusses on building knowledge of psychological wellbeing and PTSD as well as practical skills such as cognitive re-structuring, support seeking, and self-soothing or self-moderating, all of which are factors in the aetiology of PTSD and other post-trauma pathologies. The entirety of the MAPS program was facilitated in a Socratic style and an underlying theme of normalisation of stress reactions and reducing barriers to treatment or support seeking</p> <p>were present. [pages 2 and 7]</p>
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> • Each one-hour MAPS session comprised a fully contained module. The MAPS précis (moment, assess, plan, support) was presented at the start and end of each session. • Module One was an introduction to the MAPS program. • The objective of Module Two was to instruct participants in how to “take a moment” to be able to choose their response while under stress. • Concepts were revisited and consolidated in Module Three, where the concept of identifying and using appropriate supports was added. • The final MAPS module targeted maintenance and self-care. <p>[pages 6 and 7]</p>

Provider	Registered psychologist with a masters level qualification and experience in delivering psycho-education and training seminars and treating stress and trauma syndromes. [page 6]
Method of delivery	Group sessions [page 6]
Setting/location of intervention	Workplace [page 6]
Intensity/duration of the intervention	Four 1-hour sessions over 4 weeks [page 6]
Tailoring/adaptation	The program was initially written to be eight hours in length, as this was the shortest comparable resilience program length published at that time. Due to timetable constraints within the recruit school this was not possible and so program length was reduced by half. It was also intended that the MAPS program be delivered by a suitably qualified and experienced independent DFES staff member, preferably a psychologist from the DFES Wellness Team. This was also not possible due to workload and time constraints within the workplace Wellness Team. [page 6]
Unforeseen modifications	Not reported
Planned treatment fidelity	All intervention sessions were observed by at least two members of the DFES Health and Wellness Team and senior officers involved with TFF instruction. The first author constructed a session checklist outlining the objectives of each intervention module. Prior to delivery of any intervention sessions, the checklist was examined by the second author to ensure content validity. Each impartial observer present for each intervention module (minimum of two observers for adherence ratings) was asked to rate adherence to module objectives on a 7-point Likert scale that ranges from (1) not at all covered to (7) completely covered. [page 8]
Actual treatment fidelity	Mean adherence to treatment protocol across sessions was rated as 6.77/7 (SD = 0.98). [page 8]
Other details	None

Training as usual (N = 46)

Brief name	Training as usual [page 5]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants completed the same measures at the same time as the intervention group. [page 5]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.132 Sok, 2020**Bibliographic Reference**

Sok, S.R.; Kim, J.A.; Lee, Y.; Cho, Y.; Effects of a Simulation-Based CPR Training Program on Knowledge, Performance, and Stress in Clinical Nurses; Journal of continuing education in nursing; 2020; vol. 51 (no. 5); 225-232

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study end date	Mar-2017
Aim	Exam the effects of a simulation-based cardiopulmonary resuscitation (CPR) training program on knowledge, performance, and stress of CPR in clinical nurses.
Country/geographical location	South Korea
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (nurses)
Inclusion criteria	Convenient sampling. Clinical nurses who voluntarily agreed to participate in the study and understood the objectives of the study.
Exclusion criteria	Exclusion criteria were nurses who worked on wards (e.g., emergency room and intensive care unit) with too much CPR experience.

Method of randomisation	Participants were assigned to the experimental group using a coin toss
Method of allocation concealment	Not specified
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	The general characteristics of the participants and homogeneity test between two groups were analysed using descriptive statistics, independent t test, and chi-square test. To examine the effects of the simulation-based CPR training program, an independent t test was used.
Attrition	Study included a total of 60 clinical nurses (30 in the experimental group and 30 in the control group). Data is presented for all 60 participants
Study limitations (author)	Study participants were clinical nurses in a general hospital in Seoul who were selected based on convenience sampling impacting generalisability; Limited information addressing reliability and validity on the instruments included in the study.
Study limitations (reviewer)	Blinding and allocation concealment protocols are not outlined. Fidelity of intervention implementation is not considered. Convenience sample limits generalizability of findings. Self-report measures used with limited information regarding their validity to measure what it is they outline.
Source of funding	Not reported

Study arms

Simulation-based CPR training (N = 30)

30 participants were randomised the intervention arm. Participants were recruited via official announcements at the workplace and recruitment letters attached the bulletin board.

Control (N = 30)

30 participants were randomised the control arm. Participants were recruited via official announcements at the workplace and recruitment letters attached the bulletin board.

Characteristics

Study-level characteristics

Characteristic	Study (N = 60)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Simulation-based CPR training (N = 30)	Control (N = 30)
Age (years)	29.12 (2.39)	28.13 (2.69)
Mean (SD)		
Gender (% Female)	93.3	90
Nominal		

Outcomes

Study timepoints

- Baseline
- 3 week (Outcome measures were assessed after 3 weeks)

Employee outcomes

Outcome	Simulation-based CPR training, Baseline, N = 30	Simulation-based CPR training, 3 week, N = 30	Control, Baseline, N = 30	Control, 3 week, N = 30
Job stress (20 to 100) Self-reported - Post Code Stress Scale	75.91 (<i>empty data</i>)	49.92 (2.11)	71.42 (6.12)	70.81 (5.04)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Simulation-based CPR training - Control**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Simulation-based CPR training program
Rationale/theory/Goal	The study sought to identify CPR stress perceived by clinical nurses, help improve nurses' knowledge and performance of CPR, and provide the necessary basic data for improving the quality of CPR education. This study examined the effects of a simulation-based CPR training program on the knowledge, performance, and stress of CPR in clinical nurses.
Materials used	The researcher (MSc Nursing and CPR instructor trained), three clinical nurses, and one evaluator participated as instructors in the study; a lecture on the guidelines and theories based on the 2015 Korean Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care; a video lecture, an individual practice, a single-rescuer CPR simulation-based practice using CPR scenarios, a team simulation-based practice for groups of two, a simulation-based practice after providing a questionnaire for each situation, and feedback.
Procedures used	The participants were recruited through convenient sampling. Participants were assigned to the experimental group using a coin toss. The CPR training was conducted in the order of the following six situations from 9 am to 4 pm: Adult Basic Life Support (BLS), defibrillation using an automated external defibrillator, two rescuer CPR, paediatric BLS, infant BLS, and adult and infant respiratory obstruction. The training simulation-based training and procedures were explained during orientation. After providing individual and team scenarios, the individual and team simulation-based practices were conducted.
Provider	The researcher (MSc Nursing and CPR instructor trained), three clinical nurses, and one evaluator participated as instructors in the study
Method of delivery	The researcher (MSc Nursing and CPR instructor trained), three clinical nurses, and one evaluator participated as instructors in the study. The intervention group were split into two groups of 15 participants. The two groups were provided with the same training by the same instructor for 2 days. The researcher and three instructors conducted theoretical lectures, video lectures, and team situation-based training for each situation, and then provided feedback.

Setting/location of intervention	Hospital
Intensity/duration of the intervention	The CPR training was conducted over 2 days in the order of the following six situations from 9 am to 4 pm: Adult Basic Life Support (BLS), defibrillation using an automated external defibrillator, two rescuer CPR, paediatric BLS, infant BLS, and adult and infant respiratory obstruction.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Simulation-based CPR training (N = 30)

Intervention included a lecture on the guidelines and theories based on the 2015 Korean Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care, a video lecture, an individual practice, a single-rescuer CPR simulation-based practice using CPR scenarios, a team simulation-based practice for groups of two, a simulation-based practice after providing a questionnaire for each situation, and feedback.

Control (N = 30)

30 participants were randomised the control arm the contents of which were not specified

D.133 Sood, 2014

Bibliographic Reference Sood, Amit Sharma, Varun Schroeder, Darrell R. Gorman, Brian; STRESS MANAGEMENT AND RESILIENCY TRAINING (SMART) PROGRAM AMONG DEPARTMENT OF RADIOLOGY FACULTY: A PILOT RANDOMIZED CLINICAL TRIAL; EXPLORE-THE JOURNAL OF SCIENCE AND HEALING; 2014; vol. 10 (no. 6); 358-363

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Apr-2010
Study end date	Aug-2011
Aim	Test the efficacy of a Stress Management and Resiliency Training (SMART) program for decreasing stress and anxiety and improving resilience and quality of life among Department of Radiology physicians
Country/geographical location	USA
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported

	<ul style="list-style-type: none"> • Seniority: not reported • Income: professional (radiology physicians)
Inclusion criteria	Participants had to be staff members (physicians or scientists) within the Department of Radiology, who were able and willing to participate in all aspects of the study, and able to understand and sign the informed consent.
Exclusion criteria	Subjects were excluded if they had experienced a psychotic episode within the previous six months or clinically significant acute unstable neurological, psychiatric, hepatic, renal, cardiovascular, or respiratory disease that would prevent participation in the study.
Method of randomisation	The trial was designed as a randomized, wait-list controlled, pilot clinical trial using a simple randomization schedule generated by the Department of Biomedical Statistics and Informatics.
Method of allocation concealment	<p>The authors outlined the study as single blind. The allocation sequence was available only to the study coordinator and concealed from the researchers involved in recruitment.</p> <p>Subjects were de-identified and assigned a coded study identification number. This code was maintained by the statistician and unavailable to study investigators ensuring blinding of the investigators to the outcome measures.</p>
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Data were summarized as both raw scores and also as change from baseline. For each treatment group, the post-randomization measurements were compared to baseline using the one sample t-test, and the change from baseline was compared between groups using the two-sample t-test.
Attrition	4/26 (15%) completed baseline measures but did not completed 12-week questionnaires
Study limitations (author)	Authors highlight study limitations as the small sample size, the open-label intervention, selection bias with the possible recruitment of highly motivated participants, and incomplete data from attrition in the two arms of the study.
Study limitations (reviewer)	Details regarding the method of randomisation are unclear/brief; Single blind rather than double blind and the underpinning rationale for this is unclear; Sample size achieved is lower than that outlined in the sample size calculation (n=20 per arm) indicating that the study may be underpowered to detect the proposed two-sided 5% significance

	outlined. Unclear if ITT analysis was undertaken to account for the n=4 participants not providing data at 12 weeks. Incomplete demographic data and no assessment of impact of randomisation process.
Source of funding	Mayo Clinic Department of Radiology Small Grant No. 94147001 and a generous gift from Terrance D. and Judith A. Paul.

Study arms

Stress management and resiliency training (N = 13)

13 participants were randomised to the intervention arm. Participants were from a single department.

Wait list (N = 13)

13 participants were randomised to the control arm. Participants were from a single department.

Characteristics

Arm-level characteristics

Characteristic	Stress management and resiliency training (N = 13)	Wait list (N = 13)
Age		
Mean (SD)	47.4 (8.8)	48.1 (5.2)
Gender (% Female)		
Nominal	45	50
Ethnicity		
Nominal	NR	NR

Characteristic	Stress management and resiliency training (N = 13)	Wait list (N = 13)
Non-Hispanic white	12	12
Nominal		
Hispanic	1	0
Nominal		

Outcomes

Study timepoints

- Baseline
- 12 week (Outcomes measured at 12 weeks)

Employee outcomes

Outcome	Stress management and resiliency training, Baseline, N = 13	Stress management and resiliency training, 12 week, N = 13	Wait list, Baseline, N = 13	Wait list, 12 week, N = 13
Job stress Self-reported - Perceived stress scale	25 (7.4)	19.6 (5.6)	23.1 (3.3)	22.2 (5.4)
Mean (SD)				
Mental health symptoms Self-reported - Smith anxiety scale	57.2 (12.8)	45.5 (11.2)	55.6 (16.6)	53.3 (16)
Mean (SD)				

Outcome	Stress management and resiliency training, Baseline, N = 13	Stress management and resiliency training, 12 week, N = 13	Wait list, Baseline, N = 13	Wait list, 12 week, N = 13
Quality of life Self-reported - Linear analogue self-assessment scale	6.9 (8.1)	7.5 (1.1)	8.1 (0.9)	7.5 (1.6)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management and resiliency training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Significant difference in baseline for key outcome</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Issues with randomisation and self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Stress management and resiliency training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Significant difference in baseline for key outcome</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Issues with randomisation and self-reported outcomes</i>)

Employee outcomes - Quality of life - Stress management and resiliency training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Significant difference in baseline for key outcome</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)

Section	Question	Answer
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Issues with randomisation and self-reported outcomes)</i>

Study details

Brief name	Stress management and resiliency training
Rationale/theory/Goal	SMART focus on two aspects of human experience: attention and interpretation. SMART sought to decrease stress and anxiety and improving resilience and quality of life. The SMART program teaches learners to focus their attention in the external world and to defer unrefined judgments. Learners also are taught to cultivate and guide their interpretations by five higher-order principles: gratitude, compassion, acceptance, meaning, and forgiveness.
Materials used	The program involved a single 90-min group session in the SMART training (taught in groups with the help of a PowerPoint slide presentation), with two follow-up phone calls at weeks 4 and 8. Intervention participants were also trained in a brief structured relaxation intervention (paced breathing meditation) where participants were guided to practice deep diaphragmatic breathing at five breaths per minute for 5 or 15 min, once or twice a day. At the conclusion of the in-person visit, participants were provided reading materials that covered the skills discussed and were offered an optional 30–60-min follow-up session. The following instruments were used: Perceived Stress Scale (PSS), Smith Anxiety Scale (SAS), Linear Analog Self-Assessment Scale (LASA), Mindful Attention Awareness Scale (MAAS), and Connor–Davidson Resilience Scale (CD-RISC).
Procedures used	Participants recruited and assessed for eligibility by study coordinator. Informed consent was obtained. Participants were randomly assigned to an active arm or a wait-list control arm. The intervention for the wait-list control arm was delayed by 12 weeks as compared to the active arm. The intervention program (SMART) involved a single 90-min group session (taught in groups with the help of a PowerPoint slide presentation), with two follow-up phone calls at weeks 4 and 8. Intervention participants were also trained in a brief structured relaxation intervention (paced breathing meditation) where participants were guided to practice deep diaphragmatic breathing at five breaths per minute for 5 or 15 min, once or

	twice a day. At the conclusion of the in-person visit, participants were provided reading materials that covered the skills discussed and were offered an optional 30–60-min follow-up session.
Provider	Not reported
Method of delivery	Taught in groups with the help of a PowerPoint slide presentation, with two follow-up phone calls at weeks 4 and 8.
Setting/location of intervention	Not reported - small-group sessions with location not specified
Intensity/duration of the intervention	The program involved a single 90-min group session with two follow-up phone calls at weeks 4 and 8. Intervention participants were also trained in a brief structured relaxation intervention (paced breathing meditation) where participants were guided to practice deep diaphragmatic breathing at five breaths per minute for 5 or 15 min, once or twice a day. At the conclusion of the in-person visit, participants were provided reading materials that covered the skills discussed and were offered an optional 30–60-min follow-up session.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not specified

Study arms

Stress management and resiliency training (N = 13)

A single, 90-min small-group session in the SMART program. The SMART program is an abbreviated adaptation of Attention and Interpretation Therapy (AIT). The SMART program teaches learners to focus their attention in the external world and to defer unrefined judgments. Participants were also trained in a brief structured relaxation intervention (paced breathing meditation) where participants were guided to practice deep diaphragmatic breathing at five breaths per minute for 5 or 15 min, once or twice a day. At the conclusion of the in-person visit, participants were provided reading materials that covered the skills discussed and were offered an optional 30–60-min follow-up session and two follow-up phone calls at weeks 4 and 8.

Wait list (N = 13)

Wait-list control arm received the SMART intervention after completion of their participation in the study

D.134 Sood, 2011

Bibliographic Reference

Sood, Amit; Prasad, Kavita; Schroeder, Darrell; Varkey, Prathibha; Stress management and resilience training among Department of Medicine faculty: a pilot randomized clinical trial.; Journal of general internal medicine; 2011; vol. 26 (no. 8); 858-61

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To assess the effect of a Stress Management and Resiliency Training (SMART) programme for increasing resiliency and quality of life, and decreasing stress and anxiety among Department of Medicine (DOM) physicians at a tertiary care medical centre.
Country/geographical location	US

Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: professional (physicians)
Inclusion criteria	<ul style="list-style-type: none"> • being a faculty member of the DOM • being able and willing to participate
Exclusion criteria	<ul style="list-style-type: none"> • recent (within the past 6 months) psychotic episode • clinically significant acute unstable neurological, psychiatric, hepatic, renal, cardiovascular, or respiratory disease that prevented participation in the study
Method of randomisation	Details not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Change from baseline was compared between groups using the two-sample t-test. • Within-group change (baseline vs week 8) was assessed for each study arm using the paired t-test. • A sample size of 40 was selected for this pilot study after weighing statistical considerations along with logistical and resource constraints. In general, for a continuous outcome variable, a sample size of 40 provides statistical power (two-tailed, $\alpha=0.05$) of >85% to detect a difference of 1 standard deviation between groups.

	<ul style="list-style-type: none"> • ITT analysis- not reported
Attrition	<ul style="list-style-type: none"> • Intervention: all participants completed study • Control: study. Eight participants (60%) declined to participate after randomisation and prior to filling out any assessments because of scheduling issues.
Study limitations (author)	<ul style="list-style-type: none"> • small sample size • open-label intervention • likely enrolment of participants highly motivated to learn and practice the skills shared • cannot exclude the possibility that the efficacy was driven by the attention received by the active arm • no long-term follow-up • Differential attrition across the treatment arm is a significant limitation. It could be that among the control group only those who were most in need of the intervention remained through the 8-week follow-up. This would artificially increase the magnitude of the difference between the two study arms. However, the participants who chose not to participate were similar in demographics to the participants who completed the study, were all academic clinicians, and the baseline stress and resilience measures of the randomized groups were comparable, making it less likely that differential attrition would account for the effect of the intervention.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	Department of Medicine, Mayo Clinic, Rochester

Study arms

Stress management and resilience training (N = 20)

20 participants were assigned to receive stress management and resilience training. Participants were recruited from a single organisation.

Wait list (N = 20)

20 participants were assigned to a wait list. Participants were recruited from a single organisation.

Characteristics**Arm-level characteristics**

Characteristic	Stress management and resilience training (N = 20)	Wait list (N = 20)
Age		
Mean (SD)	46.8 (8.3)	50.2 (5.7)
Gender		
Men	% = 55	% = 50
No of events		

Outcomes**Study timepoints**

- Baseline
- 8 week (Outcomes measured 8 weeks after intervention)

Employee outcomes

Outcome	Stress management and resilience training, Baseline, N = 20	Stress management and resilience training, 8 week, N = 20	Wait list, Baseline, N = 20	Wait list, 8 week, N = 20
Job stress (0-40) Self-reported- Perceived Stress Scale	n = 20 ; % = 100	n = 20 ; % = 100	n = 12 ; % = 60	n = 12 ; % = 60
Sample size				
Job stress (0-40) Self-reported- Perceived Stress Scale	28.2 (5.9)	22.8 (5.5)	26.2 (6.9)	28.3 (6.3)
Mean (SD)				
Mental health symptoms Self-reported- Smith Anxiety Scale (SAS)	n = 20 ; % = 100	n = 20 ; % = 100	n = 12 ; % = 60	n = 12 ; % = 60
Sample size				
Mental health symptoms Self-reported- Smith Anxiety Scale (SAS)	55.2 (13.6)	43.3 (14.1)	50.5 (23)	53.4 (23.1)
Mean (SD)				
Quality of life Self-reported- Linear Analog Self Assessment Scale (LASA)	n = 20 ; % = 100	n = 20 ; % = 100	n = 12 ; % = 60	n = 12 ; % = 60
Sample size				
Quality of life Self-reported- Linear Analog Self Assessment Scale (LASA)	7.6 (1.2)	8 (1.3)	7.8 (1.1)	7.2 (1.2)

Outcome	Stress management and resilience training, Baseline, N = 20	Stress management and resilience training, 8 week, N = 20	Wait list, Baseline, N = 20	Wait list, 8 week, N = 20
Mean (SD)				
Resilience Self-reported- Connor Davis Resilience Scale	n = 20 ; % = 100	n = 20 ; % = 100	n = 12 ; % = 60	n = 12 ; % = 60
Sample size				
Resilience Self-reported- Connor Davis Resilience Scale	69.6 (13.3)	79.4 (11.3)	68 (11.2)	67.2 (11.6)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Quality of life - Polarity - Higher values are better

Resilience - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Stress management and resilience training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Stress management and resilience training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Quality of life - Stress management and resilience training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - Resilience - Stress management and resilience training - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Higher attrition in control group)</i>

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Stress management and resilience training (N = 20)

Brief name	Stress management and resiliency training (SMART) [page 858 - abstract]
Rationale/theory/Goal	The SMART program has been adapted from Attention and Interpretation Therapy (AIT). AIT is a structured therapy developed at the Mayo Clinic to decrease stress and enhance resilience. AIT addresses two aspects of human experience, attention and interpretation. Research suggests that human attention instinctively and inordinately focuses on threats and imperfections. Since a considerable amount of threat exists within the domains of past and future, attention gets engaged in the psychological frame of time. This predisposes to excessive thinking, ineffective efforts toward thought suppression, and avoidant response. AIT guides learners to delay judgment and pay greater attention to the novelty of the world. Complementing attention training is instruction to help participants direct their interpretations away from fixed prejudices toward a more flexible disposition while cultivating skills such as gratitude, compassion, acceptance, forgiveness, and higher meaning. [page 859]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> Participants received a single one-to-one 90-minute session training in the SMART programme.

	<ul style="list-style-type: none"> Participants were also provided training in a brief structured relaxation intervention (paced breathing meditation). In this program, participants were taught to practice deep diaphragmatic breathing at five breaths per minute for 5 or 15 min, once or twice a day. Participants were also offered an optional 30–60 min follow-up session depending on individual needs. <p>[pages 858 and 859]</p>
Provider	Not reported
Method of delivery	One-to-one session [page 858]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	One 90-minute session with option of follow-up session [page 859]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Four participants in the active arm participated in an additional 30-min session. [page 859]

Wait list (N = 20)

Brief name	Wait list [page 859]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Intervention was delayed by 8 weeks. [page 859]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.135 Steinberg, 2016**Bibliographic Reference**

Steinberg, Beth A; Klatt, Maryanna; Duchemin, Anne-Marie; Feasibility of a Mindfulness-Based Intervention for Surgical Intensive Care Unit Personnel.; American journal of critical care : an official publication, American Association of Critical-Care Nurses; 2016; vol. 26 (no. 1); 10-18

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine the feasibility of a workplace intervention to reduce the impact of a stressful environment on surgical intensive care unit personnel
Country/geographical location	The US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: not reported • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: not reported • Income: mixed (nurses, patient care assistants, family support coordinators, chaplain, janitor, pharmacist, unit clerk)
Inclusion criteria	<ul style="list-style-type: none"> • Participants at least 18 years old • Participants had direct contact with patients and patients' families

Exclusion criteria	<ul style="list-style-type: none"> • Individuals involved in yoga, mindfulness, or exercising more than 30 minutes per day • Women in third trimester of pregnancy • Individuals that had recently had surgery
Method of randomisation	Stratified (by sex and type of work) randomisation using statistical software
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intention-to-treat analyses were performed and included all randomly assigned participants • Characteristics of the sample were analysed using means and standard deviations • Two-tailed t-tests and Chi-square analyses were used to compare groups at baseline (no differences were found) • Changes between baseline and 1-week post intervention outcomes were assessed in each arm using the paired t-test or nonparametric repeated measures analysis of variance • Associations between work engagement and burnout scores were estimated using a Pearson correlation • No power calculations were reported
Attrition	<ul style="list-style-type: none"> • 97% overall retention • 100% retention in the intervention group • Intervention group: weekly meeting attendance rate was 90%. Participants were asked to listen to a CD track 5 times per week, and the mean number of times listened per week was 4.42 (SD = 1.99)
Study limitations (author)	<ul style="list-style-type: none"> • Small sample size • There was a need for leadership/administration to support the intervention, which may limit applicability

Study limitations (reviewer)	<ul style="list-style-type: none"> • Lack of clarity around QoL measure means meant that data could not be extracted • Lack of information around job stress measures meant that data could not be extracted • Self-reported outcomes • Most of the participants were women, meaning the study may not be generalisable to all workplaces • Self-selected population
Source of funding	Stress Trauma and Resilience (STAR) Program, College of Medicine, The Ohio State University

Study arms

Mindfulness-based intervention (N = 16)

1:1 randomisation was performed with 32 study participants. Participants were recruited by notices in flyers and communication at staff meetings.

Wait list (N = 16)

1:1 randomisation was performed with 32 study participants. Participants were recruited by notices in flyers and communication at staff meetings.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness-based intervention (N = 16)	Wait list (N = 16)
Age		
Mean (SD)	44 (12.1)	44.1 (10.9)

Characteristic	Mindfulness-based intervention (N = 16)	Wait list (N = 16)
Gender n calculated from percentage by reviewer	n = 14 ; % = 88	n = 14 ; % = 88
No of events		

Outcomes

Study timepoints

- Baseline
- 1 week (1 week after the end of the intervention)

Employer characteristics

Outcome	Mindfulness-based intervention, Baseline, N = 26	Mindfulness-based intervention, 1 week, N = 26	Wait list, Baseline, N = 26	Wait list, 1 week, N = 26
absenteeism Self reported - Number of missed days in the past 2 months - these data contain an outlier that missed 30 days	n = 26 ; % = 100	n = 26 ; % = 100	n = 25 ; % = 96.2	n = 26 ; % = 100
Sample size				
absenteeism Self-reported - Number of missed days in the past 2 months - these data contain an outlier that missed 30 days	26 (1.88)	0.78 (1.35)	2.56 (7.39)	0.69 (1.08)
Mean (SD)				
Absenteeism Self-reported - Number of days missed in the last 2 months -	1.06 (1.88)	0.78 (1.35)	0.73 (1.1)	0.69 (1.08)

Outcome	Mindfulness-based intervention, Baseline, N = 26	Mindfulness-based intervention, 1 week, N = 26	Wait list, Baseline, N = 26	Wait list, 1 week, N = 26
these data excluded one outlier that missed 30 days of work - data included in meta-analysis				
Mean (SD)				

absenteeism - Polarity - Lower values are better

Absenteeism - Polarity - Lower values are better

Employee outcomes

Outcome	Mindfulness-based intervention, Baseline, N = 26	Mindfulness-based intervention, 1 week, N = 26	Wait list, Baseline, N = 26	Wait list, 1 week, N = 26
Quality of life Self-reported - Professional (Quality of Life (ProQOL))	-4.06 (0.77)	-4.31 (0.7)	-4.19 (0.98)	-4.12 (1.31)
Mean (SD)				

Quality of life - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employer characteristics -absenteeism - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employer characteristics - Absenteeism - Mindfulness-based intervention - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Employee outcomes - Quality of life - Mindfulness-based intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcome</i>)

Study arms

Mindfulness-based intervention (N = 16)

Brief name	Mindfulness-based intervention [page 10]
Rationale/theory/Goal	The intervention was structured using a resilience conceptual framework and emphasised the development of behaviours that strengthen the physical and emotional health of staff. The hypothesis was that increasing resilience through a mind-body intervention would decrease the effects of stress and risk for burnout. [page 11]
Materials used	<ul style="list-style-type: none"> • CD recordings • Structured diary <p>[page 12]</p>
Procedures used	<ul style="list-style-type: none"> • The intervention was a weekly 1-hour group session comprising a didactic introduction and discussion, and a combination of mindfulness and yoga practices with music • Participants were asked to perform 20 minutes of individual daily practice, using CD recordings, to reinforce the group session. Frequency of these practices was logged in the structured diary <p>[page 12]</p>
Provider	Trained mindfulness and certified yoga teacher who developed the programme (500 hour Yoga Alliance certified) [page 12]
Method of delivery	Group and individual practice [page 12]
Setting/location of intervention	Workplace - in a conference room during work hours [page 12]

Intensity/duration of the intervention	<ul style="list-style-type: none"> • 8-week programme [taken from Klatt 2015, which was referenced in the text] • Weekly 1-hour sessions and 20 minutes of daily practice [page 12]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	The attendance rate of weekly meetings was 90%, although attendance was high, participants were not always able to be on time. Participants listened to CDs mean = 4.42 (SD = 1.99) times per week [page 14]
Other details	The time chosen for weekly group sessions was agreed between the unit's nurse manager and staff to minimise the impact on patient care and to ensure that the intervention was part of the work shift. Personnel coverage was ensured during the time of the group sessions and assessments [page 12]

Wait list (N = 16)

Brief name	Wait list [page 12]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Not reported
Provider	Not applicable
Method of delivery	Not applicable

Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.136 Strijk, 2012

Bibliographic Reference

Strijk, Jorien E. Proper, Karin I. van der Beek, Allard J. van Mechelen, Willem; A worksite vitality intervention to improve older workers' lifestyle and vitality-related outcomes: results of a randomised controlled trial; JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH; 2012; vol. 66 (no. 11); 1071-1078

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Dutch Trial Register (NTR) under trial registration number: NTR1240
Study start date	Apr-2009
Aim	Vital@Work study, is a worksite lifestyle intervention was developed aiming at improving both mental (i.e. by yoga sessions) and physical (i.e. by aerobic exercising) factors of vitality.
Country/geographical location	Netherlands
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: full and part time • Seniority: not reported • Income: mixed
Inclusion criteria	Participants needed to be working at least 16 h a week, have provided written informed consent and have no risk for developing adverse health effects when becoming physically active as assessed using the Physical Activity Readiness Questionnaire.
Exclusion criteria	Not reported
Method of randomisation	The workers who consented to participate were, after baseline measurements, individually randomised to the intervention or control group using Random Allocation Software (V.1.0, May 2004; Isfahan University of Medical Sciences, Isfahan, Iran).
Method of allocation concealment	<p>A research assistant notified each worker to which group he or she had been allocated and did not reveal the group allocation to the investigator responsible for data analyses.</p> <p>Blinding of participants or intervention providers was impossible.</p>

Unit of allocation	Individual level
Unit of analysis	Individual level
Statistical method(s) used to analyse the data	Differences in baseline characteristics between the intervention and control group and differences in outcome measures between completers and non-completers were tested using independent t test for continuous variables and Pearson's X2 tests for categorical and dichotomous variables. To analyse the intervention effects the differences in change over time between the intervention and control group were analysed using linear regression analyses. In these analyses, the outcome measures over 6-month follow-up were regressed onto the baseline values of these outcomes. All analyses were performed according to the intention-to-treat principle.
Attrition	730 workers were included and completed the baseline questionnaire and were randomised to the intervention (n=367) or control group (n=363). After 6 months of follow-up, 575/730 workers (79%; intervention n=293/367 [80%], control n=282/363 [78%]) completed the questionnaire 6 months after baseline and were used for complete cases analyses.
Study limitations (author)	The study considered relatively healthy older workers population, mainly consisting of female workers which limits the findings generalisability. The study failed to ensure vigorous intensity physical activity compliance during the guided workout session, which was required to improve aerobic capacity.
Study limitations (reviewer)	The study does not outline why blinding and allocation concealment were 'impossible'.
Source of funding	Foundation Institute GAK

Study arms

Worksite vitality intervention (N = 367)

367 participants were randomised to a multicomponent intervention arm. Participants aged 45 years and older were invited to participate.

Control (N = 363)

363 participants were randomised to a control arm. Participants aged 45 years and older were invited to participate.

Characteristics

Study-level characteristics

Characteristic	Study (N = 730)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Worksite vitality intervention (N = 367)	Control (N = 363)
Age (years)	52.5 (4.8)	52.3 (4.9)
Mean (SD)		
Gender (% Female)	74.7	76.3
Nominal		

Outcomes

Study timepoints

- Baseline
- 6 month (Outcomes measured 6 months after baseline measurements.)

Employee outcomes

Outcome	Worksite vitality intervention, Baseline, N = 367	Worksite vitality intervention, 6 month, N = 367	Control, Baseline, N = 363	Control, 6 month, N = 363
Mental health symptoms (0 - 100) Self-reported - RAND-36 mental health scale Sample size	n = 293 ; % = 79.8	n = 293 ; % = 79.8	n = 282 ; % = 77.7	n = 282 ; % = 77.7
Mental health symptoms (0 - 100) Self-reported - RAND-36 mental health scale Mean (SD)	76 (14.2)	76.9 (13.8)	77.9 (13.3)	77 (13.4)

Mental health symptoms - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental health symptoms - Worksite vitality intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Worksite lifestyle intervention
Rationale/theory/Goal	Aimed at improving mental and physical factors of vitality via a worksite health promotion (WHP) program containing physical exercising and yoga as effective tools to keep older workers vital, promote their health and thereby prolong their labour participation.
Materials used	Intervention and control group received written information about a healthy lifestyle in general (i.e. diet, PA and relaxation); The intervention group received a 6-month lasting intervention consisting of (1) a Vitality Exercise Program (VEP) with (2) provision of free fruit and combined with (3) three visits to a Personal Vitality Coach (PVC). The VEP consisted of a weekly 45 min: (1) yoga session, (2) workout session and (3) unsupervised aerobic exercise session. Yoga was guided by a qualified yoga instructor; Workout sessions were guided by certified fitness instructors. PA was measured using the Short QUestionnaire to ASses Health-enhancing physical activity (SQUASH) and objectively among a random subsample of 196 workers using Computer Science Application (CSA) accelerometers (Type GTM1 and ActiTrainer; ActiGraph, Pensacola, Florida, USA).
Procedures used	All workers aged 45 years and older were invited to participate. Those who consented were randomised post collection of baseline data. After randomisation intervention and

	control group received written information about a healthy lifestyle in general. Additionally, the intervention group received the intervention consisting of a Vitality Exercise Program with provision of free fruit and combined with three visits to a Personal Vitality Coach. Data was collected at baseline and at 6 months.
Provider	Not specified
Method of delivery	The mode of delivery was not reported. Yoga was guided by a qualified yoga instructor; Workout sessions were guided by certified fitness instructors.
Setting/location of intervention	Not specified
Intensity/duration of the intervention	The intervention group received a 6-month lasting intervention consisting of (1) a Vitality Exercise Program (VEP) with (2) provision of free fruit and combined with (3) three visits to a Personal Vitality Coach (PVC). The VEP consisted of a weekly 45 min: (1) yoga session, (2) workout session and (3) unsupervised aerobic exercise session.
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Worksite vitality intervention (N = 367)

A worksite lifestyle intervention aimed at improving both mental (i.e., by yoga sessions) and physical (i.e., by aerobic exercising) factors of vitality.

Control (N = 363)

D.137 Tarrasch, 2020

Bibliographic Reference

Tarrasch, Ricardo; Berger, Rony; Grossman, Daniel; Mindfulness and compassion as key factors in improving teacher's well being.; *Mindfulness*; 2020; vol. 11 (no. 4); 1049-1061

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Aim	“Call to Care – Israel for Teachers” (C2CIT) program employs mindfulness, compassion, and social-emotional skill training, with a unique emphasis on the construct of care. This pilot study explores the effects of the C2CIT program among schoolteachers by comparing self-report measures of teachers trained in the C2CIT program with those of teachers serving as controls.
Country/geographical location	Israel
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: small and medium • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: professional (teachers)
Inclusion criteria	Not reported
Exclusion criteria	Not reported
Method of randomisation	Not reported - study refers to schools being selected within a geographical area and randomly assigned to treatment or control without reference to method.
Method of allocation concealment	Not reported - study refers to schools being selected within a geographical area and randomly assigned to treatment or control without reference to method.
Unit of allocation	School - only two schools were recruited (44 teachers)
Unit of analysis	School level (cluster)
Statistical method(s) used to analyse the data	Pre-existing differences between the two groups were assessed via t-tests for independent samples; Differences in changes C2CIT vs. control group, repeated measures analyses of variance (ANOVAs) were performed using time of measure (pre- versus post-measures) as within-subjects factor and the group (C2CIT versus control) as a between-subjects factor.
Attrition	Outlined by individuals in clusters. In total 44/44 participants across clusters provided at least some data
Study limitations (author)	<p>Sample was small, and participants were not assigned randomly to the study groups but based on their school allocation. All measures were collected through self-reported</p> <p>questionnaires. The current study set out to examine C2CIT program effectiveness, the exact relationships between the outcome measures used were not explored. The study did not assess the fidelity of completing homework assignments. The study though matching the C2CIT group at pre-measures the control group in the current study did not include an intervention of any kind.</p>
Study limitations (reviewer)	No randomisation, blinding or allocation concealment procedures outlined. Self-report measures. Unclear how the schools were selected.
Source of funding	Not reported

Study arms**Contemplative practices and social-emotional skills training (N = 20)**

1 school was randomised to the treatment arm.

Control (N = 24)

1 school was randomised to the control arm.

Characteristics**Study-level characteristics**

Characteristic	Study (N = 44)
Ethnicity	NR
Nominal	

Arm-level characteristics

Characteristic	Contemplative practices and social-emotional skills training (N = 20)	Control (N = 24)
Age		
Mean (SD)	34.9 (7.9)	33.1 (7.6)
Gender		
Number of female	19	21

Characteristic	Contemplative practices and social-emotional skills training (N = 20)	Control (N = 24)
Nominal		

Outcomes

Study timepoints

- Baseline
- 0 week (Outcomes were measured immediately after the intervention.)

Employee outcomes

Outcome	Contemplative practices and social-emotional skills training, Baseline, N = 20	Contemplative practices and social-emotional skills training, 0 week, N = 20	Control, Baseline, N = 24	Control, 0 week, N = 24
Mental wellbeing Self-reported - overall Teachers' Sense of Efficacy Scale (TSES) - no ICC was reported	n = 17 ; % = 85	n = 17 ; % = 85	n = 22 ; % = 91.7	n = 22 ; % = 91.7
Sample size				
Mental wellbeing Self-reported - overall Teachers' Sense of Efficacy Scale (TSES) - no ICC was reported	6.96 (1.02)	7.38 (1.09)	6.98 (0.69)	6.91 (0.61)
Mean (SD)				

Outcome	Contemplative practices and social-emotional skills training, Baseline, N = 20	Contemplative practices and social-emotional skills training, 0 week, N = 20	Control, Baseline, N = 24	Control, 0 week, N = 24
Job stress Self-reported - Perceived Stress Scale - no ICC was reported	n = 17 ; % = 85	n = 17 ; % = 85	n = 22 ; % = 91.7	n = 22 ; % = 91.7
Sample size				
Job stress Self-reported - Perceived Stress Scale - no ICC was reported	1.66 (0.16)	1.38 (0.14)	1.41 (0.14)	1.53 (0.13)
Mean (SD)				
Mental health symptoms Self-reported - State-Trait Anxiety Inventory (STAI) - no ICC was reported	n = 17 ; % = 85	n = 17 ; % = 85	n = 22 ; % = 91.7	n = 22 ; % = 91.7
Sample size				
Mental health symptoms Self-reported - State-Trait Anxiety Inventory (STAI) - no ICC was reported	1.74 (0.44)	1.67 (0.45)	1.88 (0.49)	1.89 (0.44)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - cRCT RoB**Employee outcomes - Mental wellbeing - Contemplative practices and social - emotional skills training - Control**

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Contemplative practices and social-emotional skills training - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Contemplative practices and social-emotional skills training - Control

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study details

Brief name	Mindfulness: Contemplative practices and social-emotional skills training
Rationale/theory/Goal	“Call to Care – Israel for Teachers” (C2CIT) program employs mindfulness, compassion, and social-emotional skill training, with a unique emphasis on the construct of care. C2CIT is a professional teacher development program that aims to cultivate skills involved in receiving care and giving care to oneself, as well as extending care to all of one’s students in a classroom.
Materials used	Contemplative-based training and cooperative learning strategies: psychoeducational materials (e.g., mindfulness and compassion effects on brain activity and anatomy, correlates of mindfulness and compassion, or the concepts of fixed vs. growth mind-sets); contemplative practices (e.g., teaching mindful breathing, body scan, or caring-figure meditation); social-emotional skills (e.g., identifying and sharing emotions, learning to receive and give social support, or developing perspective taking and empathy skills); and group activities (e.g., sharing positive and negative feelings with peers or roleplaying difficult situations). Homework assignments (e.g., practicing compassion, paying attention to automatic reactions in challenging situations or body scan). Self-report measures (Interpersonal Mindfulness in Teaching; Teachers’

	Sense of Efficacy Scale; State-Trait Anxiety Inventory; Five Factor Mindfulness Questionnaire; Self-Compassion Scale; Maslach Burnout Inventory; Perceived Stress Scale; Rumination-Reflection Questionnaire; Interpersonal Reactivity Index)
Procedures used	The intervention was spread throughout a full academic year and included 20 weekly meetings. Each session lasted 1 hour and a half across the three elements psychoeducational materials, contemplative practices, social-emotional skills and group activities. Homework assignments were outlined with sessions.
Provider	Not reported
Method of delivery	Classroom based
Setting/location of intervention	School
Intensity/duration of the intervention	The intervention was spread throughout a full academic year and included 20 weekly meetings. Each session lasted 1 hour and a half across the three elements psychoeducational materials, contemplative practices, social-emotional skills and group activities. Homework assignments were outlined with sessions.
Tailoring/adaptation	Not reported
Unforeseen modifications	Due to funding issues the intervention could not be delivered to the control arm
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Contemplative practices and social-emotional skills training (N = 20)

1 school was randomised to the treatment arm

Control (N = 24)

1 school was randomised to the control arm.

D.138 Todd, 2019**Bibliographic Reference**

Todd, Charlotte; Cooksey, Roxanne; Davies, Helen; McRobbie, Clare; Brophy, Sinead; Mixed-methods evaluation comparing the impact of two different mindfulness approaches on stress, anxiety and depression in school teachers.; BMJ open; 2019; vol. 9 (no. 7); e025686

Study details

Study start date	Apr-2016
Study end date	Sep-2016
Aim	Mixed method: To explore any differences regarding the experiences of teachers attending .b and MBSR courses and examine implementation of the courses into teaching and practice.
Country/geographical location	UK
Setting	Courses took place in UK primary schools or nearby leisure centres

Inclusion criteria	Not reported but all participants were primary and secondary school teachers who attended either an MBSR course or a b Foundations course
Exclusion criteria	Not reported
Statistical method(s) used to analyse the data	<p>Thematic analysis following elements of Braun et al; open coding to assign a word or phrase to each part of the conversation throughout every transcript. Initial themes emerging were identified based on these codes and the two researchers discussed similarities and differences in coding and theme development. Discourse was also undertaken over any differences between the two groups of participants in terms of codes and emergent themes. This discussion was followed by a final refinement of themes.</p> <p>Unclear - 12 participants were purposively selected or which 10 participated (a total of 44/69 participants participated in the quantitative aspects of the study)</p>
Attrition	Not reported - 10/12 participants provided qualitative data
Study limitations (author)	Baseline data showed that those who undertook the MBSR had slightly more depression, anxiety and stress; Views expressed regarding 'embarrassment' and engagement with mindfulness, thus the views and experiences of those who did not take part in the course may differ from those who participated and these findings may not be transferable to people who did not choose to do a mindfulness course; Facilitators had teaching backgrounds and this may impact the style and acceptability of course delivery;
Study limitations (reviewer)	Lack of demographic data in interviewed sample.
Source of funding	Funding to deliver the mindfulness courses was received from the National Union of Teachers (NUT). For evaluation, the work was undertaken with the support of The Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), a UKCRC Public Health Research Centre of Excellence. Joint funding (MR/KO232331/1) from the British Heart Foundation, Cancer Research UK, Economic and Social Research Council, Medical Research Council, the Welsh Government and the Wellcome Trust, under the auspices of the UK Clinical Research Collaboration, is gratefully acknowledged. The work was also undertaken with support of the Austin Bailey Foundation and the National Centre for Population Health and Wellbeing Research (NCPHWR).

Study arms**Mindfulness (N = 10)**

Comparison of two mindfulness approaches: MBSR and .b Foundations

Characteristics**Study-level characteristics**

Characteristic	Study (N = 10)
Age	NR
Nominal	
Gender	80
Nominal	
Ethnicity	NR
Nominal	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes <i>(To explore any differences regarding the experiences of teachers attending .b and MBSR courses and examine implementation of the courses into teaching and practice.)</i>
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes <i>(The study uses mixed methods. The qualitative aspect explores differences regarding</i>

Section	Question	Answer
		<i>the experiences of teachers attending two types of mindfulness training (.b and MBSR) and examines implementation of the courses into teaching and practice.)</i>
Research Design	Was the research design appropriate to address the aims of the research?	Can't tell <i>(There is some reference to the use of semi-structured interviews, thematic analysis and other process but its unclear if these constitute a justification for the methods utilized)</i>
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes <i>(Natural experiment evaluation; Participants selected based on being teaching staff in primary or secondary schools with an interest in delivering mindfulness within their school and encouraged to attend a course as part of their work and teaching role, or had actively sought to attend a course following hearing about it through their teaching union or other methods, as they personally wished to introduce mindfulness to their teaching)</i>
Data collection	Was the data collected in a way that addressed the research issue?	Yes <i>(12 participants were purposively selected for a 1:1 semi-structured interview based on the course they attended; The use of semi-structured interview is not justified but is a commonly used approach; A topic guide is outlined; No evidence of methods modification; All but one of the interviews was audio recorded and transcribed verbatim)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Yes <i>(All interviews were conducted by phone by a researcher experienced in qualitative interviews who had not attended any previous mindfulness courses or involved in mindfulness practice in any way and had not met participants.)</i>
Ethical Issues	Have ethical issues been taken into consideration?	Yes <i>(Ethics approval outlined; The study outlines that at the start of each course, all teachers were handed information sheets and consent forms detailing the study aims.)</i>
Data analysis	Was the data analysis sufficiently rigorous?	Yes <i>(The study outlines that two researchers read transcripts from both groups independently and applied phases of thematic analysis referencing Braun et al but details are not provided. Open coding was assigned to a word or phrase to each part of the conversation per transcript. Initial themes emerging were identified based on these codes and the two researchers met to discuss similarities and differences in coding and theme</i>

Section	Question	Answer
		<i>development. Differences were discussed between the two groups of participants in terms of codes and emergent themes, followed by a final refinement of themes.)</i>
Findings	Is there a clear statement of findings?	Yes <i>(4 themes outlined - these themes occurred across both training course groups and were consolidated and underpinned by verbatim quotes; During the 'refinement of themes process' which followed an initial discussion of final themes attention was paid to whether or not codes and themes occurred in either .b and MBSR transcripts, or both - this approach of 'expert validation' was considered to enhance the trustworthiness of findings; The discussion section considers the finding in light of the original research question.)</i>
Research value	How valuable is the research?	The research is valuable
Overall risk of bias and relevance	Overall risk of bias	Low
Overall risk of bias and relevance	Relevance	Highly relevant

D.139 Travis, 2018

Bibliographic Reference

Travis, Fred; Valosek, Laurent; Konrad, Arthur 4th; Link, Janice; Salerno, John; Scheller, Ray; Nidich, Sanford; Effect of meditation on psychological distress and brain functioning: A randomized controlled study.; Brain and cognition; 2018; vol. 125; 100-105

Study details

Trial registration number	Not reported
Study start date	2009
Study end date	2010
Aim	To determine whether a mind-body technique, the Transcendental Meditation (TM) program could increase EEG brain integration and positive affect and decrease psychological distress in government employees.
Country/geographical location	US
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: public • Industry: local government • Organisation size: not reported • Contract type: not reported • Seniority: mixed (supervisors and administrative staff) • Income: not reported
Inclusion criteria	<ul style="list-style-type: none"> • 18 years or older • an employee of SFUSD • attendance at an informational meeting on the TM program • willingness to be randomly assigned to either active treatment or control group
Exclusion criteria	<ul style="list-style-type: none"> • having already learned Transcendental Meditation • not being available to attend treatment and testing sessions
Method of randomisation	Participants randomly assigned after baseline recording of all measures. Details not reported

Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • ITT analysis- not reported • Power calculations- not reported • MANCOVA of changes on the POMS subscales covarying for the baseline POMS subscales was used to test differences on the POMS. • Effect sizes were calculated with Cohen's d (mean difference between groups divided by pooled standard deviation at baseline). • for all POMS outcome measures, significance was set at $p < .01$ to compensate for multiple measures.
Attrition	Eighty-eight participants (92%) completed post-test POMS (TM, $n=43$, 90% and WL, $n=45$, 94%).
Study limitations (author)	<ul style="list-style-type: none"> • Women made up 83% of the participants in this study. However, when gender was entered into the F-tests, there were no significant interactions.
Study limitations (reviewer)	Outcome measures were self-reported
Source of funding	David Lynch Foundation, Walter and Elise Haas Fund and 1440 Foundation

Study arms

Transcendental meditation (N = 48)

48 participants were randomised to a transcendental meditation programme. Participants were recruited from supervisors and administrative staff working in central offices of a school district.

Wait list (N = 48)

48 participants were randomised to a wait list. Participants were recruited from supervisors and administrative staff working in central offices of a school district.

Characteristics**Arm-level characteristics**

Characteristic	Transcendental meditation (N = 48)	Wait list (N = 48)
Age		
Mean (SD)	45.5 (10.7)	46.6 (9.8)
Gender		
Women	n = 38.9 ; % = 81	n = 38.4 ; % = 80
No of events		

Outcomes**Study timepoints**

- Baseline
- 4 month (Outcomes measured at 4 months)

Employee outcomes

Outcome	Transcendental meditation, Baseline vs 4 month, N = 48	Wait list, Baseline vs 4 month, N = 48
Job stress Self-reported- fatigue subscale of Profile of Moods States (POMS) Sample size	n = 43 ; % = 89.6	n = 45 ; % = 93.8
Job stress Self-reported- fatigue subscale of Profile of Moods States (POMS) Mean (SE)	-4.03 (0.75)	-0.01 (0.73)
Mental health symptoms Self-reported- depression subscale of Profile of Moods States (POMS) Sample size	n = 43 ; % = 89.6	n = 45 ; % = 93.8
Mental health symptoms Self-reported- depression subscale of Profile of Moods States (POMS) Mean (SE)	-4.54 (1.19)	2.31 (1.63)

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Transcendental meditation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Transcendental meditation - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Transcendental meditation (N = 48)

Brief name	Transcendental meditation [page 101]
Rationale/theory/Goal	The Transcendental Meditation technique is a mental technique practiced 15–20 min, twice a day sitting comfortably. Transcendental Meditation practice involves a mantra. However, unlike most mantra meditations, the mantras used during Transcendental Meditation practice are meaningless. Also, unlike most mantra meditations, the Transcendental Meditation technique is not a process of concentration— keeping the mantra in awareness or continued mental rehearsal of the mantra. Rather, Transcendental Meditation practice is a process of effortless transcending—using the mantra as a vehicle to take attention from the ordinary thinking level to the least excited state of consciousness—consciousness without content called pure consciousness. [page 101]
Materials used	Not reported

Procedures used	<ul style="list-style-type: none"> • The Transcendental Meditation technique was learned in a standardized seven-step course (over 5 sessions): an introductory and preparatory lecture and personal interview (session one), and four consecutive days of instruction (sessions two to five)—1½ h each session. • The four days of instruction include individual instruction followed by three group meetings. After the initial instruction, students came in individually for verification of correctness of their meditation practice once a month throughout the study. • Also, weekly knowledge meetings were available to discuss experiences during meditation practice, application of TM practice to different areas of life, or scientific research on meditation effects. <p>[page 101]</p>
Provider	Not reported
Method of delivery	Group and individual sessions [page 101]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Five 1.5-hour sessions followed by monthly sessions and weekly knowledge meetings for the 4-month study [pages 100 and 101]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	The Transcendental Meditation technique was learned in a standardized seven-step course [page 101]
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 48)

Brief name	Wait list [page 101]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were eligible to receive the intervention after completion of the study [page 104]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable

Other details	None
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D.140 Umanodan, 2014

Bibliographic Reference Umanodan, Rino; Shimazu, Akihito; Minami, Masahide; Kawakami, Norito; Effects of computer-based stress management training on psychological well-being and work performance in japanese employees: a cluster randomized controlled trial.; Industrial health; 2014; vol. 52 (no. 6); 480-91

Study details

Study design	Cluster randomised controlled trial
Trial registration number	Not reported
Study start date	May-2009
Aim	To determine the effectiveness of a computer-based stress management training (SMT) programme in improving employees' psychological well-being and work performance.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: manufacturing • Organisation size: large • Contract type: full time • Seniority: mixed (managers and non-managers)

	<ul style="list-style-type: none"> Income: not reported
Inclusion criteria	No inclusion criteria as intervention was planned for all employees in participating units.
Exclusion criteria	No exclusion criteria
Method of randomisation	No details reported
Method of allocation concealment	Not reported
Unit of allocation	Cluster (work unit)
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> ITT analysis-not reported ICCs for primary outcomes (job stress = 0.032, work engagement = 0.033, productivity = 0.054) The statistical power analysis was conducted with a method that takes into account the intracluster correlation coefficient (ICC). An intracluster correlation of $\rho=0.2$, 15 participants for each unit. To prove an intervention effect with an effect size of Cohen's $d=0.4$ and with an error probability $\alpha=0.05$ and 80% power, $n=128$ people in each study arm were required for analysis. Baseline characteristics of the intervention and wait-list control groups were compared and tested using t-tests for continuous data comparisons and chi-tests for ordinal or categorical data comparisons. Furthermore, using the T0 data from the intervention group, baseline characteristics were compared between "completers", or participants who completed all six contents and answered all T0, T1 and T2 questionnaires, and "non-completers", or participants who answered the T0 questionnaire but (1) did not complete all the contents and (2) did not answer the T1 and/or T2 questionnaires. To assess the effects of the intervention on the primary and secondary outcomes, a group \times time interaction was tested using a mixed-model approach employing a repeated-measures ANOVA and the restricted maximum likelihood (REML) estimation method. Time and group were included as fixed factors and subject as a nested within unit random factor. The within-subjects factor was "time" and the between-subjects factor was "group". Job demands were included in the model as a covariate.

	<ul style="list-style-type: none"> • When the group × time interaction was interpreted as significant time simple main effect was computed for each group. In addition, paired t-test for T0 to T1 and T0 to T2 were used to test the differences. • The effect size (Cohen's d) was also calculated as a standardized measure of Cohen suggested the values of d equal to 0.20, 0.50, and 0.80 as small, medium, and large effect sizes, respectively. • Since multiple comparisons were made, the Bonferroni correction was applied to control for increased probability of Type 1 errors or spurious results. Using the Bonferroni procedure, statistical significance was reduced from 0.05 to 0.0038 (0.05/13).
Attrition	<ul style="list-style-type: none"> • Intervention: out of 142 participants randomised, 131 participants responded to follow-up (92.3%) • Control: out of 121 participants randomised, 119 participants responded to follow-up (98.3%) • Baseline characteristics between completers (n=116) and non-completers (n=26) in the intervention group were compared. Non-completers had significantly higher psychological distress scores (t=2.04, p=0.043) and lower scores for seeking social support (t=-2.63, p=0.009) and changing a point of view compared to completers (t=-2.70, p=0.008).
Study limitations (author)	<ul style="list-style-type: none"> • All participants in the study were employees at a manufacturing company, most of whom were men. Therefore, this population is not representative of the general working population. • The computer based SMT program consisted of 6 topics, but the study did not examine the effect of order on any outcome measures. • Outcome measures were only assessed via self-report. • Long-term effects were not measured • The observed changes between baseline and the follow-up sessions for the control and intervention groups are unclear due to lack of previous evidence and quantitative information.
Study limitations (reviewer)	None
Source of funding	Not reported

Study arms

Stress-management training (N = 142)

142 participants from 8 work units were randomised to receive a computer-based stress management programme.

Wait list (N = 121)

121 participants from 4 work units were randomised to a waitlist.

Characteristics**Arm-level characteristics**

Characteristic	Stress-management training (N = 142)	Wait list (N = 121)
Age		
Mean (SD)	39.7 (<i>empty data</i>)	38 (<i>empty data</i>)
Gender		
Men	n = 135 ; % = 95.1	n = 109 ; % = 90.1
No of events		

Outcomes**Study timepoints**

- Baseline
- 19 week (Follow-up at 19 weeks after the baseline survey)

Employee outcomes

Outcome	Stress-management training, Baseline, N = 142	Stress-management training, 19 week, N = 142	Wait list, Baseline, N = 121	Wait list, 19 week, N = 121
Job stress Self-reported- Brief job stress questionnaire - custom value relates to sample size adjusted for clustering with ICC of 0.032 - data extracted from Umanodan 2020 Custom value	85	85	72	72
Job stress Self-reported- Brief job stress questionnaire - custom value relates to sample size adjusted for clustering with ICC of 0.032 - data extracted from Umanodan 2020 Mean (SD)	2 (0.48)	2 (0.45)	2.1 (0.56)	2 (0.55)
job satisfaction Self-reported- Utrecht Work Engagement Scale (UWED-J) - custom value relates to sample size adjusted for clustering with ICC of 0.033 - data extracted from Umanodan 2020 Custom value	84	84	72	72
job satisfaction Self-reported- Utrecht Work Engagement Scale (UWED-J) - custom value relates to sample size adjusted for clustering with ICC of 0.033 - data extracted from Umanodan 2020 Mean (SD)	3 (0.91)	3 (0.99)	2.7 (0.92)	2.8 (0.94)

Job stress - Polarity - Lower values are better

job satisfaction - Polarity - Higher values are better

Employer outcomes

Outcome	Stress-management training, Baseline, N = 142	Stress-management training, 19 week, N = 142	Wait list, Baseline, N = 121	Wait list, 19 week, N = 121
productivity Self-reported- World Health Organization (WHO) Health and Work Performance Questionnaire (HPQ) - custom value relates to sample size adjusted for clustering using ICC of 0.054 - data extracted from Umanodan 2020 Custom value	67	67	57	57
productivity Self-reported- World Health Organization (WHO) Health and Work Performance Questionnaire (HPQ) - custom value relates to sample size adjusted for clustering using ICC of 0.054 - data extracted from Umanodan 2020 Mean (SD)	5.8 (2.01)	5.9 (1.75)	5.5 (2.02)	5.5 (1.91)

productivity - Polarity - Higher values are better

Critical appraisal - cRCT RoB

Employee outcomes - Job stress - Stress-management training - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns <i>(Missing outcome data for intervention group)</i>
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Employee outcomes - job satisfaction - Stress-management training - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low

Section	Question	Answer
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Low
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employer outcomes - productivity - Stress-management training - Wait list

Section	Question	Answer
1a. Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
1b. Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation	Risk of bias judgement for the timing of identification and recruitment of individual participants in relation to timing of randomisation	Low
2. Bias due to deviations from intended interventions (If your aim is to assess the effect of assignment to intervention, answer the following questions).	Risk of bias judgement for deviations from intended interventions	Low

Section	Question	Answer
3. Bias due to missing outcome data	Risk of bias judgement for missing outcome data	Some concerns <i>(Missing outcome data for intervention group)</i>
4. Bias in measurement of the outcome	Risk of bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
5. Bias in selection of the reported result	Risk of bias for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Missing outcome data and self-reported outcomes)</i>

Study arms

Stress-management training (N = 142)

Brief name	Computer-based stress-management programme [page 482]
Rationale/theory/Goal	It was hypothesized that the computer based SMT program would improve employees' psychological resources (i.e., coping skills, social support, and knowledge about stress management as secondary outcomes) and consequently their psychological wellbeing (i.e., (lower) psychological distress, work engagement, and job satisfaction) and work performance. [page 481]
Materials used	<ul style="list-style-type: none"> Weekly emails were sent to participants to increase motivation and decrease dropout rates Computer-based programme <p>[page 482]</p>
Procedures used	<ul style="list-style-type: none"> The computer based SMT program was self-paced and consisted of the following: 1) behavioural techniques, 2) communication techniques, and 3) cognitive techniques.

	<ul style="list-style-type: none"> • Each part was divided into 2 topics on the basis of cognitive behavioural skills: (a) problem-solving and time management skills for the behavioural techniques section, (b) assertion and delegation skills for the communication techniques section, and (c) cognitive restructuring and causal attribution skills for the cognitive techniques section. • Participants learned these skills in a 2-phased approach, which consisted of a skill acquisition phase and a practice phase. <p>[page 482]</p>
Provider	Online [page 482]
Method of delivery	Online [page 482]
Setting/location of intervention	Participants underwent the program during working hours. [page 482]
Intensity/duration of the intervention	7 weeks comprised of 6 lessons [page 482]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Wait list (N = 121)

Brief name	Wait list [page 482]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants started the intervention after the T2 follow-up survey [page 482]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.141 **Unterbrink, 2012**

Bibliographic Reference Unterbrink, T.; Pfeifer, R.; Krippeit, L.; Zimmermann, L.; Rose, U.; Joos, A.; Hartmann, A.; Wirsching, M.; Bauer, J.; Burnout and effort-reward imbalance improvement for teachers by a manual-based group program; International Archives of Occupational and Environmental Health; 2012; vol. 85 (no. 6); 667-674

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To determine whether an intervention aimed at strengthening teachers' health is effective in alleviating occupational stress experiences by teachers.
Country/geographical location	Germany
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: education • Organisation size: not reported • Contract type: mixed (full time and part time) • Seniority: not reported • Income: professional (teachers)
Inclusion criteria	All teachers declaring interest.

Exclusion criteria	Not reported
Method of randomisation	The randomisation followed CONSORT Standards and used a bloc length of six.
Method of allocation concealment	Randomisation was performed by independent experts.
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Per-protocol analyses- means and SD presented were for participants with at least 50% attendance. • Intervention effects were analysed using ANOVAs with general linear model. To measure the size of the effects, the partial η^2 value was used. Effect sizes ≥ 0.026 were observed with satisfying statistical power (80%). These analyses were performed for different data sets. Intention-to-treat (ITT) was carried out by performing several missing imputations.
Attrition	Throughout the intervention, 74 dropouts occurred in the intervention group (54 of whom did not fill out the t1 questionnaires and 20 who, although they had filled out the t1 questionnaires, had nevertheless attended less than 5 sessions) and 29 dropouts in the control group.
Study limitations (author)	Teachers showing a high degree of Depersonalization only improve on the Emotional Exhaustion and the Personal Accomplishment, but not on the Depersonalization scale.
Study limitations (reviewer)	<ul style="list-style-type: none"> • Means and SD were only reported for per-protocol analysis • Most of the participants were women, meaning that the results may not be generalisable to all workplaces • Outcome measures were self-reported
Source of funding	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (Federal Institute for Occupational Safety and Health), Berlin

Study arms

Psychological group training (N = 171)

171 participants were randomised to receive a psychological group training (Health Promotion for Teachers). Teachers were recruited from three neighbouring school districts.

Wait list (N = 166)

166 participants were randomised to a control group. Teachers were recruited from three neighbouring school districts.

Characteristics

Arm-level characteristics

Characteristic	Psychological group training (N = 171)	Wait list (N = 166)
Age Characteristics relating to intervention group n = 161 and control group n = 135	46.9 (9.38)	47 (9.49)
Mean (SD)		
Gender Women	n = 118 ; % = 72.4	n = 104 ; % = 77
No of events		

Outcomes

Study timepoints

- Baseline
- 1 year (Outcomes were measured at 1 year from the start of the study.)

Employee outcomes

Outcome	Psychological group training, Baseline, N = 171	Psychological group training, 1 year, N = 171	Wait list, Baseline, N = 166	Wait list, 1 year, N = 166
Job stress Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	n = 90 ; % = 52.6	n = 90 ; % = 52.6	n = 117 ; % = 70.5	n = 117 ; % = 70.5
Sample size				
Job stress Self-reported - emotional exhaustion subscale of the Maslach Burnout Inventory	2.72 (0.8)	2.58 (0.77)	2.6 (0.81)	2.67 (0.84)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Psychological group training - Wait list**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Some concerns (<i>Per-protocol analysis</i>)
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns (<i>Missing outcome data higher for intervention group</i>)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measures were self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns (<i>ITT analysis was not reported</i>)
Overall bias	Risk of bias judgement	High (<i>Per-protocol analysis only was presented, missing outcome data and self-reported outcomes</i>)

Study arms

Psychological group training (N = 171)

Brief name	Psychological group programme [page 667 - abstract]
Rationale/theory/Goal	The manual-based psychological group program was aimed at teachers and focused on their professional relationships. The programme focussed on topics concerning information about stress biology, reflections of the participating teachers on their mental attitudes toward their own professional role, and considerations and discussions on how to manage interpersonal relationships with pupils, parents, and colleagues. [pages 667 (abstract) and 668]
Materials used	Not reported
Procedures used	<ul style="list-style-type: none"> The group size ranged from 12 to 15 participants per group.

	<ul style="list-style-type: none"> The manual is composed of five modules dealing with the following issues: (i) basic knowledge of stress physiology and the effects of interpersonal relationships on health parameters; Jacobson's relaxation training; (ii) mental attitudes with particular respect to authenticity (being congruent with oneself) and identification with the professional role; (iii) competence in handling relationships with pupils; (iv) competence in handling relationships with parents; and (v) strengthening collegiality and social support among the staff (detecting and fending of splitting tendencies). <p>[page 670]</p>
Provider	Certified psychotherapists moderated each group. [page 670]
Method of delivery	Group sessions [page 670]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Ten 90-minute sessions over ten months [page 670]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	The group work was based on a published manual. All moderators completed training to apply this manual. [page 670]
Actual treatment fidelity	Adherence to the intervention group was below 100%. [page 669]
Other details	None

Wait list (N = 166)

Brief name	Wait list [page 669]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	The control group participated in the intervention throughout the following year. [page 669]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.142 **van Berkel, 2014**

Bibliographic Reference van Berkel, Jantien; Boot, Cecile R L; Proper, Karin I; Bongers, Paulien M; van der Beek, Allard J; Effectiveness of a worksite mindfulness-related multi-component health promotion intervention on work engagement and mental health: results of a randomized controlled trial.; PloS one; 2014; vol. 9 (no. 1); e84118

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NTR2199
Study start date	Oct-2010
Study end date	Nov-2011
Aim	To determine the effectiveness of a worksite mindfulness-related multi-component health promotion intervention on work engagement, mental health, need for recovery, and mindfulness.
Country/geographical location	the Netherlands
Setting	Workplace: <ul style="list-style-type: none"> • Sector: not reported • Industry: research • Size of organisation large • Contract type: not reported • Seniority: not reported

	<ul style="list-style-type: none"> Income: mixed (highly educated and not highly educated)
Inclusion criteria	<p>Employees who signed the consent for and:</p> <ul style="list-style-type: none"> had not been on sick leave for more than 4 weeks were not pregnant at the time of recruitment
Exclusion criteria	Not reported
Method of randomisation	Computer generated randomisation sequence
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> Intention-to-treat analysis was performed. The sample size was based on finding an effect on work engagement, measured using the UWES. An effect of a 10% increase in mean score was expected to be relevant and feasible. With a power of 90% and a two-sided alpha of 5%, both groups needed 89 participants. Accounting for a loss to follow-up of 25% over 12 months, each group needed 119 workers at baseline, thus an initial total of 238 participants for the two groups. Linear mixed effect models were performed with each outcome measure as the dependent variable, group (intervention vs. control group) as independent variable and time of follow-up measurements (T1: follow up at 6 months and T2: follow up at 12 months) as fixed factor, while adjusting for the baseline levels of the outcome measure. Linear regression analyses with complete case on either T1 or T2 were conducted as sensitivity analysis. The researchers were not blinded for the analyses

Attrition	<ul style="list-style-type: none"> • Intervention: Out of 129 participants randomised, 8 participants (6.2%) dropped out prior to 12-month follow up. Reasons included resignation, no time and personal reasons. • Control: Out of 128 participants randomised, 17 participants (13.3%) dropped out prior to 12-month follow up. Reasons included resignation, no time, personal reasons, dissatisfied with control, unknown.
Study limitations (author)	<ul style="list-style-type: none"> • No precursors of work engagement were measured • Women and highly educated workers were over-represented compared to the source population, meaning that the findings may not be generalisable • The intervention was targeted towards scientific professions, meaning that that the findings of the study are limited to this group
Study limitations (reviewer)	<ul style="list-style-type: none"> • Self-selected study population • Self-reported outcome measures
Source of funding	Fonds Nuts Ohra (Nuts Ohra Foundation)

Study arms

Mindfulness training with e-coaching and health promotion (N = 129)

129 out of 257 participants were randomised to the intervention group. All employees from 2 Dutch research institutes were invited to participate (n=1820).

Usual practice (N = 128)

128 out of 257 participants were randomised to the intervention group. All employees from 2 Dutch research institutes were invited to participate (n=1820).

Characteristics

Arm-level characteristics

Characteristic	Mindfulness training with e-coaching and health promotion (N = 129)	Usual practice (N = 128)
Age		
Mean (SD)	46 (9.4)	45.1 (9.6)
Gender		
Women - n calculated from percentage by reviewer	n = 82 ; % = 63.6	n = 91 ; % = 71.1
No of events		
Socioeconomic status		
Higher vocational education or university - n calculated from percentage by reviewer	n = 99 ; % = 76.7	n = 110 ; % = 85.9
No of events		

Outcomes

Study timepoints

- Baseline
- 12 month (Follow up at 12 months from start of the intervention)

Employee outcomes

Outcome	Mindfulness training with e-coaching and health promotion, Baseline, N = 129	Mindfulness training with e-coaching and health promotion, 12 month, N = 129	Usual practice, Baseline, N = 128	Usual practice, 12 month, N = 128
Job stress (0 - 100) Self-reported - Recovery scale of Experience and Evaluation of Work Sample size	n = 126 ; % = 97.7	n = 117 ; % = 90.7	n = 126 ; % = 98.4	n = 109 ; % = 85.2
Job stress (0 - 100) Self-reported - Recovery scale of Experience and Evaluation of Work Mean (SD)	26 (24)	27.4 (26.1)	28.2 (27.8)	26.5 (27.1)
Mental health symptoms (0 - 100) Self reported - mental health scale from the RAND-36 Sample size	n = 129 ; % = 100	n = 119 ; % = 92.2	n = 127 ; % = 99.2	n = 111 ; % = 86.7
Mental health symptoms (0 - 100) Self reported - mental health scale from the RAND-36 Mean (SD)	74.8 (12.9)	73.3 (13.8)	73.6 (14.1)	74.6 (13.9)
job satisfaction (0-6) Self reported - Utrecht Work Engagement Scale (UWES)	n = 129 ; % = 100	n = 120 ; % = 93	n = 126 ; % = 98.4	n = 112 ; % = 87.5

Outcome	Mindfulness training with e-coaching and health promotion, Baseline, N = 129	Mindfulness training with e-coaching and health promotion, 12 month, N = 129	Usual practice, Baseline, N = 128	Usual practice, 12 month, N = 128
Sample size				
job satisfaction (0-6) Self reported - Utrecht Work Engagement Scale (UWES)	4.1 (0.8)	3.9 (0.9)	4 (0.9)	4 (0.9)
Mean (SD)				

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Higher values are better

job satisfaction - Polarity - Higher values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mindfulness training with e-coaching and health promotion vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Mindfulness training with e-coaching and health promotion vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - job satisfaction - Mindfulness training with e-coaching and health promotion vs Usual practice

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness training with e-coaching and health promotion (N = 129)

Brief name	The Mindful Vitality in Practice (VIP) intervention [page 2]
Rationale/theory/Goal	The working mechanism for increasing work engagement is that by becoming aware of thoughts, emotions and bodily sensations, and accepting them in a non-judging way, personal resources can be built. Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to cope with their environment successfully [page 2]
Materials used	<ul style="list-style-type: none"> • 2 CDs with guided meditation exercises • A booklet with examples of workplace situations, background and (workplace) exercises <p>[page 2]</p>
Procedures used	<ul style="list-style-type: none"> • 8 weeks of in-company mindfulness-related training with homework exercises, followed by 8 sessions of e-coaching. • Weekly mindfulness-related training sessions took 90 minutes and were held in a room at the worksite in a group setting of 4 to 17 participants. • Participants completed training in their own time (not during paid working hours), but the timetable was adapted to working hours as much as possible (before working hours, around lunch time and after working hours). • The homework exercises took approximately 30 minutes per day on 5 days per week and comprised a variety of formal ("body scan" meditation, sitting meditation) and informal exercises (small exercises, such as breathing exercises when starting up the computer, and grocery shopping mindfully). • Cognitive exercises relevant to work engagement were also incorporated into the training. • E-coaching was integrated into the mindfulness-related training and was adapted to the mindfulness context as much as possible. Kindness and awareness were key elements. During the penultimate session, the participants were asked to write a Personal Energy Plan (PEP), setting goals for themselves. The trainers provided 8 e-coaching sessions (by email), existing of positive feedback (kindness) on the PEP and answers to questions. • Free fruit and snack vegetables were provided during 6 months. • Lunch walking routes, and a buddy-system were offered as supportive tools. • The buddy system was incorporated in the mindfulness training: the training was given in group setting and, in addition, participants were asked to form pairs to discuss homework exercises and to keep in contact between the sessions.

	<ul style="list-style-type: none"> The control intervention was offered: participants were emailed with a link to an internet web page. This web page contained information about what the organisations offered their employees with respect to health promotion. This information was already available for all employees. <p>[pages 2 and 3]</p>
Provider	The mindfulness-related training was led by four certified trainers. These trainers were all members of the Society of Mindfulness-Based trainers in the Netherlands and Flanders, which means they have followed a mindfulness trainer education that is recognized by this Society. [page 3]
Method of delivery	Group sessions, e-coaching, and individual practice [pages 2 and 3]
Setting/location of intervention	Workplace, online and at-home [pages 2 and 3]
Intensity/duration of the intervention	6-month intervention comprised of 8 weekly 90 minutes mindfulness sessions, 8 e-coaching sessions and 30 minutes of individual practice 5 days per week. [pages 2 and 3]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Usual practice (N = 128)

Brief name	Usual practice [page 3]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants were emailed with a link to an internet web page. This web page contained information about what the organisations offered their employees with respect to health promotion. This information was already available for all employees. [page 3]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.143 van Drongelen, 2014

Bibliographic Reference van Drongelen, Alwin; Boot, Cecile RI; Hlobil, Hynek; Twisk, Jos Wv; Smid, Tjabe; van der Beek, Allard J; Evaluation of an mHealth intervention aiming to improve health-related behavior and sleep and reduce fatigue among airline pilots.; Scandinavian journal of work, environment & health; 2014; vol. 40 (no. 6); 557-68

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Netherlands Trial Register: NTR2722
Aim	To investigate the effects of an mHealth intervention among airline pilots consisting of tailored advice on exposure to daylight, sleep, physical activity, and nutrition
Country/geographical location	The Netherlands
Setting	<p>Workplace</p> <ul style="list-style-type: none"> • Sector: Not reported • Industry: Transport • Organisation size: Large • Contract type: not reported • Seniority: Mixed • Income: professional (Pilots)
Inclusion criteria	<ul style="list-style-type: none"> • Not on sick leave • owned a smartphone or tablet with an Android or iOS operating system

Exclusion criteria	None reported
Method of randomisation	Minimisation method using following factors, aircraft and job title
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<p>Power calculation used as follows in order to detect a relevant 10% difference in fatigue, 246 subjects were necessary in each study group (power=0.80; $\alpha=0.05$). Taking into account a loss to follow-up of 25%, the total sample size was intended to be 656 pilots.</p> <p>ITT reported but no details provided</p> <p>A two-tailed significance level of $P<0.05$ was considered to be statistically significant in all analyses.</p>
Attrition	199 out of 251 (79.3%) of the intervention group and 191 out of 251 (76.1%) provided data at 6 months follow up
Study limitations (author)	<ul style="list-style-type: none"> • use of self-reported outcome measures • study aimed for a 10% decreased in fatigue but this was recognised as an arbitrary threshold
Study limitations (reviewer)	None to add
Source of funding	Funding not reported

Study arms

Mobile sleep intervention (N = 251)

251 participants were randomised to receive the mHealth intervention. All pilots from a large internationally operating airline company were invited to participate.

Control (N = 251)

251 participants were randomised to a control group. All pilots from a large internationally operating airline company were invited to participate.

Characteristics**Arm-level characteristics**

Characteristic	Mobile sleep intervention (N = 251)	Control (N = 251)
Age (years)	41 (8)	40.7 (8.7)
Mean (SD)		
Female	n = 21 ; % = 8.4	n = 13 ; % = 5.2
Sample size		

Outcomes**Study timepoints**

- Baseline
- 6 month (Outcomes were measured 6 months after baseline outcome measures.)

Employee outcomes

Outcome	Mobile sleep intervention, Baseline, N = 251	Mobile sleep intervention, 6 month, N = 251	Control, Baseline, N = 251	Control, 6 month, N = 251
Job stress Self-reported - fatigue measured using the 20-item Checklist Individual Strength (CIS)	62.31 (21.03)	59.01 (21.19)	62.48 (22.18)	62.44 (22.81)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Mobile sleep intervention - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mobile sleep intervention (N = 251)

Brief name	mHealth intervention (intervention using mobile technology) [page 557 - abstract]
Rationale/theory/Goal	The mHealth intervention among airline pilots consisted of tailored advice on exposure to daylight, sleep, physical activity, and nutrition. It was hypothesized that, easy obtainable, tailored advice would improve health-related behaviour, resulting in a reduction of sleep problems and fatigue and an improvement in health perception. [page 558]
Materials used	<ul style="list-style-type: none"> Email containing an instruction manual and unique login details. Mobile application that was available in the app stores for iOS and Android and a secure part of the project website. <p>[page 558 and 559]</p>
Procedures used	<ul style="list-style-type: none"> The MORE Energy app contained advice tailored to flight schedules and personal characteristics aiming to reduce fatigue and circadian disruption as much as possible. The advice was evidence-based and discussed with experts in the field of chronobiology, physical activity, and nutrition. Participants were encouraged to read background information which was available in the glossary menu of the app. If applicable, the app guided the users to the project website with more information, including videos and audio files. The app had two types of reminders: timed alerts (when the participant did not consult the advice on the app for longer than three weeks) and geofencing alerts (when the participant arrived somewhere outside of the Netherlands, with a maximum of one alert per four days). <p>[page 559]</p>

Provider	Mobile app [page 559]
Method of delivery	Mobile app [page 559]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	Access throughout 6-month study [page 557 - abstract]
Tailoring/adaptation	Not reported
Unforeseen modifications	Due to technical complications, both types of reminders were malfunctioning during the intervention period. [page 559]
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 251)

Brief name	Minimal intervention [page 559]
Rationale/theory/Goal	Not applicable
Materials used	Secure part of project website [page 559]

Procedures used	Participants received a minimal intervention consisting of access to a secure part of the project website, which contained basic, nontailored, fatigue and health-related information that was already available within the airline company (such as information about sleep hygiene and the working mechanisms of the biological clock). [page 559]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.144 Verweij, 2018

Bibliographic Reference Verweij, Hanne; van Ravesteijn, Hiske; van Hooff, Madelon L M; Lagro-Janssen, Antoine L M; Speckens, Anne E M; Mindfulness-Based Stress Reduction for Residents: A Randomized Controlled Trial.; Journal of general internal medicine; 2018; vol. 33 (no. 4); 429-436

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NTR4180
Study start date	Oct-2013
Study end date	Oct-2015
Aim	To determine whether a mindfulness-based stress reduction (MBSR) programme is effective in reducing burnout in residents.
Country/geographical location	The Netherlands
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: healthcare • Organisation size: large • Contract type: not reported • Seniority: residents • Income: professional

Inclusion criteria	Residents from all stages of residency as long as their term of residency would not have been expired at baseline assessment.
Exclusion criteria	Residents who had participated in an MBSR course previously.
Method of randomisation	Computer-generated randomisation sequence using an independent website specifically designed for the study. The randomisation was minimized, taking into account a) the burnout cut-off level for emotional exhaustion (20 or higher), b) gender (male/female) and c) medical specialty group (medical, surgical, supportive, psychiatry or primary care).
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Intention-to-treat and per-protocol analysis was conducted • It was reported that based on an estimated correlation of 0.5 between the baseline and the post-intervention measurement, a power of 80% and a two-sided t test with an alpha of 0.05, approximately 81 subjects would be needed per arm. As the researchers planned to incorporate the baseline levels in the analysis [using analysis of covariance (ANCOVA)], this number was multiplied by a design factor of 0.75, resulting in 60 subjects required per arm (120 in total). Taking into account a dropout percentage of 25%, the researchers aimed to recruit 160 participants. As the dropout rate was lower than expected, they stopped recruiting at 148. • Baseline differences between the MBSR and control groups and between participants who dropped out and those who remained in the study by means of chi-square and independent samples t tests. • Post-intervention scores were compared between the two groups with ANCOVA analyses, controlling for baseline measurements and minimization criteria. • Two-sided p values with an alpha < 0.05 level of significance • Cohen's d-type effect sizes were calculated with the adjusted differences between the groups using the pooled standard deviation at baseline. • A sensitivity analysis with multiple imputation techniques to estimate missing values.
Attrition	<ul style="list-style-type: none"> • Intervention: Of 80 participants randomised, 68 (85%) received the intervention, 4 did not initiate MBSR and 8 initiated MBSR but attended less than 4 sessions (4 due to lack of time, 1 expectations not met, 3 unknown). 71 (89%) participants completed post-intervention measurements.

	<ul style="list-style-type: none"> Control: Out of 68 participants randomised, 67 (99%) completed post-intervention measurements.
Study limitations (author)	<ul style="list-style-type: none"> The study was performed in a single medical university in the Netherlands, which may limit the generalisability Participants were self-selected, so there may have been selection bias Men were underrepresented Residents from surgical specialities were relatively underrepresented It is unknown how MBSR compares with other interventions for residents The results are limited to immediate post-intervention outcomes
Study limitations (reviewer)	<ul style="list-style-type: none"> Although there were no other differences in baseline characteristics, there were significant differences between intervention and control groups for work-home interference and home-work interference. Outcome measures were self-reported
Source of funding	Department for Evaluation, Quality and Development of Education of the Radboudumc

Study arms

Mindfulness-based stress reduction intervention (N = 80)

80 participants were randomised to receive the mindfulness-based stress reduction (MBSR) intervention. Participants self-referred from a single organisation.

Wait list (N = 68)

68 participants were randomised to a wait list control. Participants self-referred from a single organisation.

Characteristics

Arm-level characteristics

Characteristic	Mindfulness-based stress reduction intervention (N = 80)	Wait list (N = 68)
Age		
Mean (SD)	31.4 (4.5)	31 (4.8)
Gender		
Women	n = 72 ; % = 90	n = 58 ; % = 85
No of events		

Outcomes

Study timepoints

- Baseline
- 3 month (Follow up 3 months after the intervention)

Employee outcomes

Outcome	Mindfulness-based stress reduction intervention, Baseline, N = 80	Mindfulness-based stress reduction intervention, 3 month, N = 80	Wait list, Baseline, N = 68	Wait list, 3 month, N = 68
Mental wellbeing (0-5) Self reported - Mental Health Continuum-Short Form	n = 80 ; % = 100	n = 71 ; % = 88.8	n = 68 ; % = 100	n = 67 ; % = 98.5
Sample size				
Mental wellbeing (0-5) Self reported - Mental Health Continuum-Short Form	3 (0.8)	3.3 (0.6)	3 (0.7)	3.1 (0.9)

Outcome	Mindfulness-based stress reduction intervention, Baseline, N = 80	Mindfulness-based stress reduction intervention, 3 month, N = 80	Wait list, Baseline, N = 68	Wait list, 3 month, N = 68
Mean (SD)				
Job stress (0-48) Self-reported - Emotional exhaustion subscale of Dutch version of the Maslach Burnout Inventory-Human Services Survey	n = 80 ; % = 100	n = 71 ; % = 88.8	n = 68 ; % = 100	n = 67 ; % = 98.5
Sample size				
Job stress (0-48) Self-reported - Emotional exhaustion subscale of Dutch version of the Maslach Burnout Inventory-Human Services Survey	16.5 (7.8)	15 (5.7)	14.5 (7.1)	13.7 (7.8)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Mindfulness-based stress reduction intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Employee outcomes - Job stress - Mindfulness-based stress reduction intervention vs Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Mindfulness-based stress reduction (MBSR) (N = 80)

Brief name	Mindfulness-based stress reduction programme [page 430]
Rationale/theory/Goal	Mindfulness is defined as intentionally paying attention to the present moment in a non-judgmental way. Although mindfulness has been taught for centuries as part of Buddhist tradition, the meditation practices taught in MBSR are psycho-educational and secular. MBSR has been found to reduce symptoms of depression and anxiety and to improve quality of life in patients with a variety of somatic and psychiatric disorders. [pages 429 and 430]
Materials used	None reported
Procedures used	<ul style="list-style-type: none"> • The programme consisted of eight weekly 2.5-hour sessions in the evening and a 6 hour silent day during the weekend. • Participants practiced formal mindfulness exercises including the body scan, yoga, and sitting and walking meditation. • Participants received psychoeducation about stress, and were instructed to practice daily at home for 45 min. • Residents learned to focus their attention on the present moment and observe their own thoughts, feelings and behaviour in a kind and non-judgmental way, rather than identifying with them (meta-awareness). They were encouraged to become aware of their own automatic behaviour patterns and to consider replacing them with more helpful behaviour.

	<ul style="list-style-type: none"> Residents participated in regular MBSR courses that were offered by the Radboud Centre for Mindfulness about three evenings a week, four times a year. Group size varied from 8 to 16 participants. <p>[page 430]</p>
Provider	11 different trainers, all of whom met the requirements of the good practice guidance for teaching mindfulness-based courses. [page 430]
Method of delivery	Group sessions and at-home practice [page 430]
Setting/location of intervention	Not reported
Intensity/duration of the intervention	8 weeks with weekly 2.5-hour sessions and at-home daily practice of 45 minutes including a 6-hour silent day at the weekend [page 430]
Tailoring/adaptation	None reported
Unforeseen modifications	None reported
Planned treatment fidelity	<ul style="list-style-type: none"> Original MBSR protocol {Kabat-Zinn 1990} Completers were defined as having attended four or more MBSR sessions <p>[page 430]</p>
Actual treatment fidelity	4 out of 80 participants did not initiate MBSR and 8 attended less than 4 sessions [page 432]
Other details	Participants received a certificate for participation to be included in their training portfolio [page 430]

Wait list (N = 68)

Brief name	Wait list [page 430]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	After the 3-month control period, participants were given the opportunity to participate in the MBSR training [page 430]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.145 **Vuori, 2012****Bibliographic Reference**

Vuori, J; Toppinen-Tanner, S; Mutanen, P; Effects of resource-building group intervention on career management and mental health in work organizations: randomized controlled field trial.; The Journal of applied psychology; 2012; vol. 97 (no. 2); 273-286

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	2006
Study end date	2008
Aim	To investigate whether a preventive, resource-building group intervention designed to enhance career management preparedness and implemented universally at the workplace would benefit employees' career and mental health.
Country/geographical location	Finland
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: Mix of public and private • Industry: Mix of local government, research institutes, employment office, finance, multi-service and occupational health services • Organisation size: Mix of medium and large • Contract type: 89% view their job as secure • Seniority: Not reported • Income: Not reported

Inclusion criteria	All employees were eligible
Exclusion criteria	None reported
Method of randomisation	Independent researcher shuffled envelopes
Method of allocation concealment	Sealed envelopes
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<p>Power calculation: not reported</p> <p>ITT: Multiple imputation was used to treat missing data</p> <p>A random intercept mixed-effects model was used for evaluating these immediate and 7-month follow-up effects. The use of this model provides correct standard errors when nonindependence exists in data</p>
Attrition	324 out of 369 (87.8%) in the intervention group and 292 out of 349 (83.7%) of the control group provided data.
Study limitations (author)	<p>Many of those involved were women in white collar occupations so findings may not be generalisable to other workforces.</p> <p>Concern that participants who have undergone time-consuming and intensive treatment may be motivated to report having benefited from the intervention to justify the investments made by themselves and by those delivering the program.</p>
Study limitations (reviewer)	None to add

Source of funding	<ul style="list-style-type: none"> • Finnish Work Environment Fund • The Finnish Ministry of Finance • The Academy of Finland
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Study arms

Resource-building intervention (N = 369)

369 participants were randomised to receive a resource-building intervention. Participants volunteered to participate following a recruitment meeting.

Control (N = 349)

349 participants were randomised to receive information only. Participants volunteered to participate following a recruitment meeting.

Characteristics

Arm-level characteristics

Characteristic	Resource-building intervention (N = 369)	Control (N = 349)
Age		
Mean (SD)	50.47 (6.49)	49.67 (6.44)
Female		
Sample size	n = 319 ; % = 86.45	n = 313 ; % = 89.68
Male		
	n = 50 ; % = 13.55	n = 36 ; % = 10.43

Characteristic	Resource-building intervention (N = 369)	Control (N = 349)
Sample size		
University	n = 76 ; % = 20.6	n = 85 ; % = 24.64
Sample size		
College	n = 141 ; % = 38.21	n = 132 ; % = 38.26
Sample size		
Other	n = 152 ; % = 41.19	n = 128 ; % = 37.1
Sample size		

Outcomes

Study timepoints

- 7 month (7 months after the intervention)

Outcomes

Outcome	Resource-building intervention, 7 month, N = 369	Control, 7 month, N = 346
Mental health symptoms - Depression Using the Beck Depression Inventory	n = 320 ; % = 86.7	n = 290 ; % = 83.8
Sample size		
Mental health symptoms - Depression Using the Beck Depression Inventory	1.28 (0.34)	1.33 (0.36)
Mean (SD)		

Outcome	Resource-building intervention, 7 month, N = 369	Control, 7 month, N = 346
Job stress Using MBI - Exhaustion subscale	n = 320 ; % = 86.7	n = 291 ; % = 84.1
Sample size		
Job stress Using MBI - Exhaustion subscale	1.69 (1.42)	1.76 (1.42)
Mean (SD)		
Mental wellbeing Using Work Ability Index - mental resources subscale	n = 318 ; % = 86.2	n = 291 ; % = 84.1
Sample size		
Mental wellbeing Using Work Ability Index - mental resources subscale	3.26 (0.8)	3.21 (0.82)
Mean (SD)		

Mental health symptoms - Depression - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Mental wellbeing - Polarity - Higher values are better

Critical appraisal - RCT RoB

Outcomes-Mentalhealthsymptoms-Depression-MeanSD-Resource-building-Control-t7

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low

Section	Question	Answer
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Outcomes-Jobstress-MeanSD-Resource-building-Control-t7

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Outcomes-Mentalwellbeing-MeanSD-Resource-building-Control-t7

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low

Section	Question	Answer
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

Resource-building intervention (N = 369)

Brief name	resource-building group intervention [page 273 - abstract]
Rationale/theory/Goal	The intervention was designed to achieve its goals through the creation of a socially supportive environment that facilitates positive interactions and relationships between trainers and participants, as well as between the participants themselves. The training was designed to increase participants' job-search self-efficacy and motivation and to endorse the following career management skills: (a) identifying and communicating one's skills and abilities, (b) identifying and using one's social network and solving conflicts in social relationships, (c) developing assertiveness at work, (d) developing stress management skills, and (e) building commitment to one's personal work-related plan for the near future. [page 277]
Materials used	
Procedures used	<ul style="list-style-type: none"> • Participants were contacted by trainers in the organisation and invited to participate in a 1-week group intervention workshop. • The workshop used methods such as active learning process, social modelling, gradual exposure, and practice through role playing. One of its aims of the programme was to provide inoculation against setbacks. • The groups, comprising 8–15 employees and/or supervisors, assembled for five half-day sessions that focused on the enhancement of career management skills. • Coffee and sandwiches were served at each session.
Provider	The program was delivered by a co-trainer team of two trainers, and the recommendation was that one of them represent the occupational health services (OHS) and the other human resources (HR) activities. The trainers were nominated by the participating organizations. Their instruction was provided by the FIOH research team over a period of 4 days. The

	trainers underwent the whole training program and were instructed in the principles of learning and given other related theoretical background. They also received practical advice. [page 277]
Method of delivery	Group workshop [page 277]
Setting/location of intervention	Classrooms or similar sites in the workplace [page 277]
Intensity/duration of the intervention	One-week intervention comprised of four half-day sessions [page 277]
Tailoring/adaptation	<ul style="list-style-type: none"> • In some organisations the intervention was performed over three full days. • Not all organisations had one HR and one OHS co-trainer. <p>[page 277]</p>
Unforeseen modifications	Not reported
Planned treatment fidelity	The intervention was manualised (Towards Successful Seniority Trainer's Manual (Vuori, Ristolainen, et al.,2008). [page 277]
Actual treatment fidelity	Not reported
Other details	None

Control (N = 349)

Brief name	Information only [page 277]
Rationale/theory/Goal	Not applicable

Materials used	Literature package that provided basic career management-related information and included a pocket guide for the maintenance of work ability and well-being and the prevention of stress. [page 277]
Procedures used	Study participants in the comparison group were given a literature package [page 277]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.146 **Wachi, 2007****Bibliographic Reference**

Wachi, M; Koyama, M; Utsuyama, M; Bittman, BB; Kitagawa, M; Hirokawa, K; Recreational music-making modulates natural killer cell activity, cytokines, and mood states in corporate employees.; Medical science monitor : international medical journal of experimental and clinical research; 2007; vol. 13 (no. 2); cr57

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To evaluate the effectiveness of recreational music-making as an effective means of stress reduction
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: private • Industry: Manufacturing • Organisation size: large • Contract type: not reported • Seniority: mixed • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	<ul style="list-style-type: none"> • active medical illnesses, • infections, • receiving treatment for a medical problem,

	<ul style="list-style-type: none"> • a history of heart and lung disease, • smoking, • listening to drumming music on a regular basis, • previous participation in drumming sessions
Method of randomisation	Stratified but no other details reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	<ul style="list-style-type: none"> • Power calculation was not reported but crossover design used to ensure adequate sample size • ITT: Not reported
Attrition	No dropouts for part 1 of study
Study limitations (author)	Limited sample size is likely to be sufficient to accommodate deviations from normal distributions. methodology used for measuring mRNA for assessing cytokine profile
Study limitations (reviewer)	None to add
Source of funding	Yamaha Corporation

Study arms

Music-making (N = 20)

20 participants were randomised to a recreational music-making group drumming intervention. Participants volunteered to participate after a recruitment notice was posted on the internal electronic bulletin board.

Control (N = 20)

20 participants were randomised to a reading only time control. Participants volunteered to participate after a recruitment notice was posted on the internal electronic bulletin board. Reading only time

Characteristics**Study-level characteristics**

Characteristic	Study (N = 40)
Age	38.4 (8.3)
Mean (SD)	
Male	n = 40 ; % = 100
Sample size	

Outcomes**Study timepoints**

- Baseline
- 0 week (Endpoint)

Outcomes

Outcome	Music-making, Baseline, N = 20	Music-making, 0 week, N = 20	Control, Baseline, N = 10	Control, 0 week, N = 20
Mental health symptoms - Depression Using Profile of Mood States - Depression subscale (self-report)	47.1 (7)	45.6 (6.2)	50.7 (8.6)	48.6 (8.1)
Mean (SD)				
Job stress Using Profile of Mood States - Tension subscale (self-report)	47.7 (9.1)	45.4 (7.2)	49.6 (10.6)	48.6 (10.5)
Mean (SD)				

Mental health symptoms - Depression - Polarity - Lower values are better

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Job stress - Music-making - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Lack of detail over randomisation procedure)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Concerns of randomisation and use of self-reported outcomes</i>)

Employee outcomes - Mental health symptoms - Depression - Music-making - Control

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns (<i>Lack of detail over randomisation procedure</i>)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low

Section	Question	Answer
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High (<i>Concerns of randomisation and use of self-reported outcomes</i>)

Study arms

Music making (N = 20)

Brief name	Recreational Music-Making (RMM) group drumming [page 57 - abstract]
Rationale/theory/Goal	Among the various stress-reduction strategies, the use of music is gaining recognition as an effective means for improving quality of life. Much of the evidence on the benefits of using music for reducing psychological stresses. [page 58]
Materials used	A wide variety of percussion instruments: tubanos, claves, tambourines, djembes, gathering drums, and buffalo drums. [page 59]
Procedures used	<ul style="list-style-type: none"> Following collection of outcome measures, including clinical measures and self-reported measures, participants were then taken to a room in which the intervention to place. Participants could choose an instrument.

	<ul style="list-style-type: none"> • The facilitator's role was to elicit laughter, self-expression, and a sense of togetherness. • the only segment in which the facilitator specifically asked the participants to express the stress they were feeling was “Resonance Within.” <p>[page 59]</p>
Provider	An experienced Japanese facilitator who had been trained in accordance with the protocol. [page 59]
Method of delivery	Group session [page 59]
Setting/location of intervention	Workplace (Yamaha Health Management Center) [page 59]
Intensity/duration of the intervention	One-hour intervention [page 59]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Intervention was delivered according to the HealthRHYTHMSTM Group Empowerment Drumming protocol [page 59]
Actual treatment fidelity	Not reported
Other details	None
Control (N = 20)	
Brief name	Leisurely reading [page 57 - abstract]

Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Following collection of outcome measures, participants were asked to choose from a selection of the latest issues of magazines and newspapers and to read at leisure for an hour. [page 59]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

D.147 Weber, 2019**Bibliographic Reference**

Weber, Silvana; Lorenz, Christopher; Hemmings, Nicola; Improving Stress and Positive Mental Health at Work via an App-Based Intervention: A Large-Scale Multi-Center Randomized Control Trial.; *Frontiers in psychology*; 2019; vol. 10; 2745

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	NR
Study start date	Jan-2021
Study end date	Sep-2018
Aim	Examine whether a science-based health and wellbeing application, named “Kelaa Mental Resilience” and provided by Soma Analytics, drives statistically and functionally significant improvements in validated measures of stress and wellbeing.
Country/geographical location	Study references 'European companies' in Germany, England, and Northern Ireland.
Setting	<p>Workplace:</p> <ul style="list-style-type: none"> • Sector: private and public • Industry: not reported • Organisation size: not reported • Contract type: not reported • Seniority: not reported • Income: mixed
Inclusion criteria	Not specified

Exclusion criteria	Not specified - reference made to use of app or early download of app as reason for exclusion.
Method of randomisation	Not specified - the study outlines that after signing up and giving informed consent, participants were randomly assigned to one out of two experimental conditions: app group vs. waitlist control with no further details outlined.
Method of allocation concealment	The study does not refer to allocation concealment per se. The study outlines that during the recruitment phase, employees were informed via email and information on a web portal that on launch day, they would receive an email containing a link to the first of the four assessments. Data was collected online using the survey software Qualtrics. Participants in the app group were asked to complete the first questionnaire prior to downloading and engaging with the app.
Unit of allocation	Participant level - employees were informed via email and information on a web portal that on launch day, they would receive an email containing a link to the first of the four assessments.
Unit of analysis	Participant level
Statistical method(s) used to analyse the data	Mean and standard deviation; Multilevel modelling for repeated measures where measurements (Level 1) are nested within subjects (Level 2).
Attrition	678 participants made up the complete data set which is thought to mean participants randomised. The number of participants dropped to n = 483 at T2, n = 396 at T3, and n = 363 at T4. A total of n = 301 (44.4%) people completed all questionnaires at all times, while n = 105 people completed three (15.5%), n = 99 two (14.6%), and n = 146 (21.5%) only one out of four measurement occasions.
Study limitations (author)	The a priori sample size calculation (n=561) was not met in the study (n=532); Possibility of false positives due to multiple hypotheses testing; Sample was heterogeneous: over-representation of female participants, the relatively high educational standard. The scales used to assess the Dependent Variables varied in terms of their sensitivity to change so some may not have been sensitive enough to capture smaller changes that occurred, such as fluctuations in mood which may have contributed to the less clear-cut effects for outcomes such as resilience. Authors outlined that the study was not conducted at enough trial sites, and not enough participants were recruited within each site to include organization as a third level into the multilevel analyses. Due to personalization there was large variability in participant app use, regarding both the tracking and the interventional module, it cannot be concluded which of the elements contributed to the app being effective in reducing stress and increasing wellbeing. The naturalistic nature of

	the RCT meant that a range of factors could not be controlled for, and which may have influenced the Dependent Variables over and above the intervention.
Study limitations (reviewer)	The method of randomisation, allocation concealment and blinding are unclear which are a potential source of bias.
Source of funding	European Union's Horizon 2020 Research and Innovation Program under the grant agreement no. 725832. The German Research Foundation (DFG) and the University of Wuerzburg in the funding program Open Access Publishing.

Study arms

Kelaa Mental Resilience App (N = 347)

347 participants were randomised to the intervention arm. Participants were recruited from six different businesses.

Wait list (N = 331)

331 participants were randomised to the control arm. Participants were recruited from six different businesses.

Characteristics

Study-level characteristics

Characteristic	Study (N = 532)
Age	40.62 (11.19)
Mean (SD)	
Gender (% Female)	75.6
Nominal	

Characteristic	Study (N = 532)
Educational background	489
Nominal	
Primary/Middle school %	0.4
Nominal	
Secondary school %	5.3
Nominal	
High school/College %	17.6
Nominal	
Bachelor/Undergraduate Degree %	34.2
Nominal	
Master/Graduate Degree: %	33.7
Nominal	
PhD/Doctorate %	3.5
Nominal	

Characteristic	Study (N = 532)
Other %	5.3
Nominal	

Outcomes

Study timepoints

- Baseline
- 6 week (Outcomes were measured at 2 week follow-up)

Employee outcomes

Outcome	Kelaa Mental Resilience App, Baseline, N = 347	Kelaa Mental Resilience App, 6 week, N = 347	Wait list, Baseline, N = 331	Wait list, 6 week, N = 331
Mental wellbeing Self-reported - Warwick-Edinburgh mental Wellbeing Scale	n = 199 ; % = 57.3	n = 111 ; % = 32	n = 295 ; % = 89.1	n = 227 ; % = 68.6
Sample size				
Mental wellbeing Self-reported - Warwick-Edinburgh mental Wellbeing Scale	3.26 (0.65)	3.45 (0.78)	3.23 (0.6)	3.44 (0.71)
Mean (SD)				
Job stress Self-reported - General stress subscale of the	n = 199 ; % = 57.3	n = 111 ; % = 32	n = 299 ; % = 90.3	n = 225 ; % = 68

Outcome	Kelaa Mental Resilience App, Baseline, N = 347	Kelaa Mental Resilience App, 6 week, N = 347	Wait list, Baseline, N = 331	Wait list, 6 week, N = 331
Copenhagen Psychosocial Questionnaire - revised version				
Sample size				
Job stress Self-reported - General stress subscale of the Copenhagen Psychosocial Questionnaire - revised version	3 (0.76)	2.46 (0.8)	3.01 (0.73)	2.57 (0.81)
Mean (SD)				
Mental health symptoms Self-reported - sleeping troubles from the Copenhagen Psychosocial Questionnaire	n = 199 ; % = 57.3	n = 111 ; % = 32	n = 292 ; % = 88.2	n = 227 ; % = 68.6
Sample size				
Mental health symptoms Self-reported - sleeping troubles from the Copenhagen Psychosocial Questionnaire	2.71 (0.99)	2.22 (0.87)	2.83 (1.02)	2.54 (1.01)
Mean (SD)				

Mental wellbeing - Polarity - Higher values are better

Job stress - Polarity - Lower values are better

Mental health symptoms - Polarity - Lower values are better

Critical appraisal - RCT RoB

Employee outcomes - Mental wellbeing - Kelaa Mental Resilience App - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data for intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, missing outcome data and self-reported outcomes)</i>

Employee outcomes - Job stress - Kelaa Mental Resilience App - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data for intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, missing outcome data and self-reported outcomes)</i>

Employee outcomes - Mental health symptoms - Kelaa Mental Resilience App - Wait list

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	High <i>(Per-protocol analysis)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Missing outcome data for intervention group)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measures were self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Per-protocol analysis, missing outcome data and self-reported outcomes)</i>

Study details

Brief name	Mental resilience App
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Rationale/theory/Goal	The app is designed to implement lifestyle changes through (1) measuring behavior, cognitions, and emotions (tracking module) and (2) providing psychoeducational content (intervention module). The app, developed as a digital prevention tool, seeks to translate insights from scientific research on psychology, sleep medicine, and neuroscience into an action-based program. It draws on the tenets of clinical, health, positive, cognitive, biological, and social psychology to foster recovery and growth.
Materials used	The Kelaa Mental Resilience App which provides the user with evidence-based interventions grounded in current research; Smartphones; Personalized feedback on questionnaire scores; intervention module (structured science-based content on factors contributing to reduced stress and improved wellbeing); a series of questionnaires (Copenhagen Psychosocial Questionnaire – Revised Version; Warwick-Edinburgh Mental Wellbeing Scale; 13-item Resilience Scale; SF-36; Work Productivity and Activity Impairment Questionnaire: General Health V2.0)
Procedures used	<p>The trial was 6 weeks in duration. The intervention lasted 4 weeks (28 sessions maximum and 28 nights maximum). The choice to use the app on their personal or their work phones at their individual preferences. Push-notifications were sent out as reminders with the option to turn them off. For the app group, active access to the interventional module within the app was withdrawn during the final 2 weeks; Participants in the waitlist control group received no intervention and no tracking opportunity for the duration of the trial (6 weeks) but had unrestricted access to treatment as usual within their companies and received access to the App upon completion of the trial.</p> <p>Employees were informed via email and information on a web portal that on launch day, they would receive an email containing a link to the first of the four assessments. Data was collected online using the survey software Qualtrics. Participants in the app group were asked to complete the first questionnaire prior to downloading and engaging with the app and at baseline (T1, week 0), mid-intervention (T2, week 2), end intervention (T3, week 4), and two-week follow-up (T4, week 6). Invitations to the follow-up questionnaires as well as reminders were sent via email. The time frame to complete each questionnaire was restricted to seven days. After finishing T4, all participants were thanked, debriefed and had the opportunity to provide feedback on their personal experiences with using the app and to suggest improvements. participants were offered.</p>
Provider	Soma Analytics/DNAFit
Method of delivery	Online
Setting/location of intervention	Not reported - intervention undertaken online with companies

Intensity/duration of the intervention	The intervention lasted 4 weeks (28 sessions maximum and 28 nights maximum);
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	Not reported

Study arms

Kelaa Mental Resilience App (N = 347)

347 participants were randomised to the intervention arm. Participants were recruited from six different businesses.

Wait list (N = 331)

331 participants were randomised to the control arm. Participants were recruited from six different businesses.

D.148 Wei, 2017**Bibliographic Reference**

Wei, Rong; Ji, Hong; Li, Jianxin; Zhang, Liyao; Active Intervention Can Decrease Burnout In Ed Nurses.; Journal of emergency nursing: JEN : official publication of the Emergency Department Nurses Association; 2017; vol. 43 (no. 2); 145-149

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Aim	To investigate whether an active intervention may play a role in reducing job burnout in emergency department nurses.
Country/geographical location	China
Setting	Workplace: <ul style="list-style-type: none"> • Sector: public • Industry: Healthcare • Organisation size: large • Contract type: Mix of permanent and contract • Seniority: not reported • Income: not reported
Inclusion criteria	Not reported
Exclusion criteria	Nurses with less than 1 year experience

Method of randomisation	Not reported
Method of allocation concealment	Not reported
Unit of allocation	Individual
Unit of analysis	Individual
Statistical method(s) used to analyse the data	Power calculation was not reported ITT was not reported A P value less than 0.05 is considered statistically significant.
Attrition	No dropout was reported
Study limitations (author)	None reported
Study limitations (reviewer)	Lack of details on randomisation and allocation concealment
Source of funding	Not reported

Study arms

TAU + Active management (N = 51)

TAU (N = 51)

Characteristics

Study-level characteristics

Characteristic	Study (N = 102)
20 - 24	n = 11 ; % = 11
Sample size	
25 - 29	n = 43 ; % = 42
Sample size	
30 - 34	n = 28 ; % = 27
Sample size	
35 - 39	n = 18 ; % = 18
Sample size	
40 or older	n = 2 ; % = 2
Sample size	
Male	n = 14 ; % = 14
Sample size	
Female	n = 88 ; % = 86
Sample size	
Associate	n = 62 ; % = 61
Sample size	

Characteristic	Study (N = 102)
Bachelor	n = 40 ; % = 39
Sample size	

Outcomes

Study timepoints

- Baseline
- 0 week (Endpoint)

Outcomes

Outcome	TAU + Active management, Baseline, N = 51	TAU + Active management, 0 week, N = 51	TAU, Baseline, N = 51	TAU, 0 week, N = 51
Job stress Using MBI - Emotional Exhaustion	15.76 (4.67)	9.65 (3.27)	15.13 (4.34)	15.39 (4.94)
Mean (SD)				

Job stress - Polarity - Lower values are better

Critical appraisal - RCT RoB

employee outcomes - Job stress - TAU + Active management - TAU

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome measure was self-reported</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	Some concerns (<i>Self-reported outcomes</i>)

Study arms

TAU + Active management (N = 51)

Brief name	Comprehensive management [page 145 - abstract]
Rationale/theory/Goal	The aim of the intervention was to help emergency department nurses develop communication skills, approaches to conflicts, efficacy elevation, emotion control, and work skills. [page 147]
Materials used	Not reported

Procedures used	<ul style="list-style-type: none"> Participants received regular management, which included focus group discussions and luncheon parties. Nurses were encouraged to talk about the problems they felt were stressful, and then they were offered targeted help. [Intervention and control groups] In addition to regular management, participants received the active intervention, which included classes pertaining to communication skills, approaches to conflict, efficacy elevation, and emotion control, as well as working skills. <p>[page 146]</p>
Provider	Nurse managers [page 146]
Method of delivery	Group classes [page 146]
Setting/location of intervention	Workplace [page 146]
Intensity/duration of the intervention	<ul style="list-style-type: none"> 6-month intervention Regular management - 30-minute meetings took place twice per week [intervention and control arms] No information about the duration/intensity of active component of the intervention <p>[page 146]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

TAU (N = 51)

Brief name	Regular management [page 146]
Rationale/theory/Goal	Not applicable
Materials used	Not reported
Procedures used	Participants received regular management, which included focus group discussions and luncheon parties. Nurses were encouraged to talk about the problems they felt were stressful, and then they were offered targeted help. [Intervention and control groups] [page 146]
Provider	Not reported
Method of delivery	Group sessions [page 146]
Setting/location of intervention	Workplace [page 146]
Intensity/duration of the intervention	<ul style="list-style-type: none"> • 6-month intervention • Regular management - 30-minute meetings took place twice per week [intervention and control arms] <p>[page 146]</p>
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported
Planned treatment fidelity	Not reported

Actual treatment fidelity	Not reported
Other details	None

D.149 Wright, 2016

Bibliographic Reference Wright, Nicola; Zakarian, Melissa; Blake, Holly; Nurses' views on workplace wellbeing programmes; British Journal of Nursing; 2016; vol. 25 (no. 21); 1208

Study details

Trial registration number	Not reported
Study start date	Sep-2011
Study end date	Feb-2012
Aim	The study explores nurses' perceptions and experiences of using CATs for workplace stress management
Country/geographical location	UK
Setting	NHS; local emergency department and burns high-dependency unit of a single site of an acute hospital trust
Inclusion criteria	Not reported - All participants were female and aged 24–53 years; worked at the hospital trust for between 3 and 35 years.

Exclusion criteria	Not reported
Statistical method(s) used to analyse the data	The data from in-depth semi-structure interviews were analysed using conventional qualitative thematic methods that seeks to identify themes both across and within individual accounts (Ritchie and Spencer, 1994).
Attrition	Not reported
Study limitations (author)	Data collection took place in 2011/2012 and so may be considered dated; self-selecting nature of the sampling strategy and the small number of participants mean that care needs to be taken when transferring the findings to other settings; All participants were women and this means that the findings may not reflect the experiences of male nurses.
Study limitations (reviewer)	The sample has been selected from environments where high levels of stress and emotional burden are common and thus this may impact the applicability of findings to wider populations;
Source of funding	Not reported
Theme 1	

Study arms

CATs (N = 12)

Complementary and alternative therapies (CATs) for relaxation and stress management within workplace wellbeing programmes

Characteristics

Study-level characteristics

Characteristic	Study (N = 12)
Age	24 to 53
Range	
Gender (% Female)	100
Nominal	
Ethnicity	NR
Nominal	

Critical appraisal - CASP qualitative checklist

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes <i>(The study explores nurses' perceptions and experiences of using complementary and alternative therapies (CATs) for workplace stress management)</i>
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes <i>(The aim of this study was to explore nurses' perceptions and experiences of using CATs for workplace stress management)</i>
Research Design	Was the research design appropriate to address the aims of the research?	Can't tell <i>(Details are very limited: exploratory qualitative research design using in-depth, semi-structured interviews was conducted but not justification as to why the particular approach was adopted.)</i>

Section	Question	Answer
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes <i>(Participants were registered nurses recruited from the local emergency department and burns high-dependency unit of an acute hospital trust; A combination of convenience and snowball sampling techniques were used in recruitment. This setting was selected as working in these clinical areas is stressful. Participants all had access to CATs and some participants (2/12) had utilized these services previously.)</i>
Data collection	Was the data collected in a way that addressed the research issue?	Can't tell <i>(It is not clear where the interviews took place but reference is made to 'The NHS organization where the study was undertaken'; The data was collected via semi-structured interviews by one of the study authors and audio recorded; The study authors have not justified the selection of semi-structure interviews for data selection but as this is an exploratory qualitative study the data collection method is adequate; The method for interview is not specified; There is not evidence of a modification to the methodological approach adopted. Participants were provided with 'Verbal and written information' which is assumed to be regarding the study but this is not specified.)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	No <i>(Details regarding the researchers own role, potential bias and influence has not been discussed or outlined in the study across research processes.)</i>
Ethical Issues	Have ethical issues been taken into consideration?	Yes <i>(Informed written consent was obtained from those who agreed to be interviewed; Ethical approval was obtained from the local NHS Research Ethics Committee (REF: 11/EM/0081) and research governance teams at the local hospital trust where the study took place;)</i>
Data analysis	Was the data analysis sufficiently rigorous?	Can't tell <i>(Details regarding data analysis were limited. The data from the interviews were analyzed using conventional qualitative thematic methods - but it is unclear what these were specifically. Study authors suggest that the thematic methods utilized sought to identify themes both across and within individual accounts and reference is made to 'Ritchie and Spencer, 1994' but no other details. Identified themes and subthemes were agreed by a</i>

Section	Question	Answer
		<i>second person; lay feedback and overall findings were circulated to all those registered with the service.)</i>
Findings	Is there a clear statement of findings?	Yes <i>(The findings presented are explicitly outlined in a findings section; Under each of the two themes discussions regarding underpinning sub-themes are outlined. It is unclear if one or two people undertook the initial analysis but findings were discussed in relation to the original research question with identified themes and subthemes agreed by a second person.)</i>
Research value	How valuable is the research?	The research is valuable
Overall risk of bias and relevance	Overall risk of bias	Moderate <i>(The qualitative approach is justified but there is a lack of detail regarding underpinning rationale for the approach adopted; there is a lack of details regarding the researchers own role, potential bias and influence across research; processes. Details regarding data analysis were limited. The data from the interviews were analysed using conventional qualitative thematic methods - but it is unclear what these were specifically.)</i>
Overall risk of bias and relevance	Relevance	Highly relevant

D.150 Yamagishi, 2008

Bibliographic Reference

Yamagishi, M; Kobayashi, T; Nakamura, Y; Effects of web-based career identity training for stress management among Japanese nurses: a randomized control trial.; Journal of occupational health; 2008; vol. 50 (no. 2); 191-193

Study details

Study design	Randomised controlled trial (RCT)
Trial registration number	Not reported
Study start date	Jan-2007
Study end date	Mar-2007
Aim	To examine the effects of a web-based career training programme on job stress in hospital nurses.
Country/geographical location	Japan
Setting	Workplace: <ul style="list-style-type: none"> • Sector: Not reported • Industry: Healthcare • Organisation size: not reported • Contract type: full time • Seniority: not reported • Income: not reported
Inclusion criteria	None
Exclusion criteria	None
Method of randomisation	Not reported
Method of allocation concealment	Not reported

Unit of allocation	Not reported
Unit of analysis	Not reported
Statistical method(s) used to analyse the data	Power calculation was not reported ITT was not reported ANCOVA was used to test difference between group used baseline scores as a covariate
Attrition	20 out of 30 (66.7%) in the intervention group and 16 out of 30 (53.3%) in the control group dropped out
Study limitations (author)	Small sample size
Study limitations (reviewer)	Lack of detail on methodology and participant characteristics
Source of funding	Not reported

Study arms

Career-Identity training (N = 30)

Control (N = 30)

Outcomes

Study timepoints

- Baseline

- 1 week (After the intervention)

Outcomes

Outcome	Career-Identity training, Baseline, N = 30	Career-Identity training, 1 week, N = 30	Control, Baseline, N = 30	Control, 1 week, N = 30
Job stress Using Job Stress Brief Questionnaire - Mental workload (self-report)	n = 20 ; % = 66.7	n = 20 ; % = 66.7	n = 16 ; % = 53.3	n = 16 ; % = 53.3
Sample size				
Job stress Using Job Stress Brief Questionnaire - Mental workload (self-report)	2.54 (0.67)	2.58 (0.6)	2.35 (0.83)	2.79 (0.81)
Mean (SD)				
Mental health symptoms - Depression Using Brief Job Stress Questionnaire (self-report)	n = 20 ; % = 66.7	n = 20 ; % = 66.7	n = 16 ; % = 53.3	n = 16 ; % = 53.3
Sample size				
Mental health symptoms - Depression Using Brief Job Stress Questionnaire (self-report)	1.85 (0.66)	1.93 (0.67)	1.89 (0.97)	2.04 (0.85)
Mean (SD)				

Job stress - Polarity - Higher values are better

Mental health symptoms - Depression - Polarity - Lower values are better

Critical appraisal - RCT RoB**Employee outcomes - Job stress - Career-Identity training - Control**

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(Lack of detail on randomised and participant characteristics)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	Low
Domain 2b: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)	Risk of bias judgement for deviations from the intended interventions (effect of adhering to intervention)	Low
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Some concerns <i>(Dropout rate was high)</i>
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns <i>(Outcome measure was self-reported)</i>
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low
Overall bias	Risk of bias judgement	High <i>(Concerns over lack of detail on randomisation and participant characteristics,; concern over missing data and concern over self-reported outcomes)</i>

Study arms

Career-Identity training (N = 30)

Brief name	Career identity training [page 191]
Rationale/theory/Goal	Career identity is defined as the cognitive representation of self, derived from past work experiences, beliefs, values, attributes, and motives that define individuals in terms of their work roles. Methods reported for improving career identity are similar to the methods used in career counselling, and should be effective for use with Japanese nurses. [page 191]
Materials used	
Procedures used	<ul style="list-style-type: none"> • The programme content was supervised by a career development researcher and revised based on the advice of five nurses. • The programme included: 1) the definition of career identity, 2) cognition of the participants' own career identify, 3) the characteristic of nurses' career identity (including career alternatives, compatibility with life-cycle, and examples of career goals and planning), and 4) career goal management and planning. • The learning styles covered by the programme included text-based learning, a career anchor checklist, the inputting of one's past and present career identity, and the inputting of one's career goals and plans. <p>[page 191]</p>
Provider	Web-based [page 191]
Method of delivery	Web-based training [page 191]
Setting/location of intervention	At work or at home [page 191]
Intensity/duration of the intervention	60-minute training that could be completed at any point over 3 weeks. [page 191]
Tailoring/adaptation	Not reported
Unforeseen modifications	Not reported

Planned treatment fidelity	Not reported
Actual treatment fidelity	Not reported
Other details	None

Control (N = 30)

Brief name	Wait list [page 191]
Rationale/theory/Goal	Not applicable
Materials used	Not applicable
Procedures used	Participants received the intervention between T2 and T3 [page 191]
Provider	Not applicable
Method of delivery	Not applicable
Setting/location of intervention	Not applicable
Intensity/duration of the intervention	Not applicable
Tailoring/adaptation	Not applicable

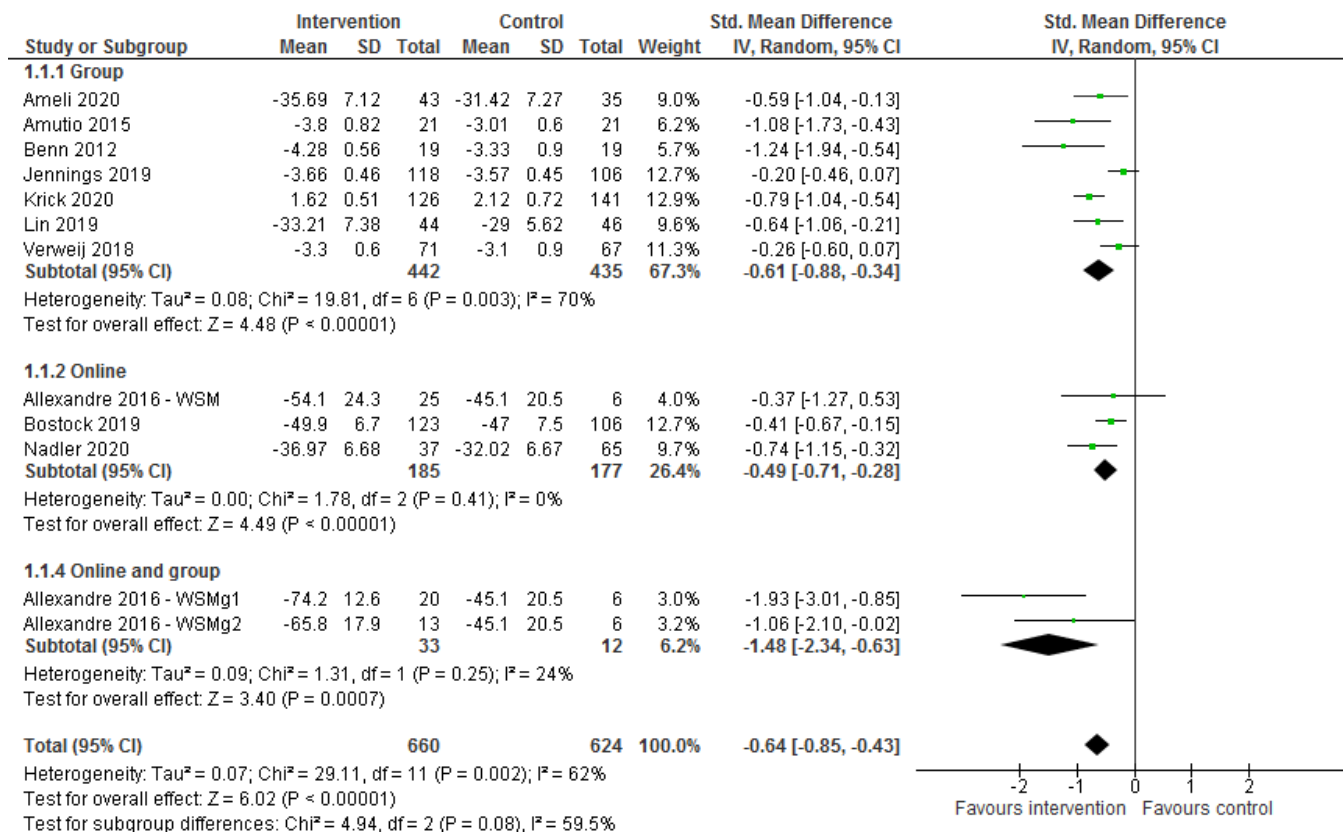
Unforeseen modifications	Not applicable
Planned treatment fidelity	Not applicable
Actual treatment fidelity	Not applicable
Other details	None

Appendix E – Forest plots

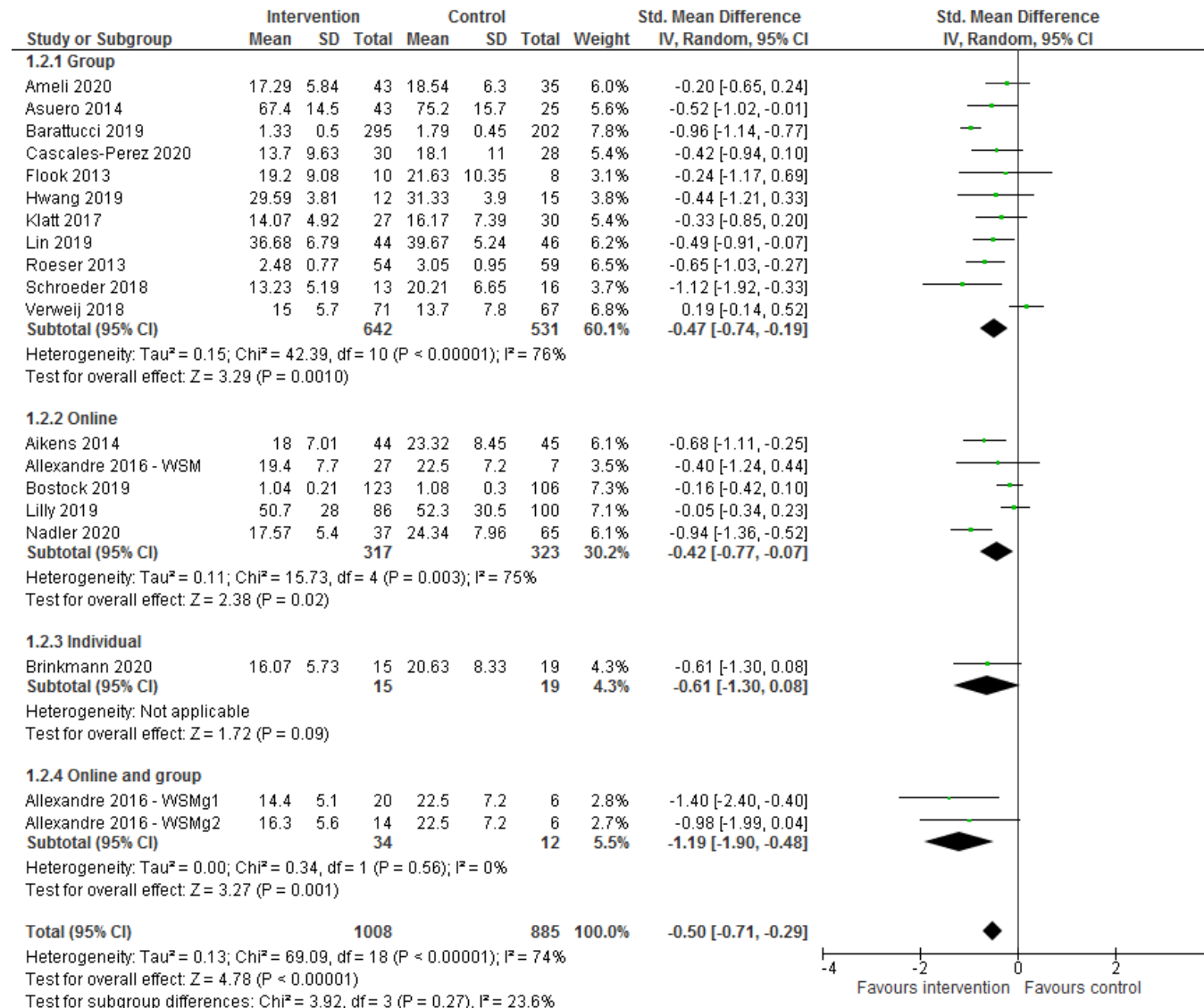
E.1 Emotional skills training

E.1.1 Emotion-focussed – Mindfulness

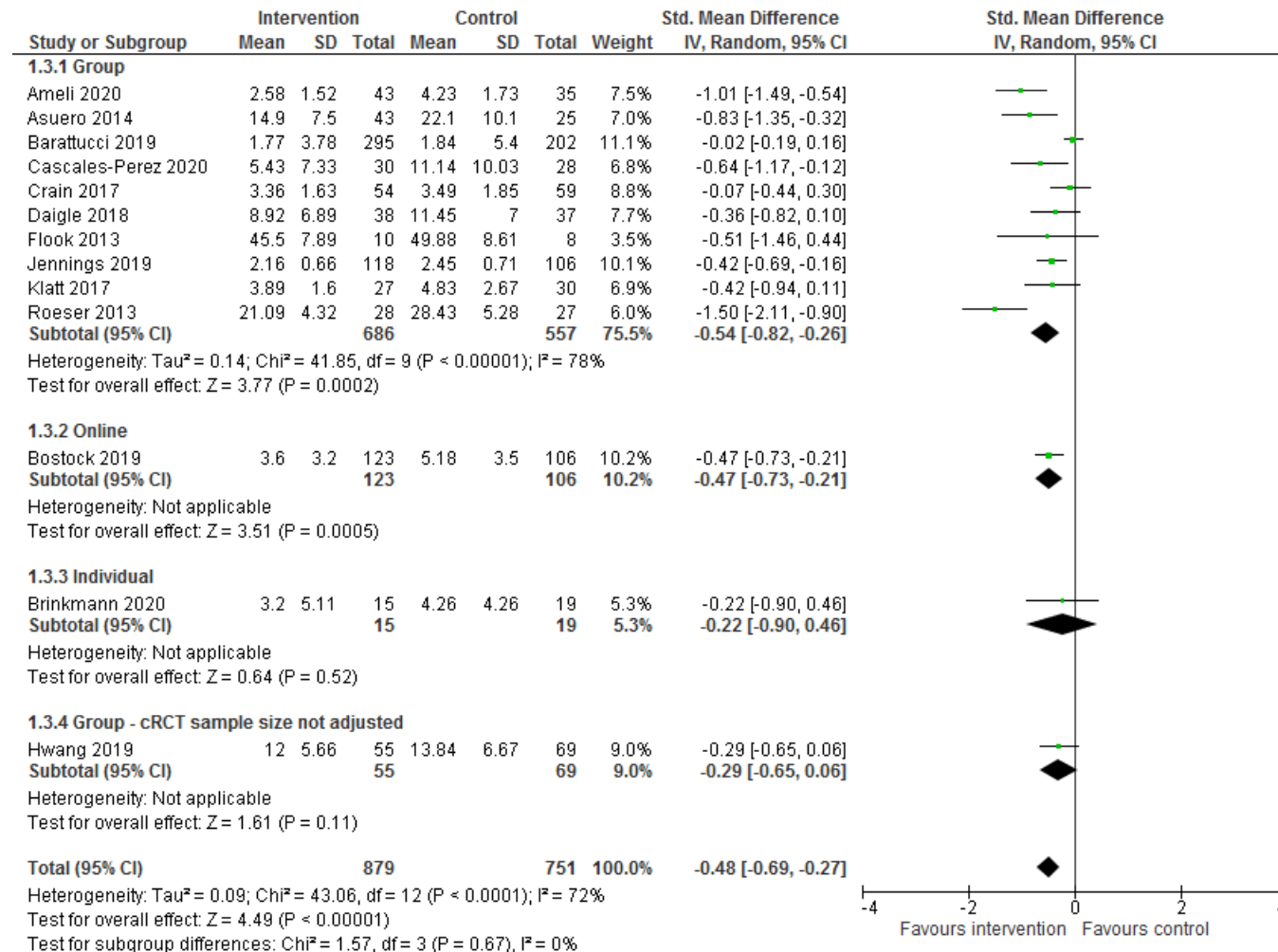
E.1.1.1 Mental wellbeing



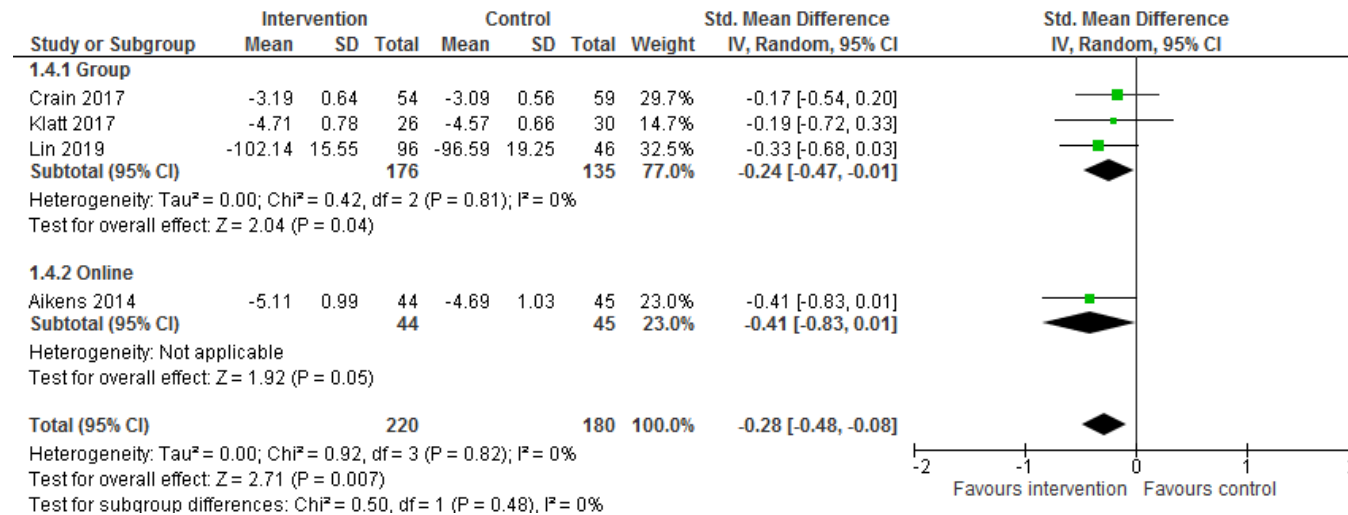
E.1.1.2 Job stress



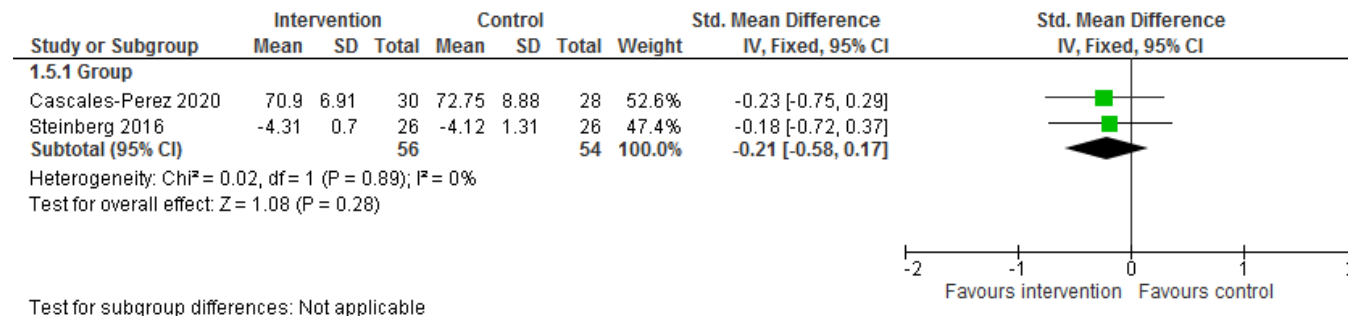
E.1.1.3 Mental health symptoms



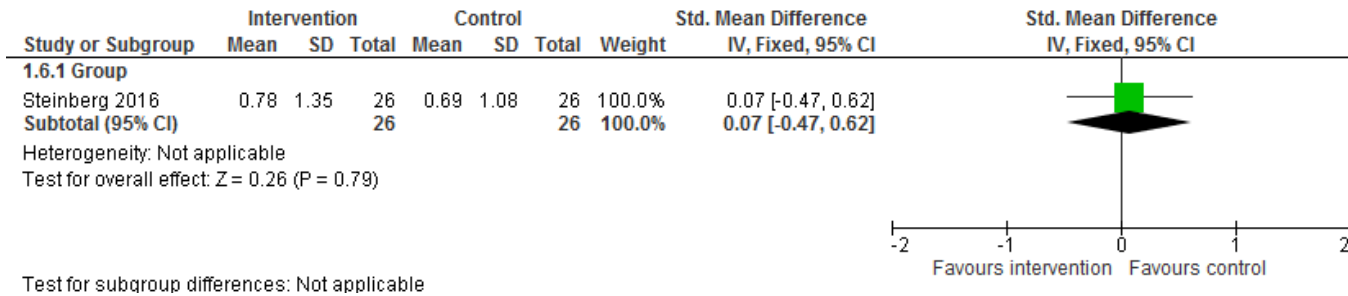
E.1.1.4 Job satisfaction



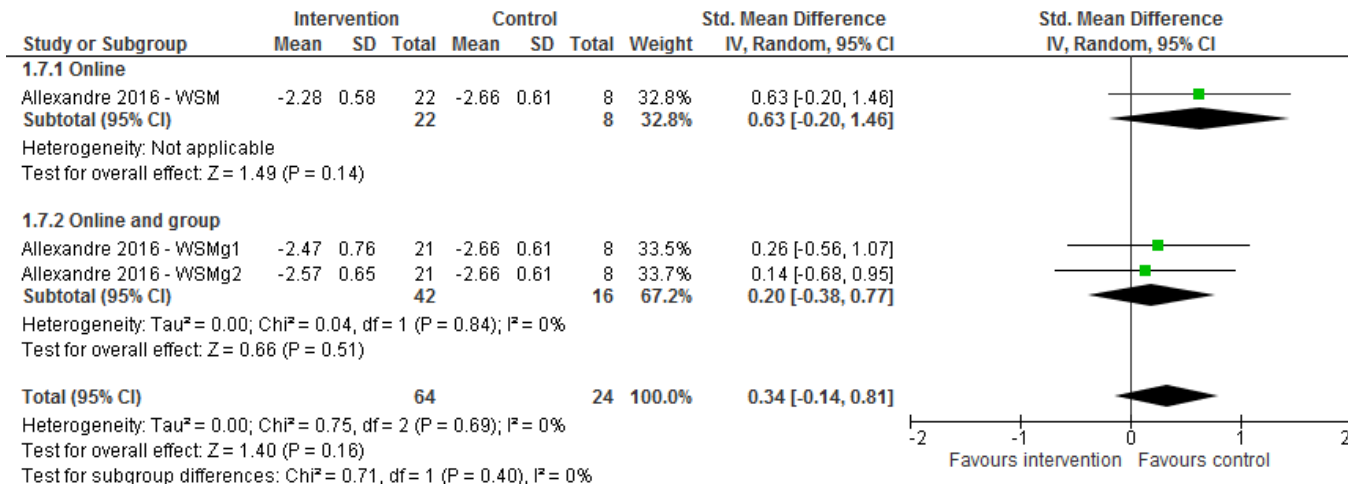
E.1.1.5 Quality of life



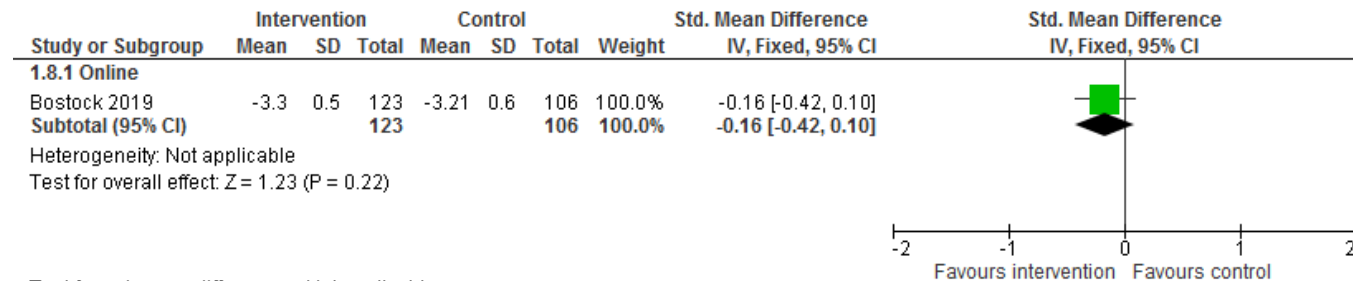
E.1.1.6 Absenteeism



E.1.1.7 Productivity

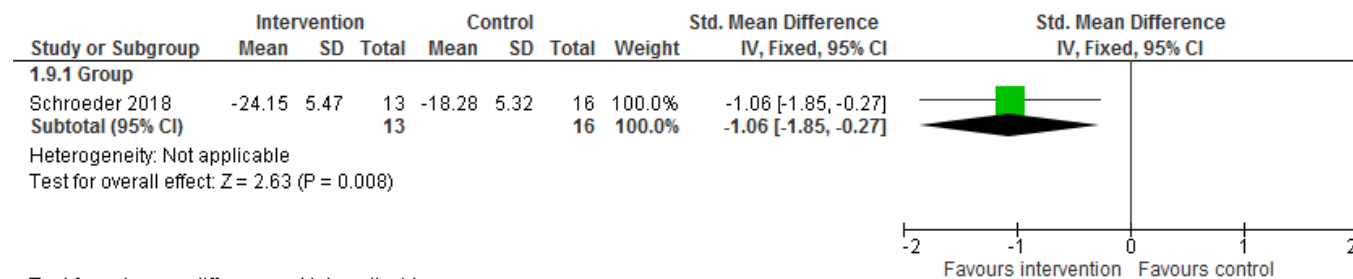


E.1.1.8 Work climate



Test for subgroup differences: Not applicable

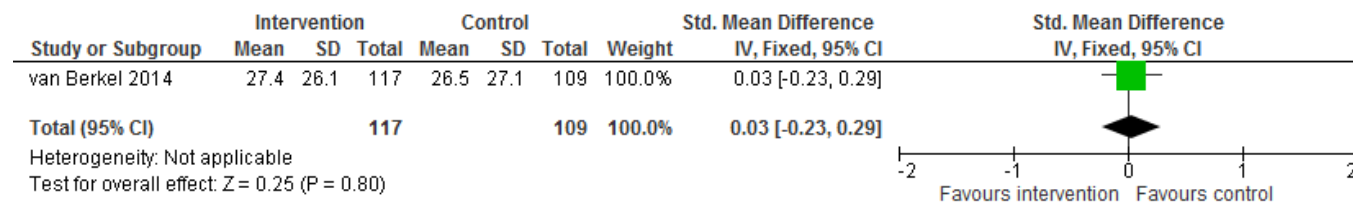
E.1.1.9 Resilience



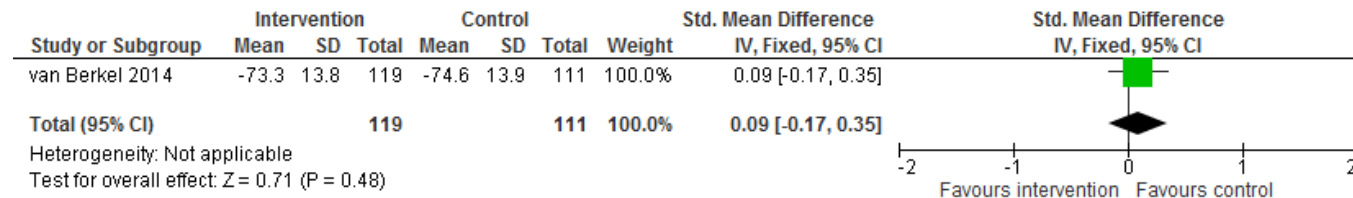
Test for subgroup differences: Not applicable

E.1.2 Emotion-focussed – Mindfulness and E-coaching

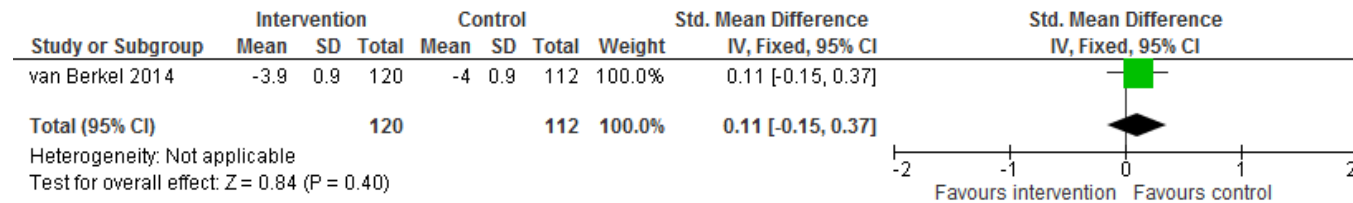
E.1.2.1 Job stress



E.1.2.2 Mental health symptoms

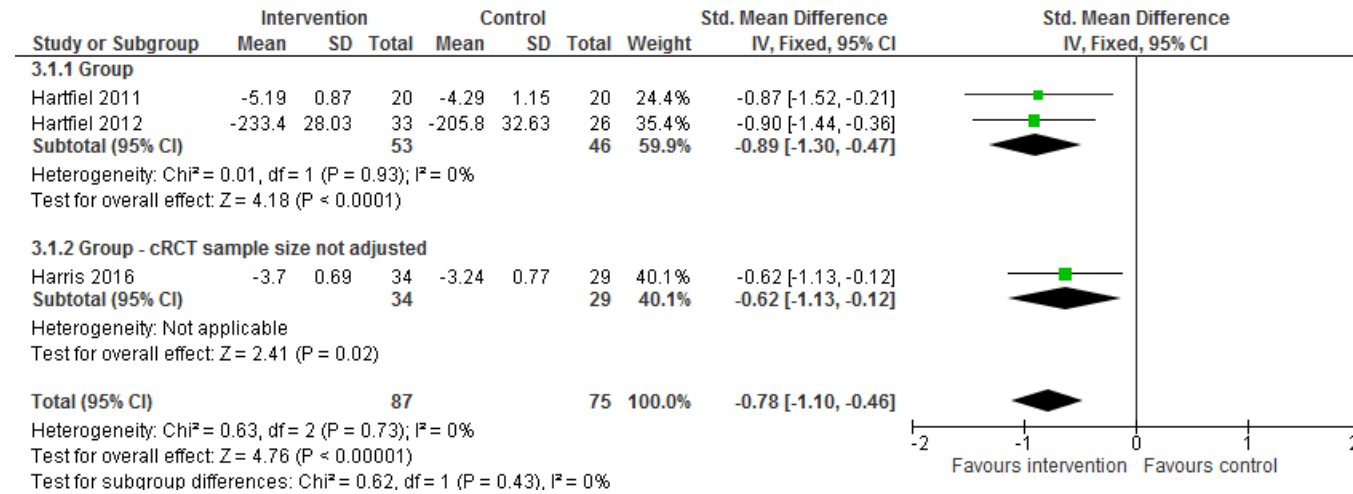


E.1.2.3 Job satisfaction

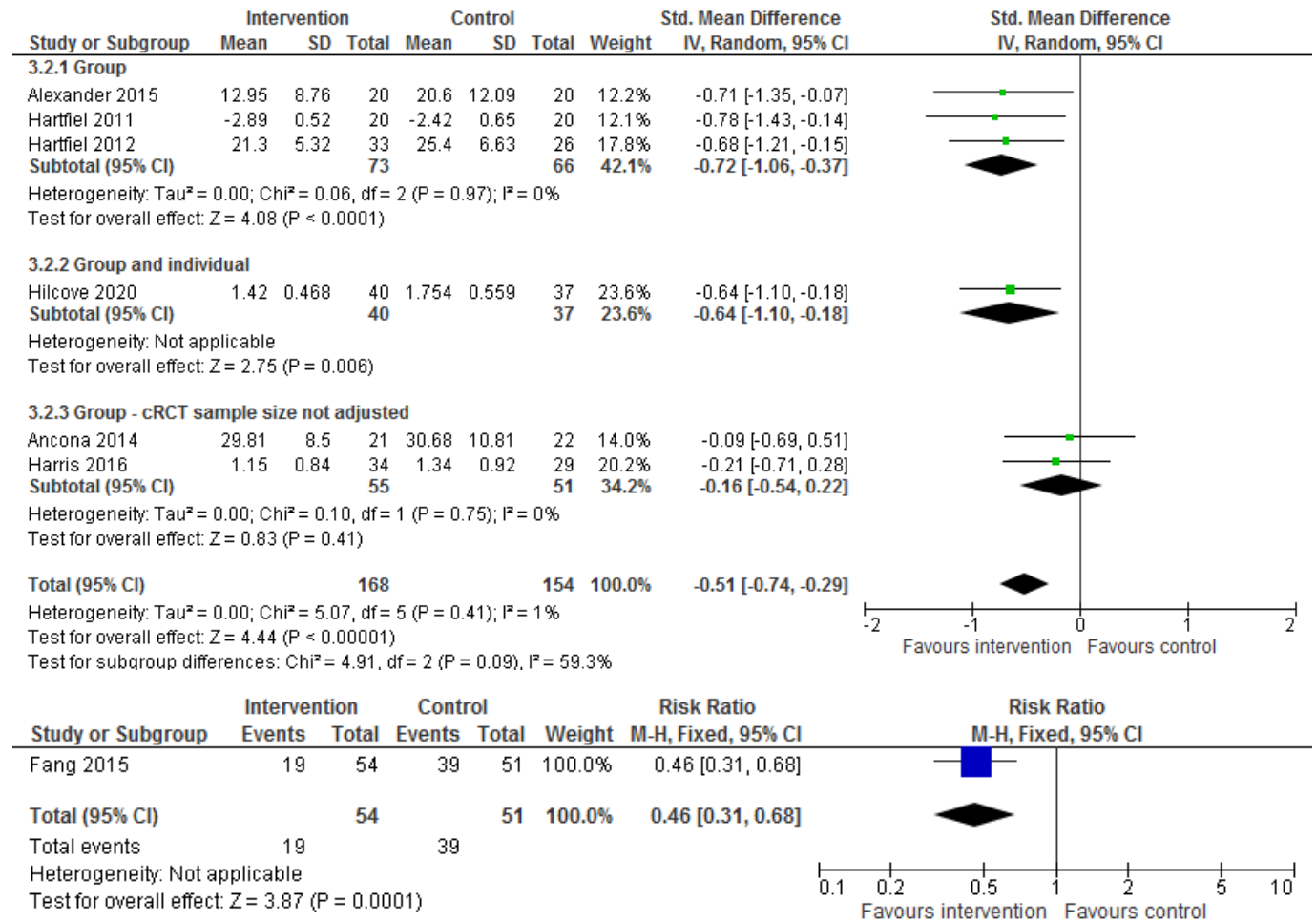


E.1.3 Emotion-focussed – Yoga

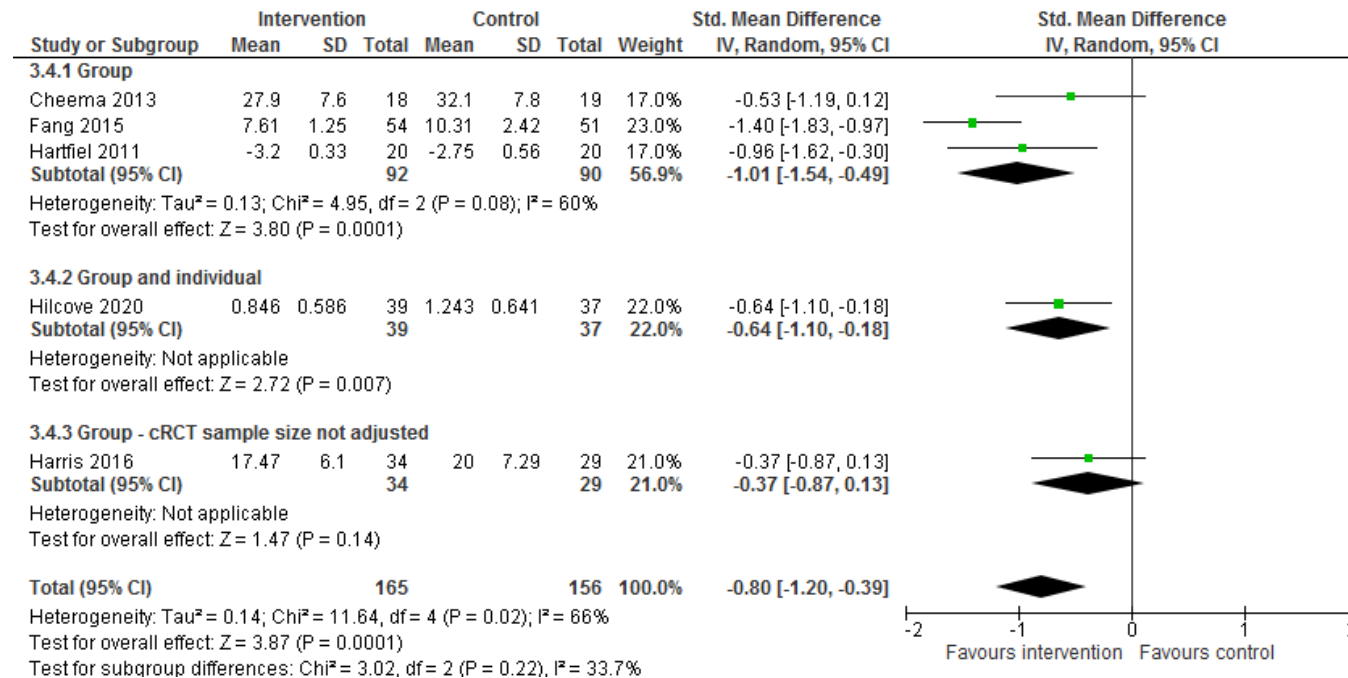
E.1.3.1 Mental wellbeing



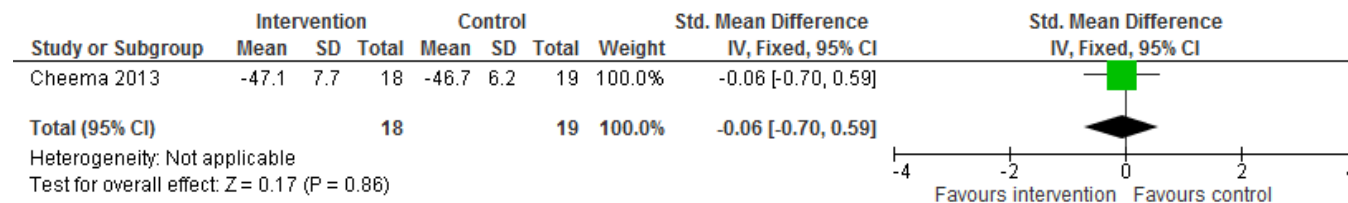
E.1.3.2 Job stress



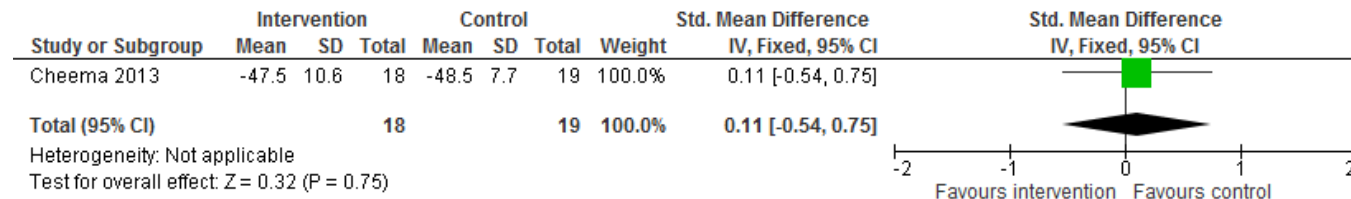
E.1.3.3 Mental health symptoms



E.1.3.4 Job satisfaction

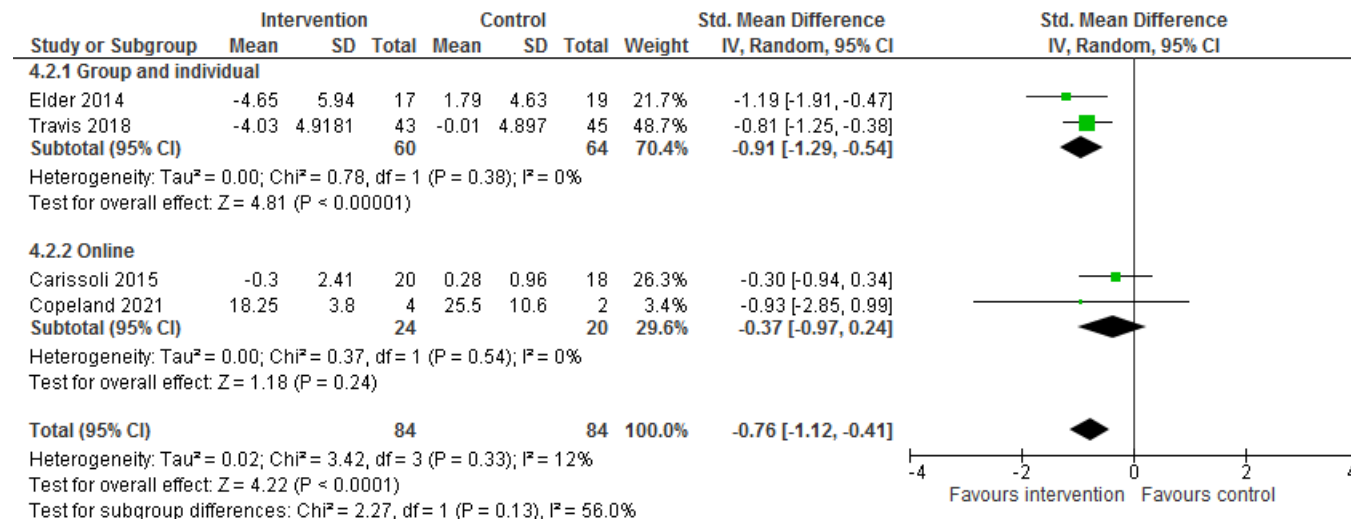


E.1.3.5 Quality of life

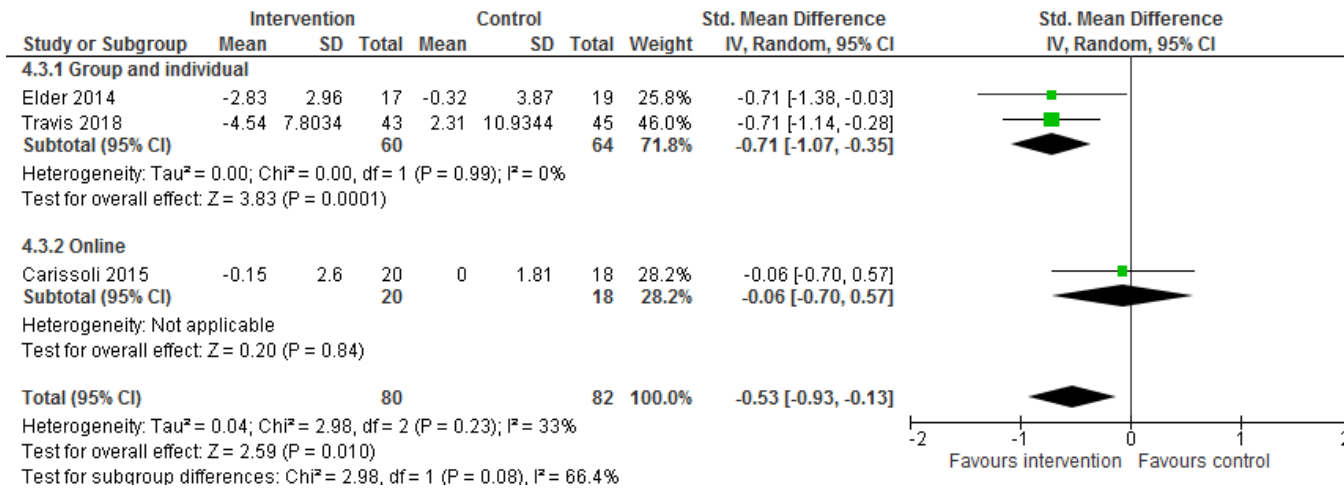


E.1.4 Emotion-focussed – Meditation

E.1.4.1 Job stress

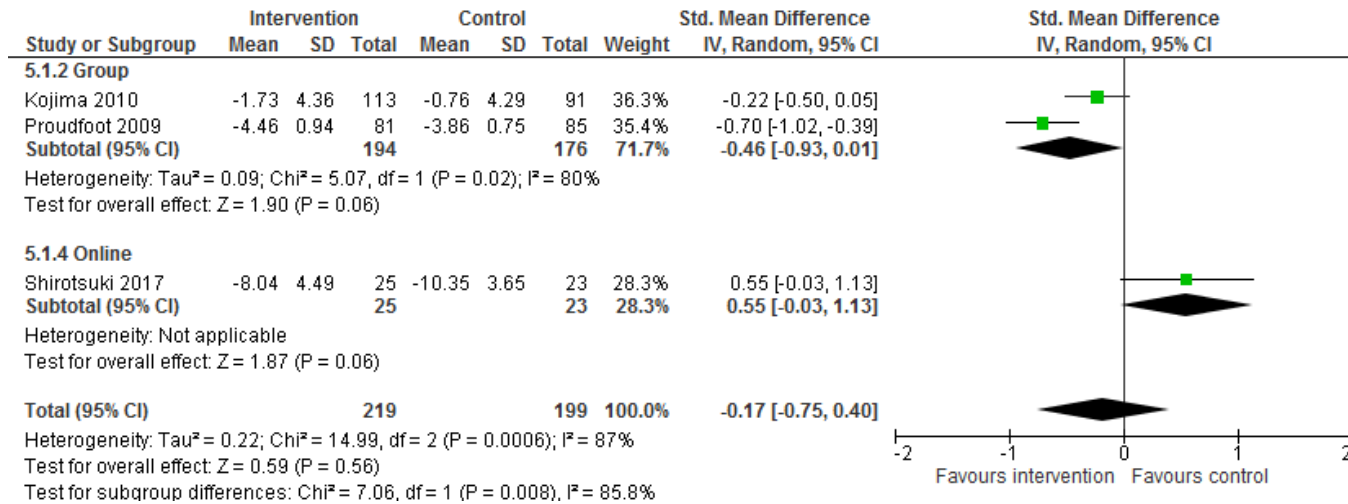


E.1.4.2 Mental health symptoms

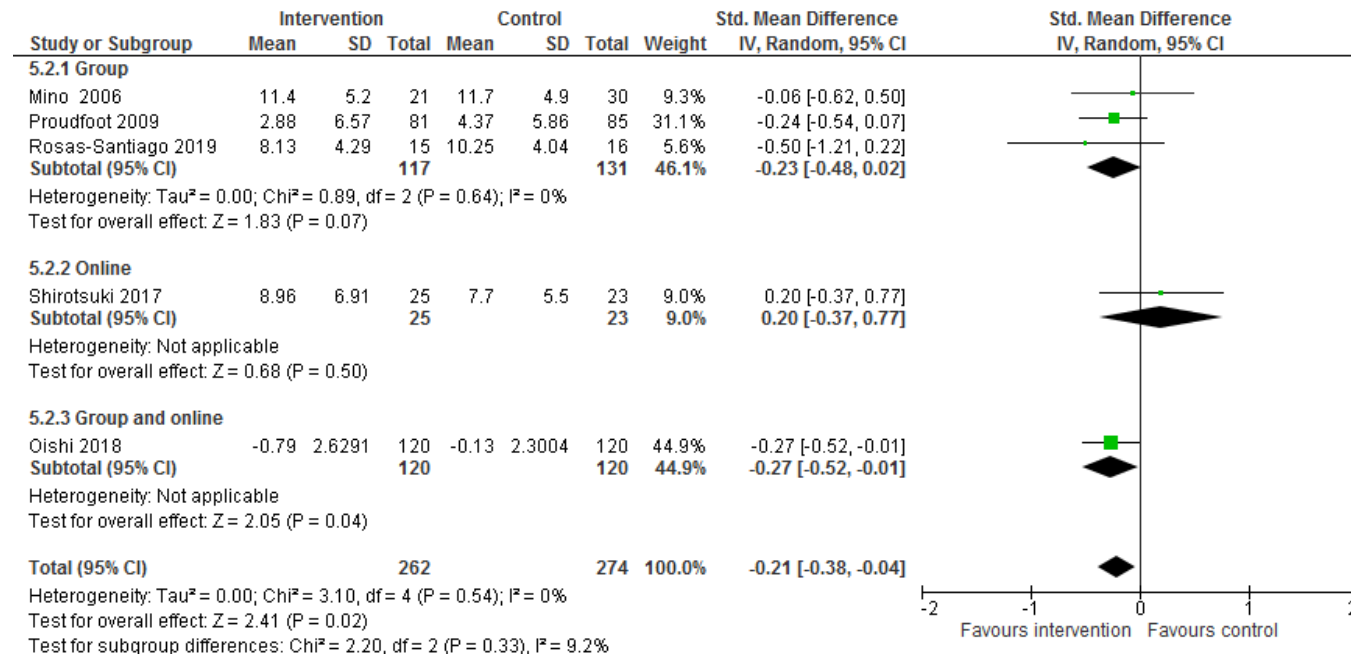


E.1.5 Emotion-focussed – CBT vs usual practice

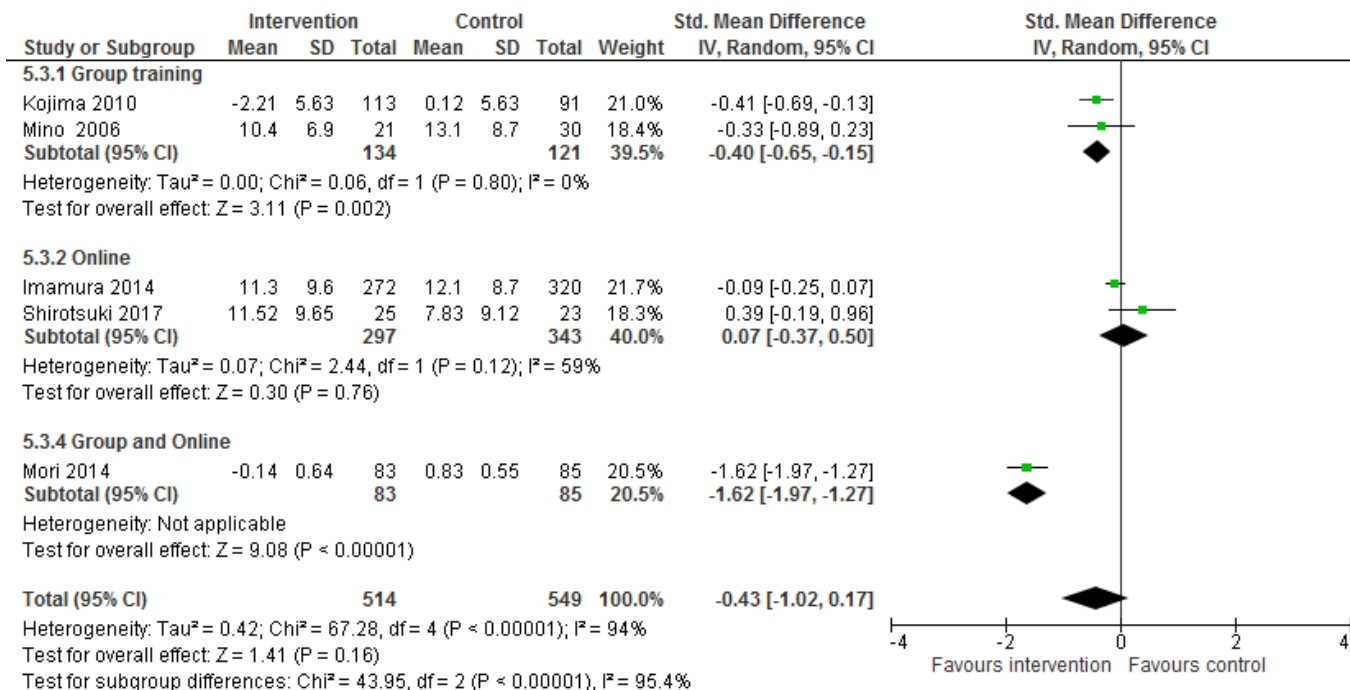
E.1.5.1 Mental wellbeing



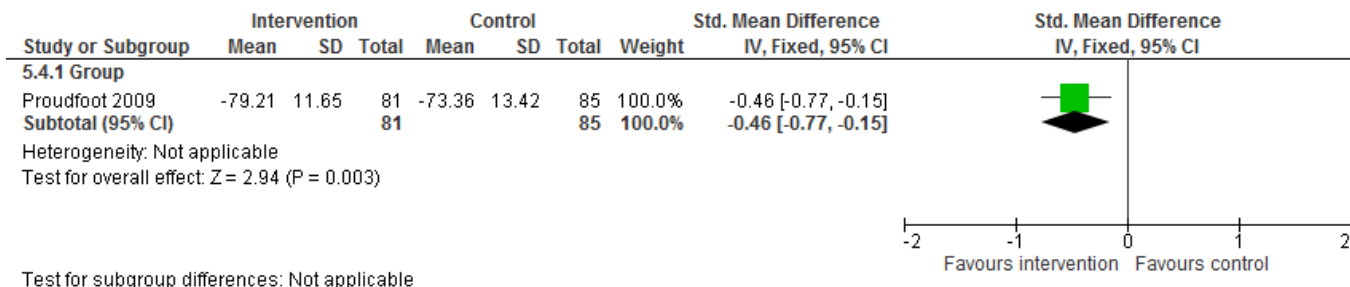
E.1.5.2 Job stress



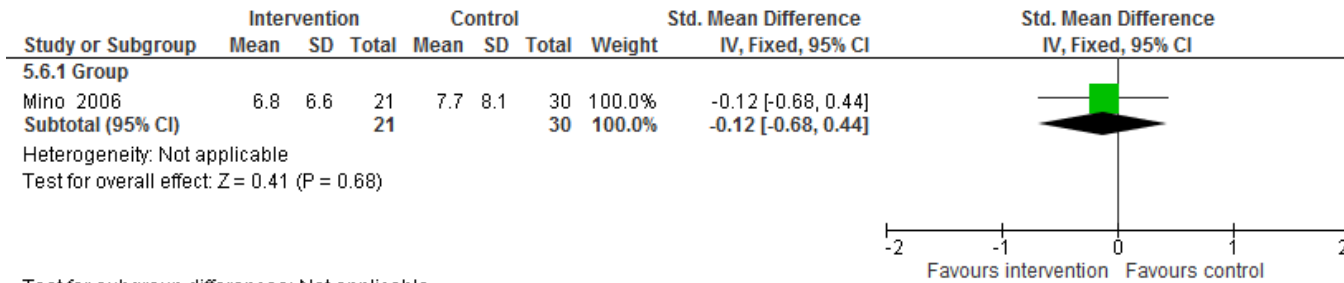
E.1.5.3 Mental health symptoms



E.1.5.4 Job satisfaction

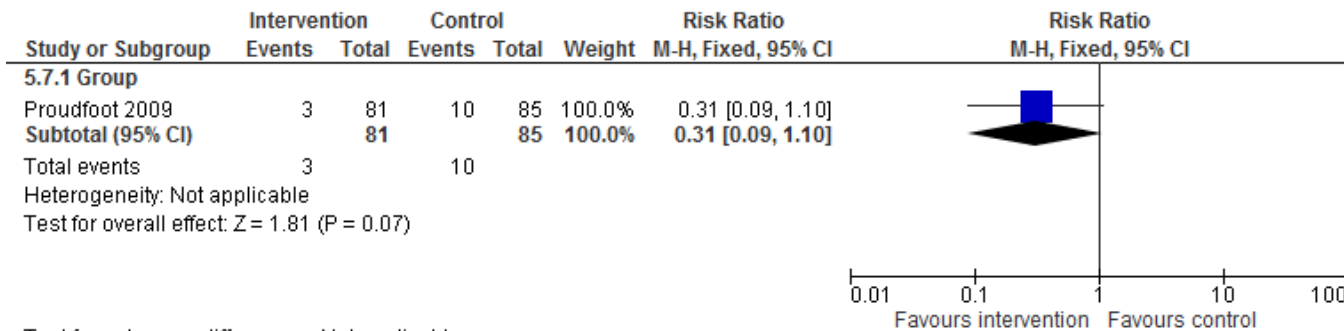


E.1.5.5 Quality of life



Test for subgroup differences: Not applicable

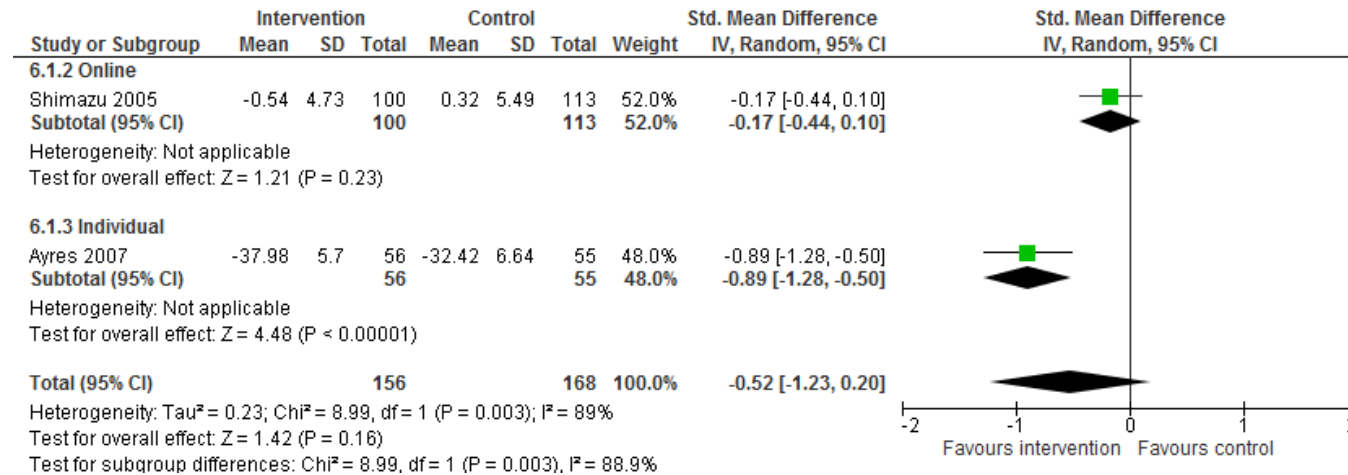
E.1.5.6 Employee turnover



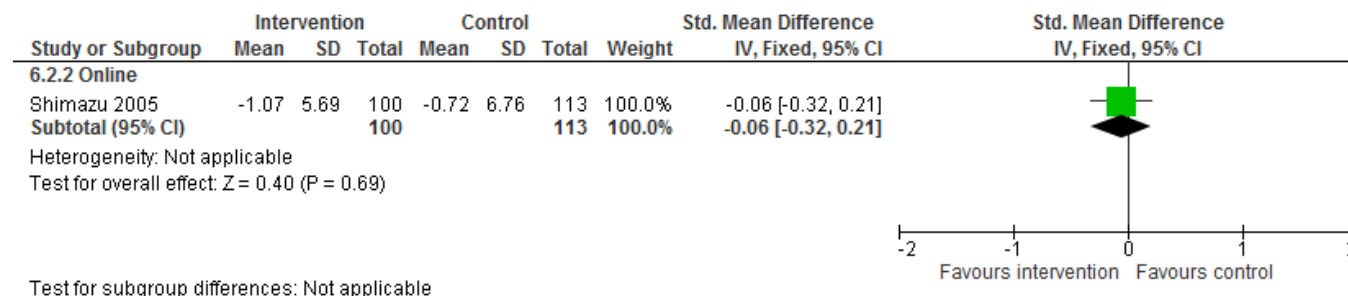
Test for subgroup differences: Not applicable

E.1.6 Emotion-focussed – Problem solving vs usual practice

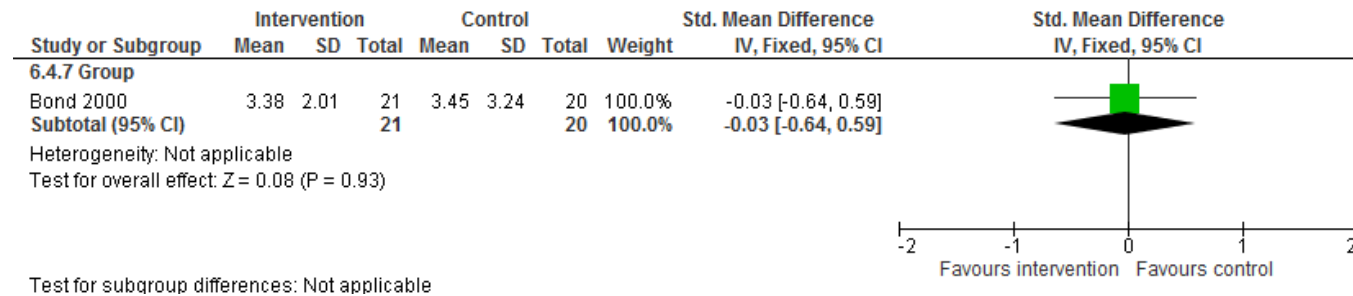
E.1.6.1 Mental wellbeing



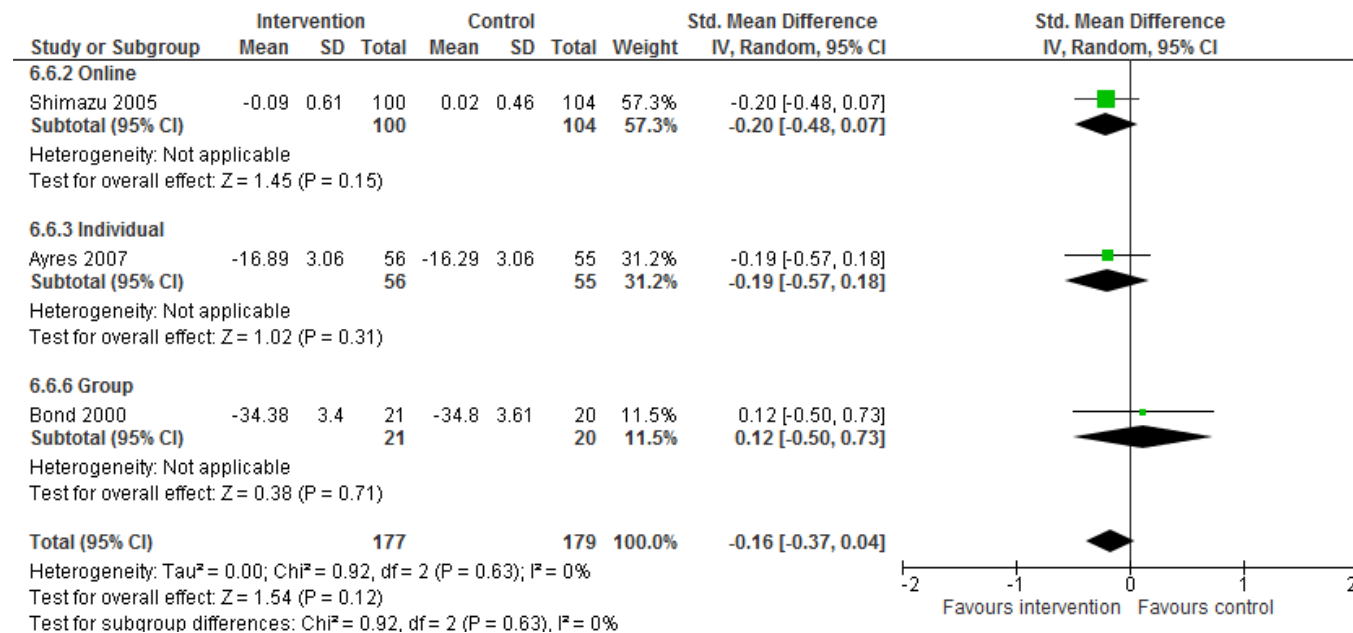
E.1.6.2 Job stress



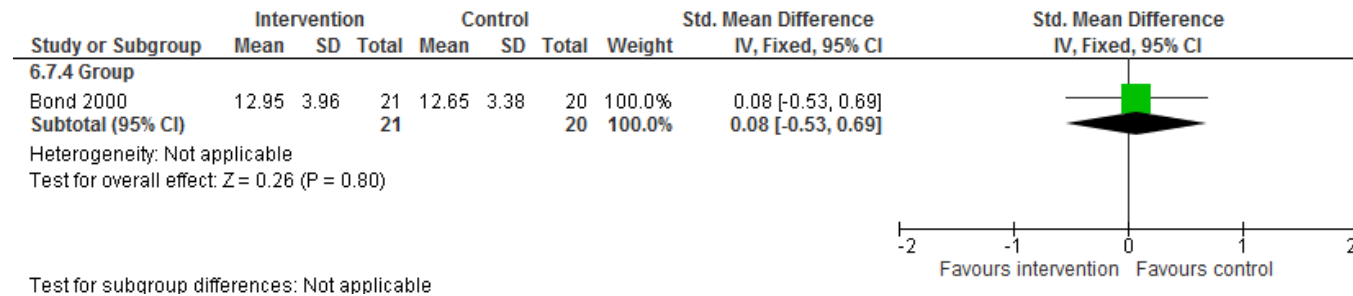
E.1.6.3 Mental health symptoms



E.1.6.4 Job satisfaction

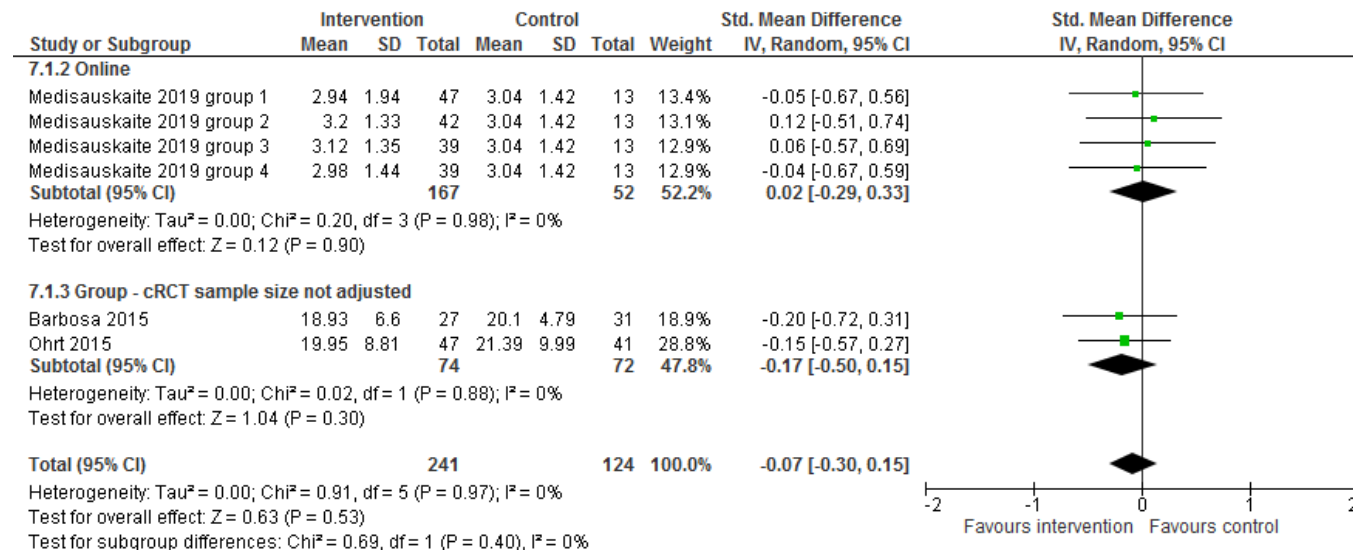


E.1.6.5 Quality of life

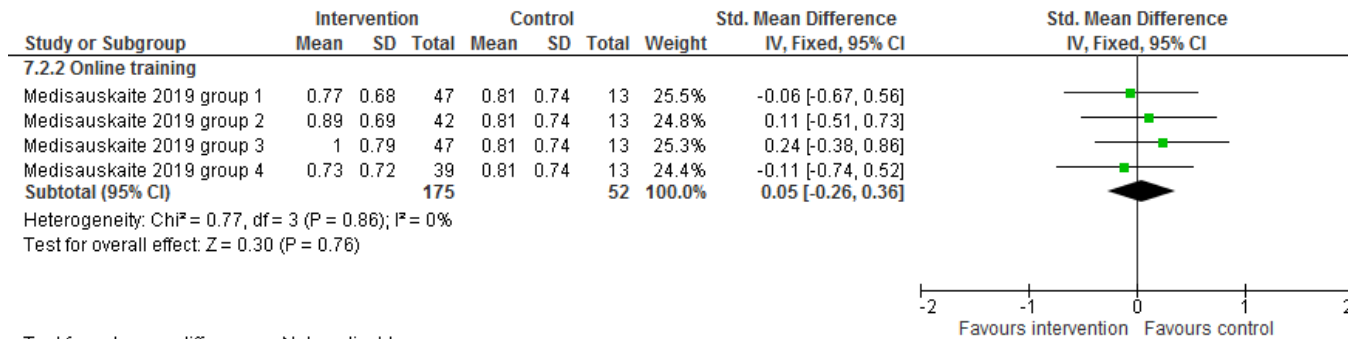


E.1.7 Emotion-focussed – Psychoeducation

E.1.7.1 Job stress

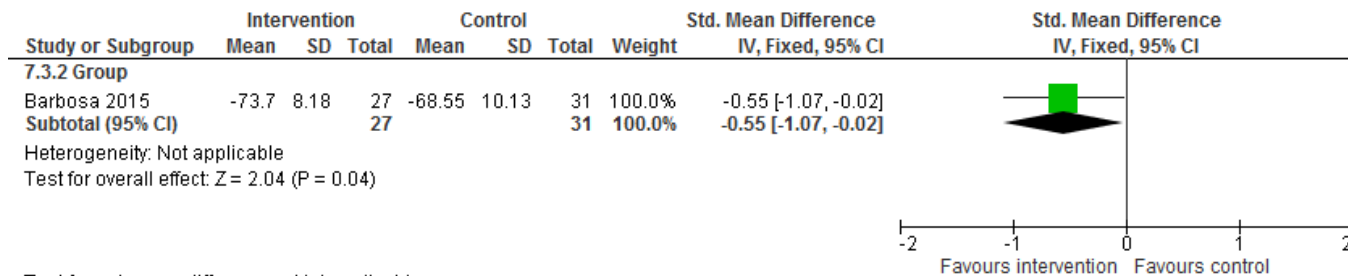


E.1.7.2 Mental health symptoms



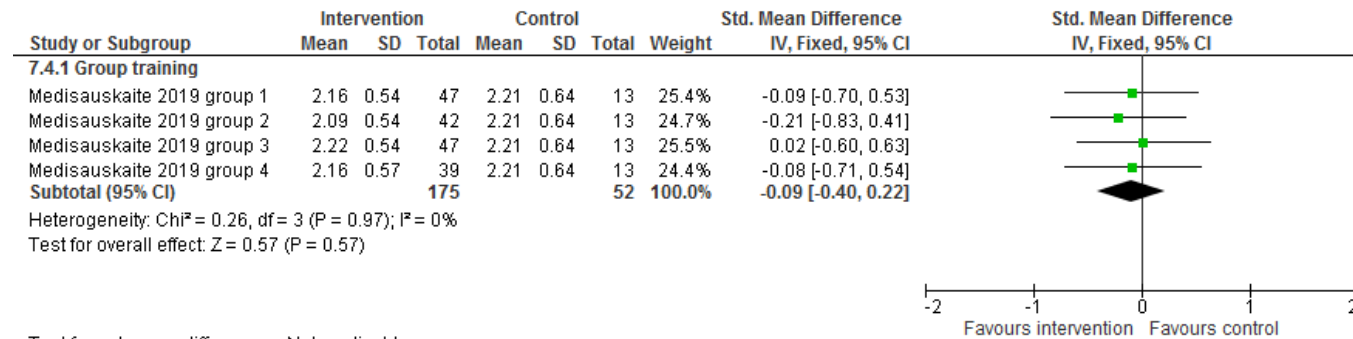
Test for subgroup differences: Not applicable

E.1.7.3 Job satisfaction

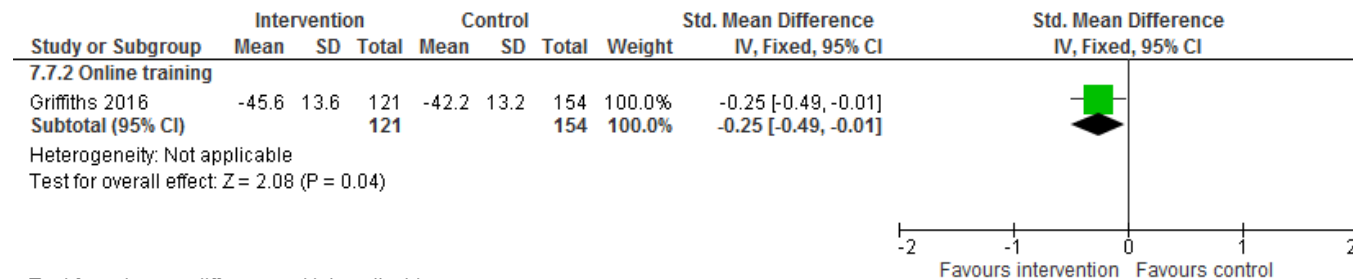


Test for subgroup differences: Not applicable

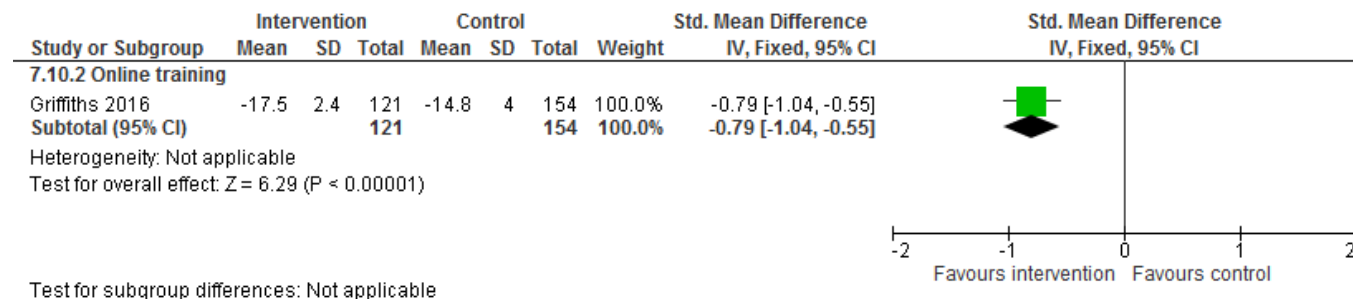
E.1.7.4 Quality of life



E.1.7.5 Mental health literacy

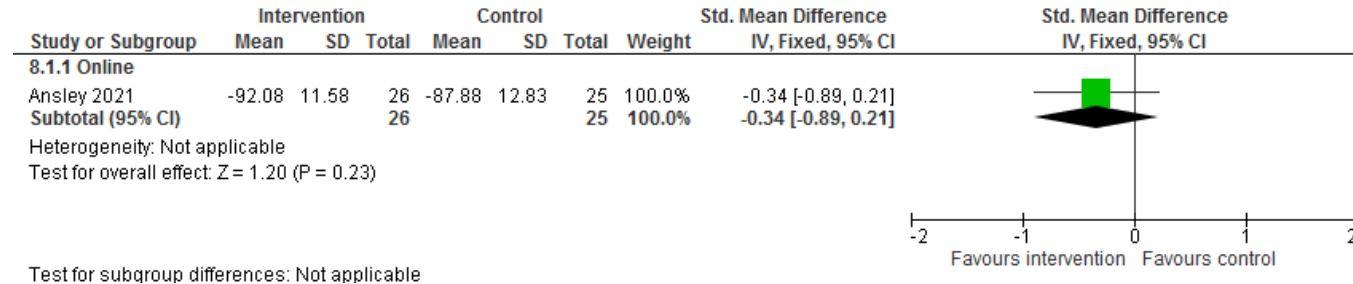


E.1.7.6 Uptake of support services

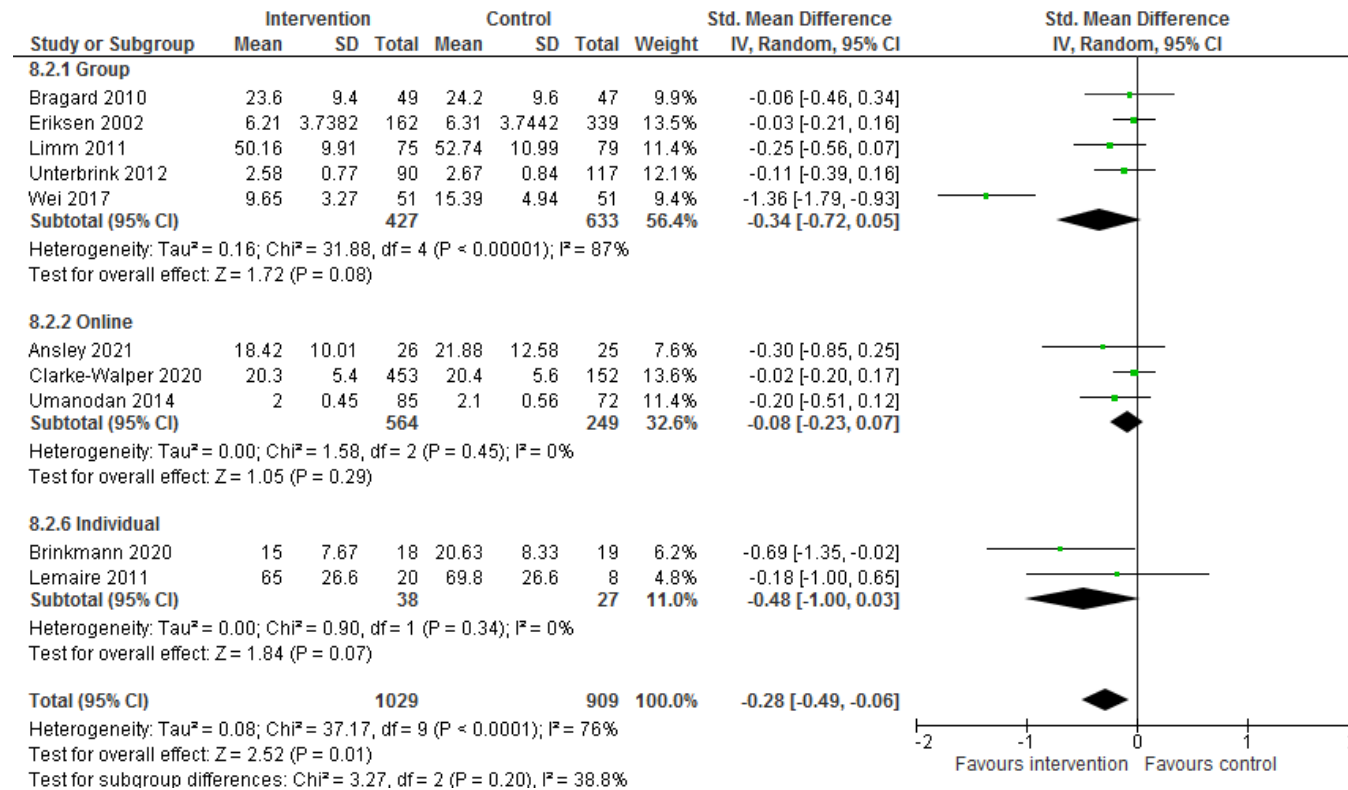


E.1.8 Emotion-focussed – Stress management

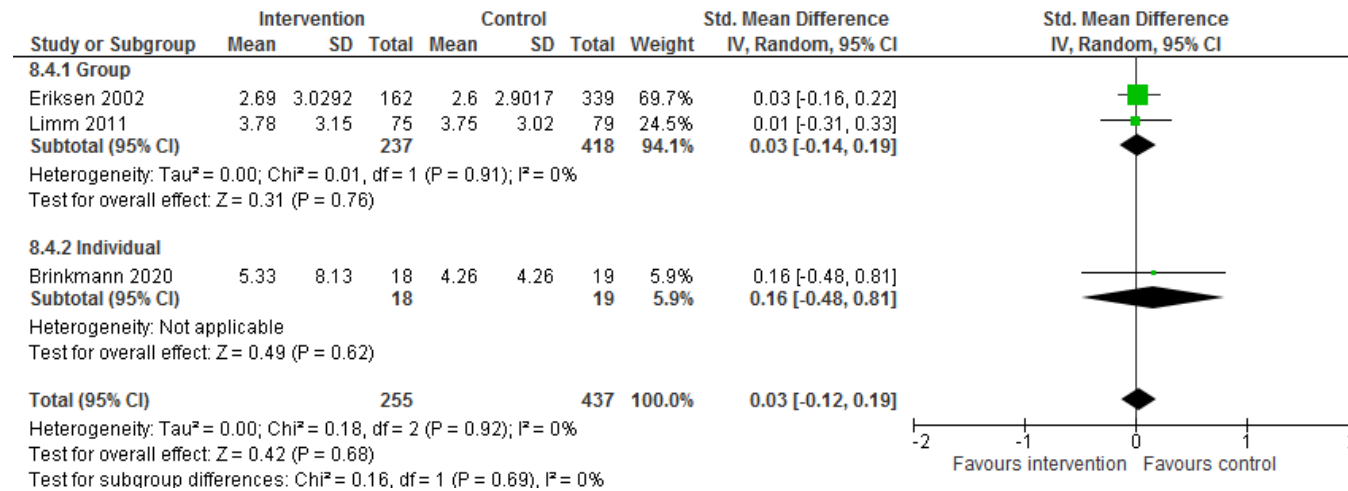
E.1.8.1 Mental wellbeing



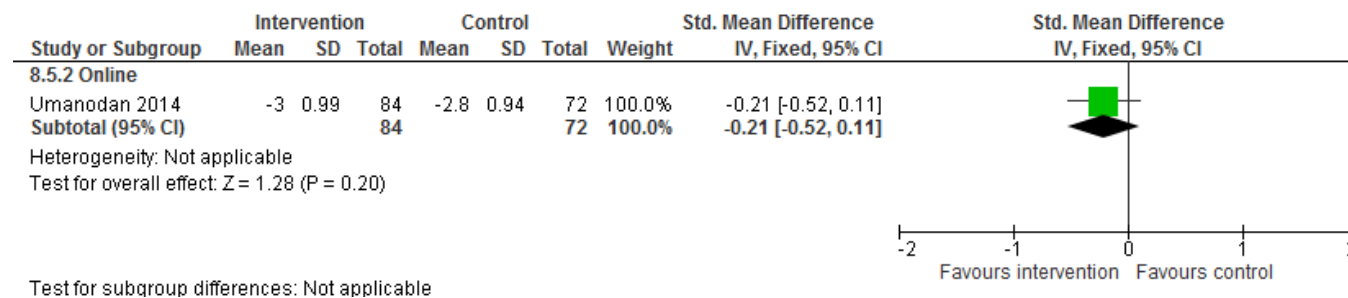
E.1.8.2 Job stress



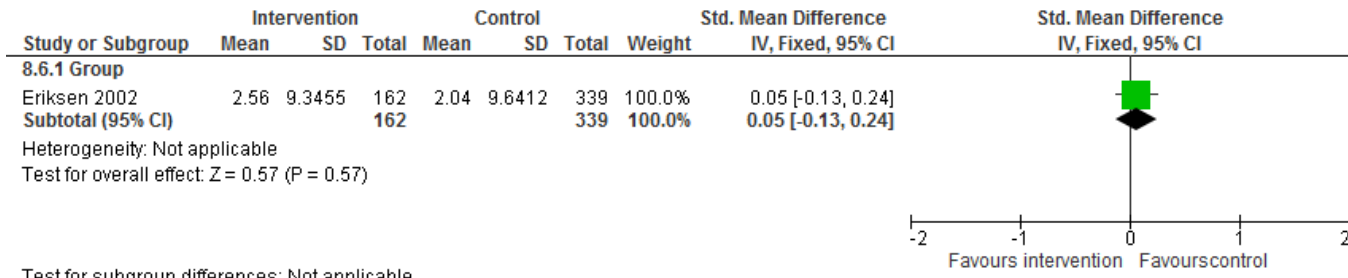
E.1.8.3 Mental health symptoms



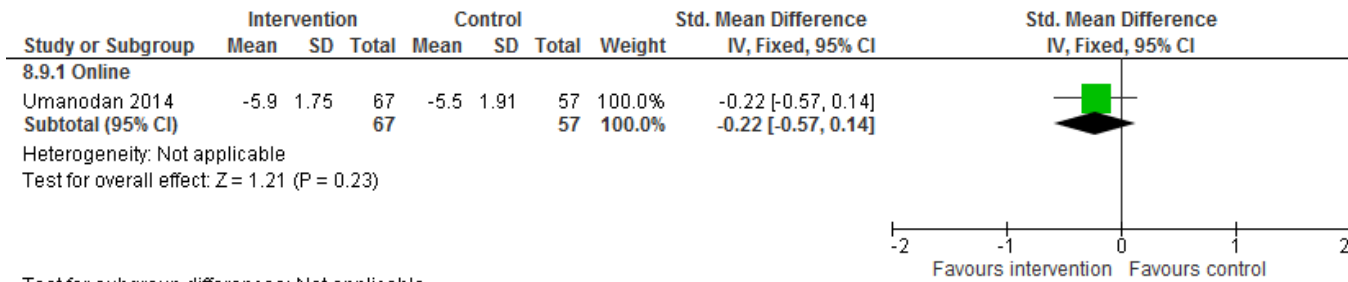
E.1.8.4 Job satisfaction



E.1.8.5 Absenteeism

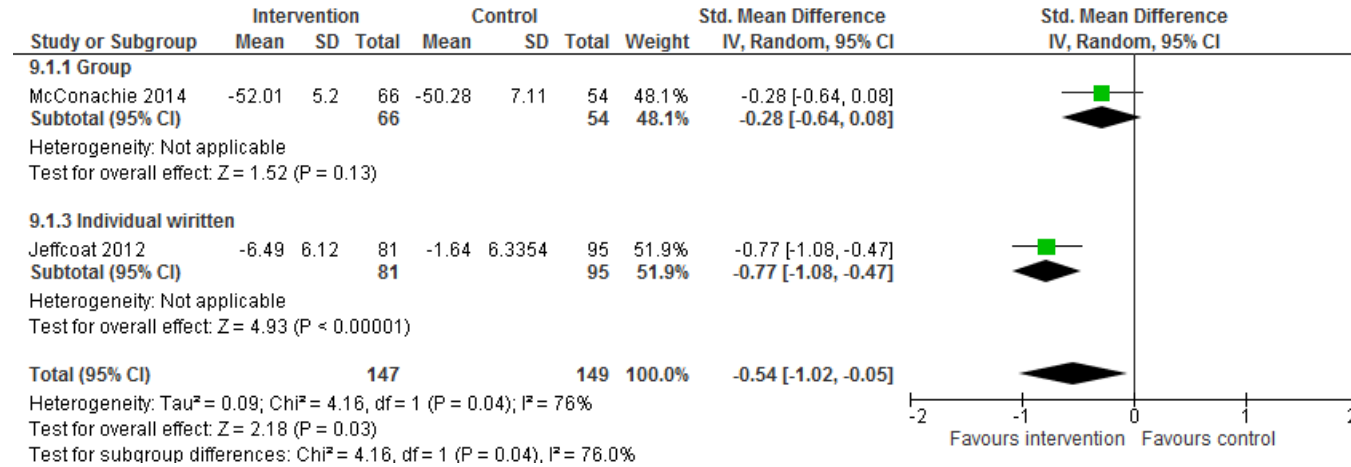


E.1.8.6 Productivity

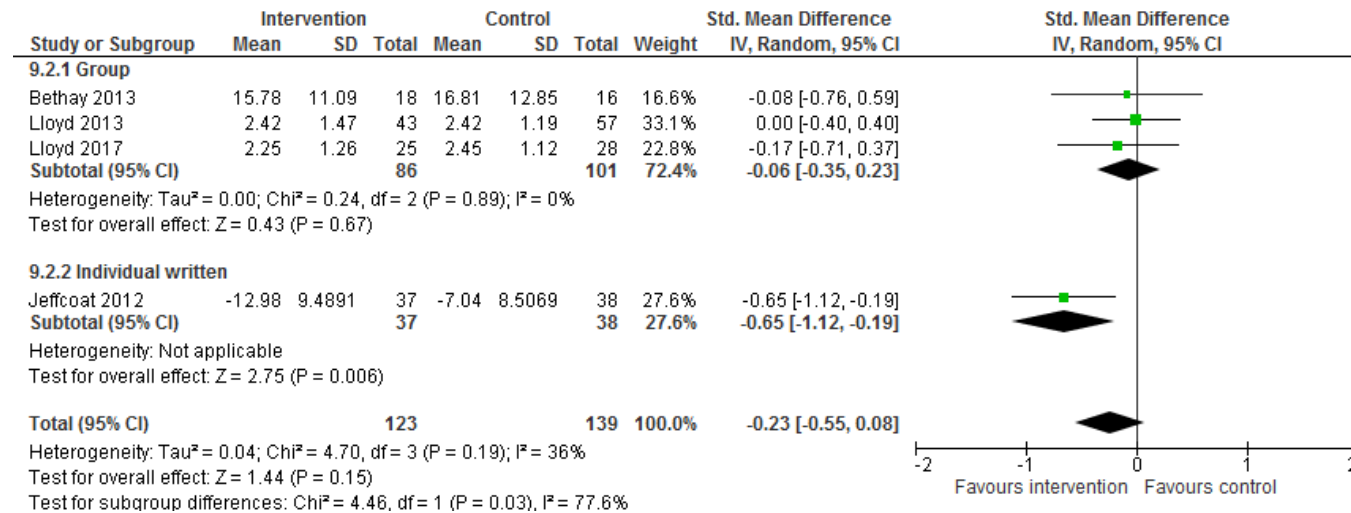


E.1.9 Emotion-focussed – Acceptance and commitment therapy

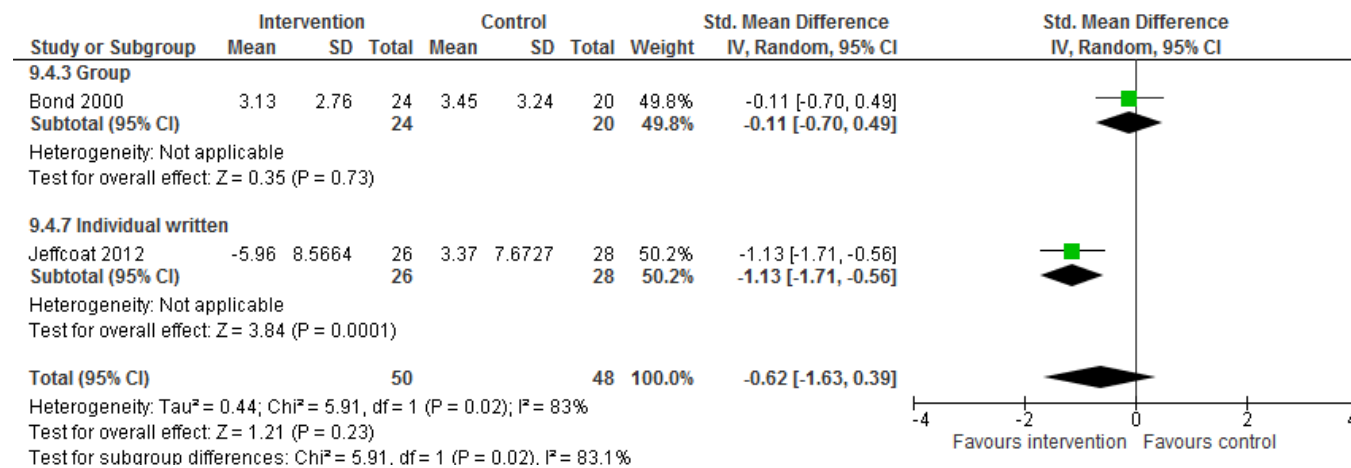
E.1.9.1 Mental wellbeing



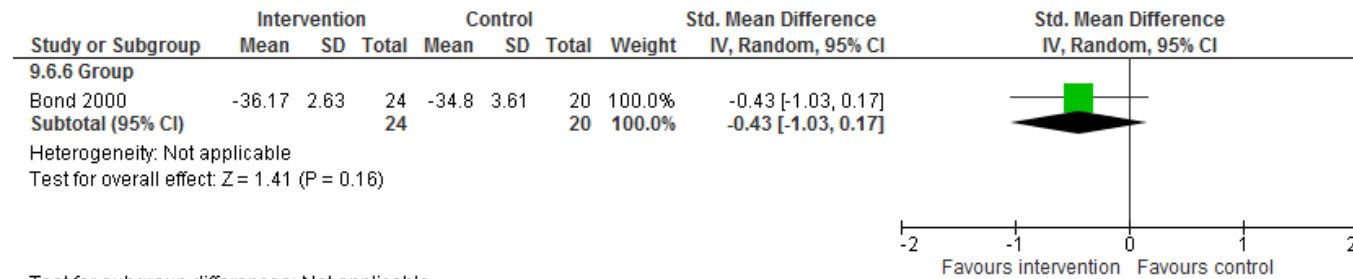
E.1.9.2 Job stress



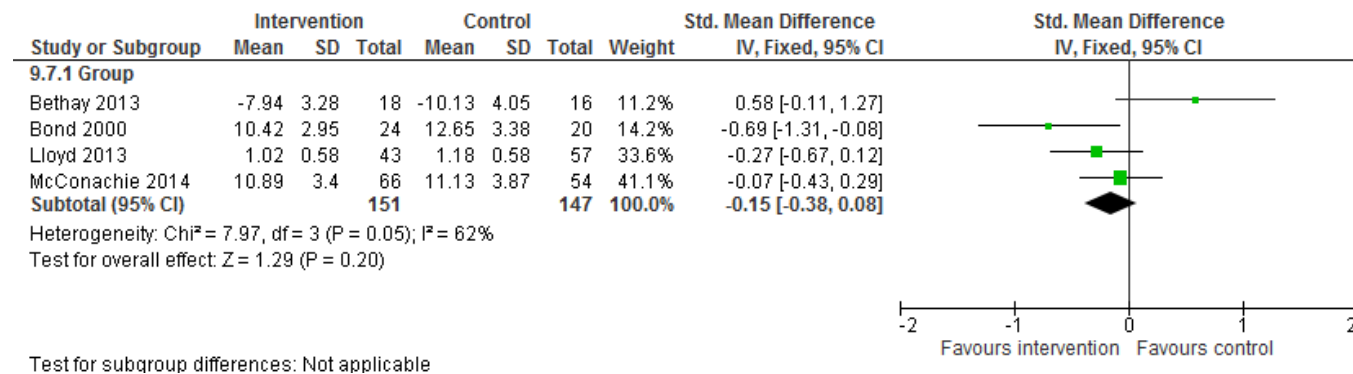
E.1.9.3 Mental health symptoms



E.1.9.4 Job satisfaction

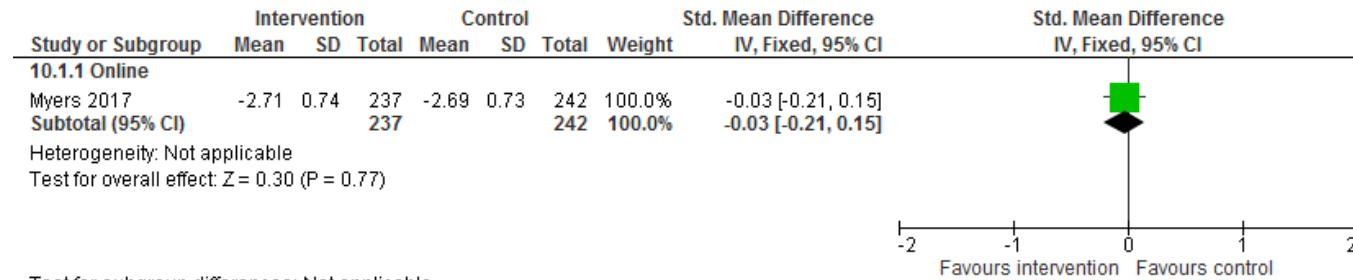


E.1.9.5 Quality of life



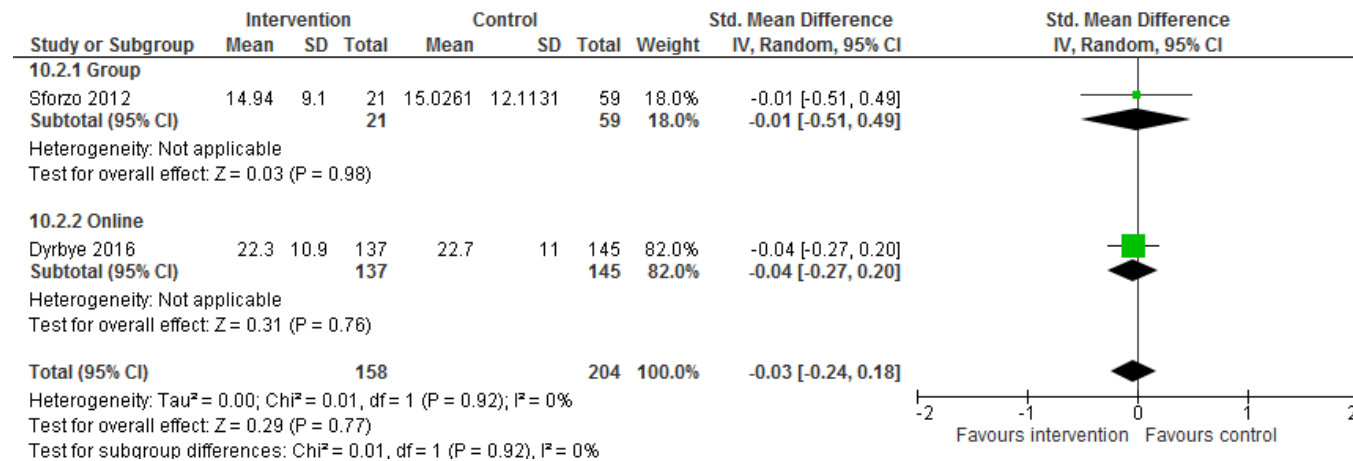
E.1.10 Emotion-focussed – Wellbeing promotion

E.1.10.1 Mental wellbeing

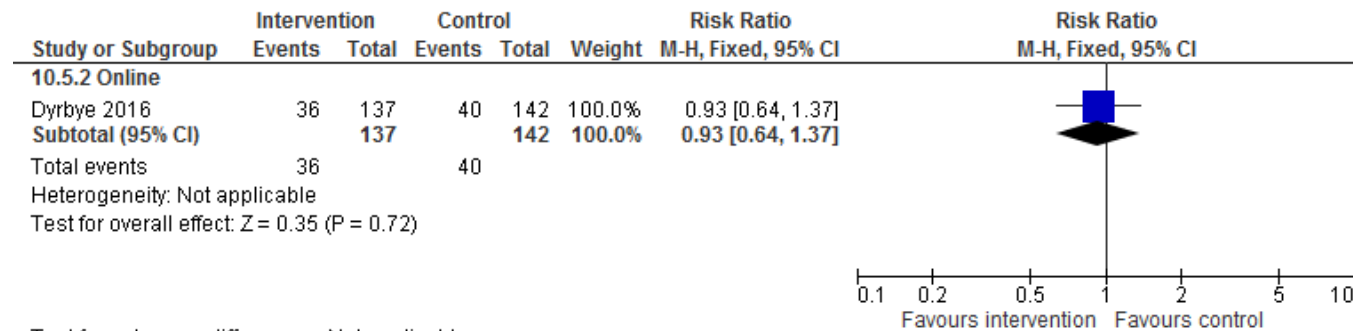


Test for subgroup differences: Not applicable

E.1.10.2 Job stress

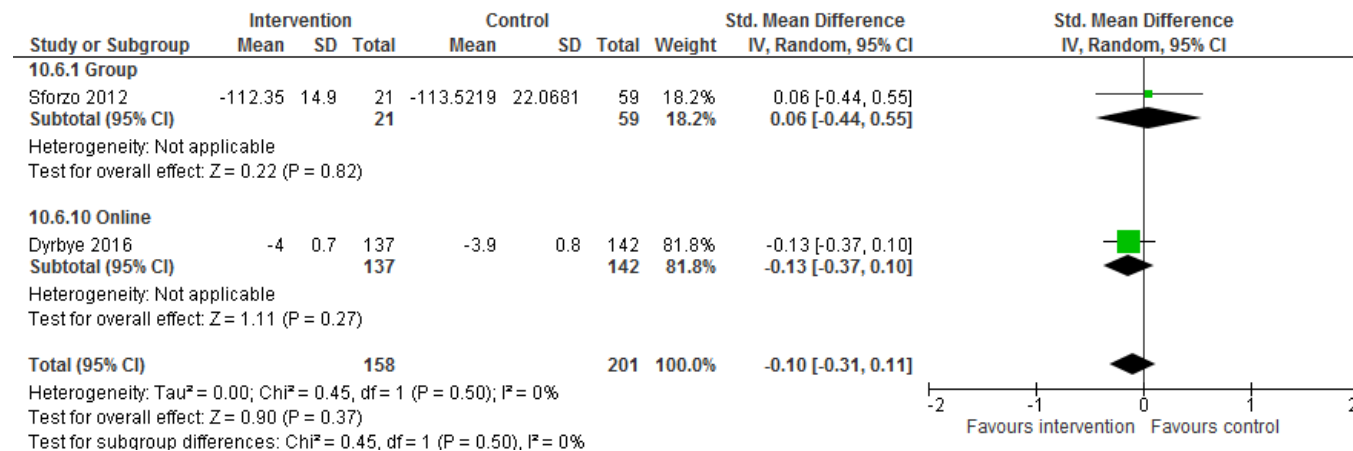


E.1.10.3 Mental health symptoms

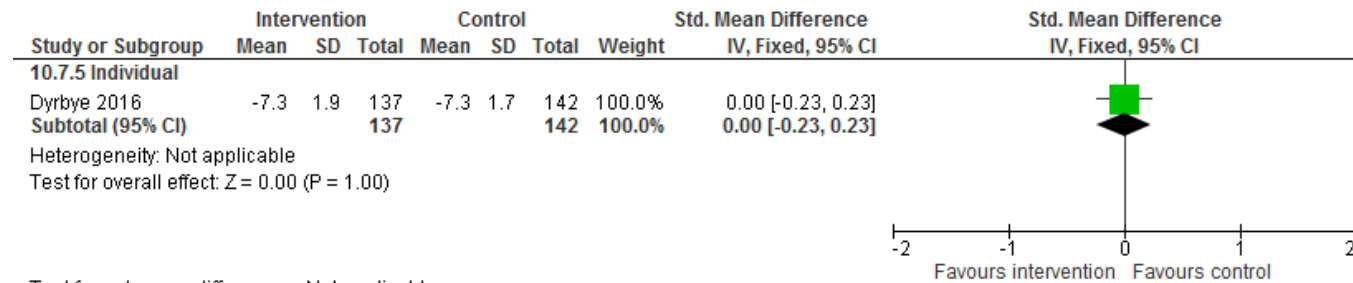


Test for subgroup differences: Not applicable

E.1.10.4 Job satisfaction

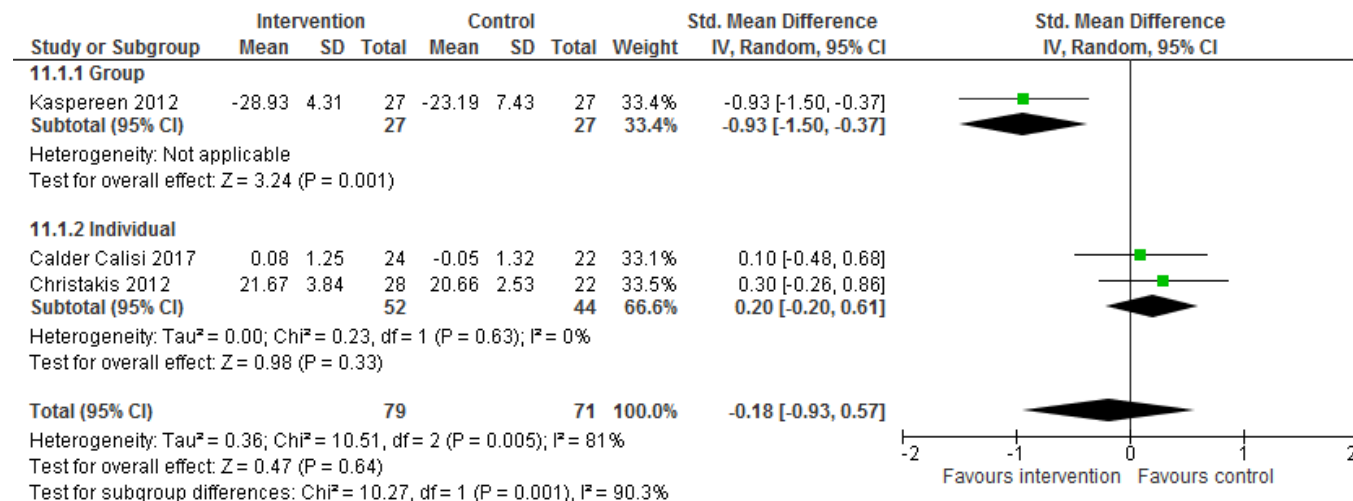


E.1.10.5 Quality of life

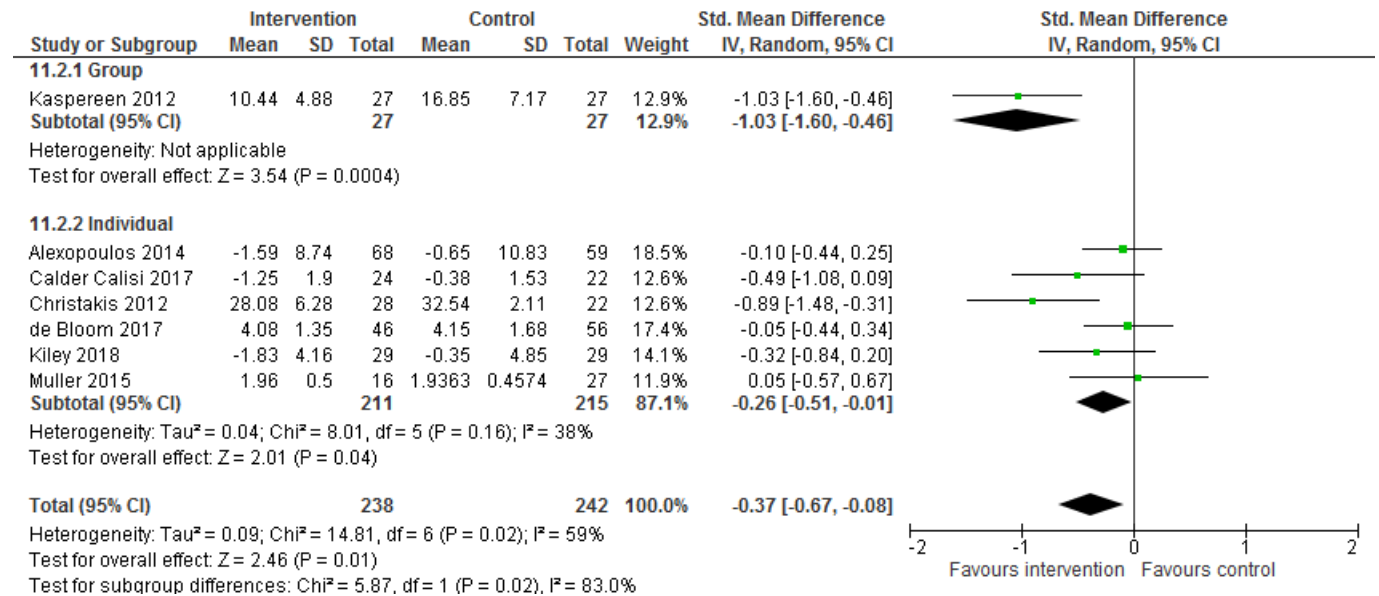


E.1.11 Emotion-focussed - Relaxation

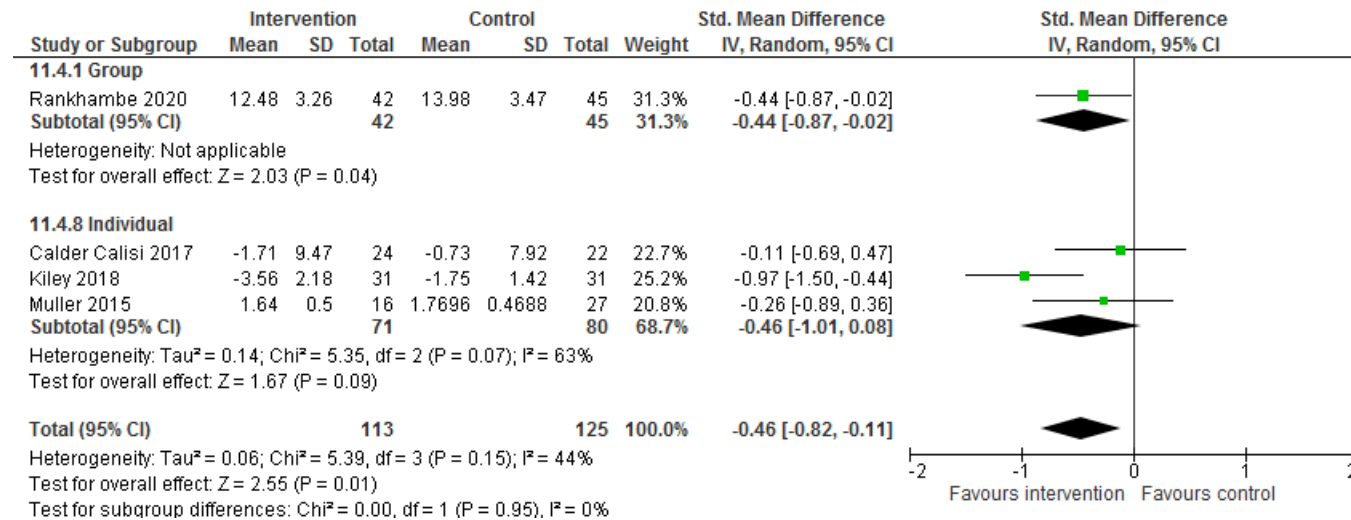
E.1.11.1 Mental wellbeing



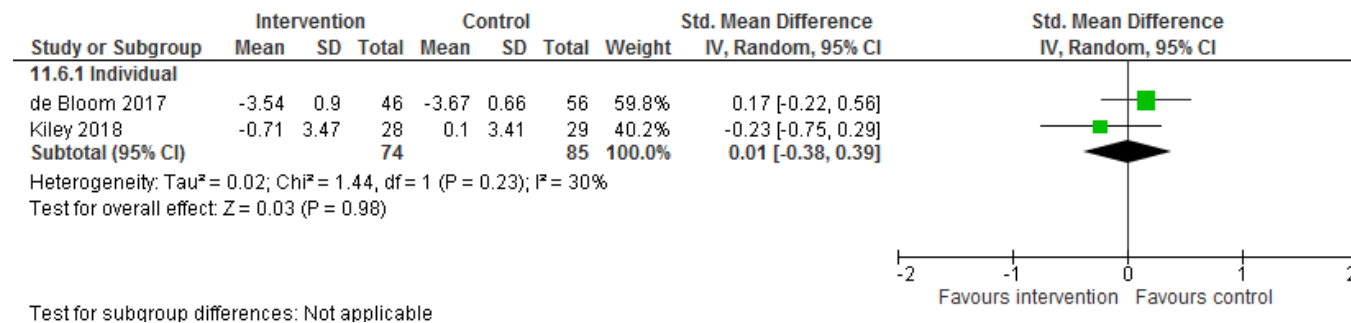
E.1.11.2 Job stress



E.1.11.3 Mental health symptoms

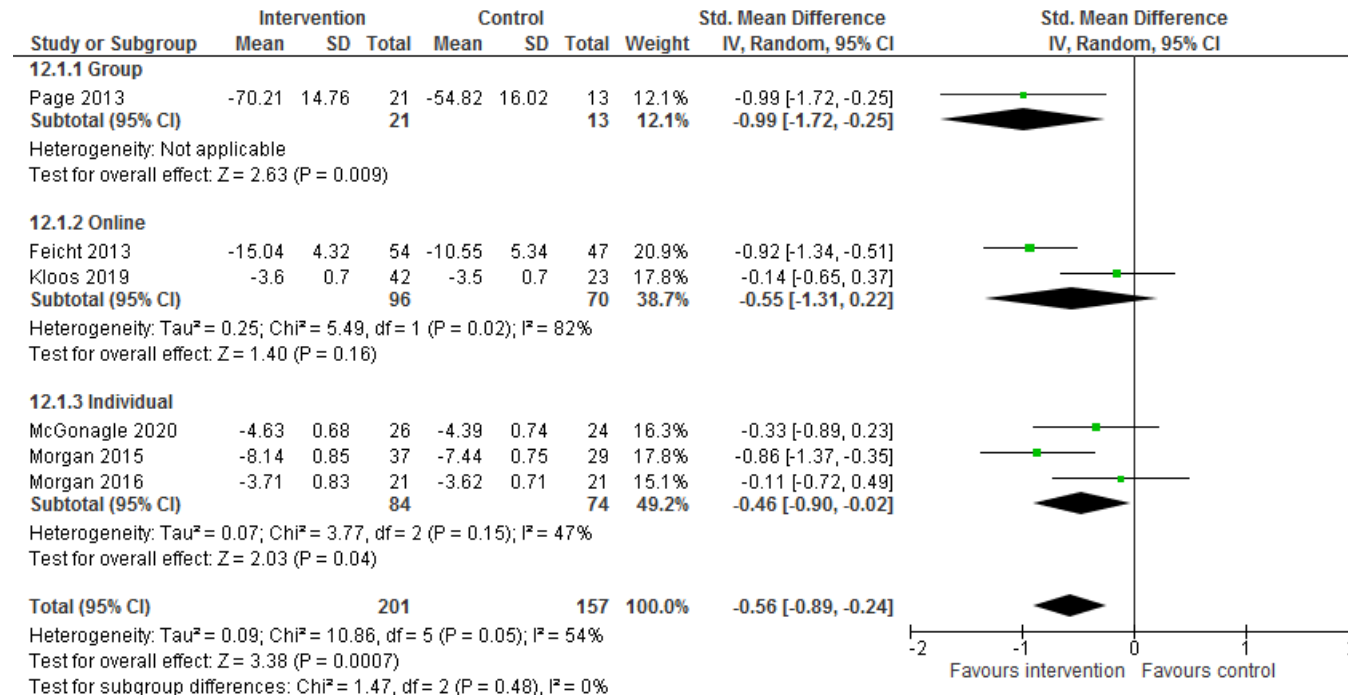


E.1.11.4 Job satisfaction

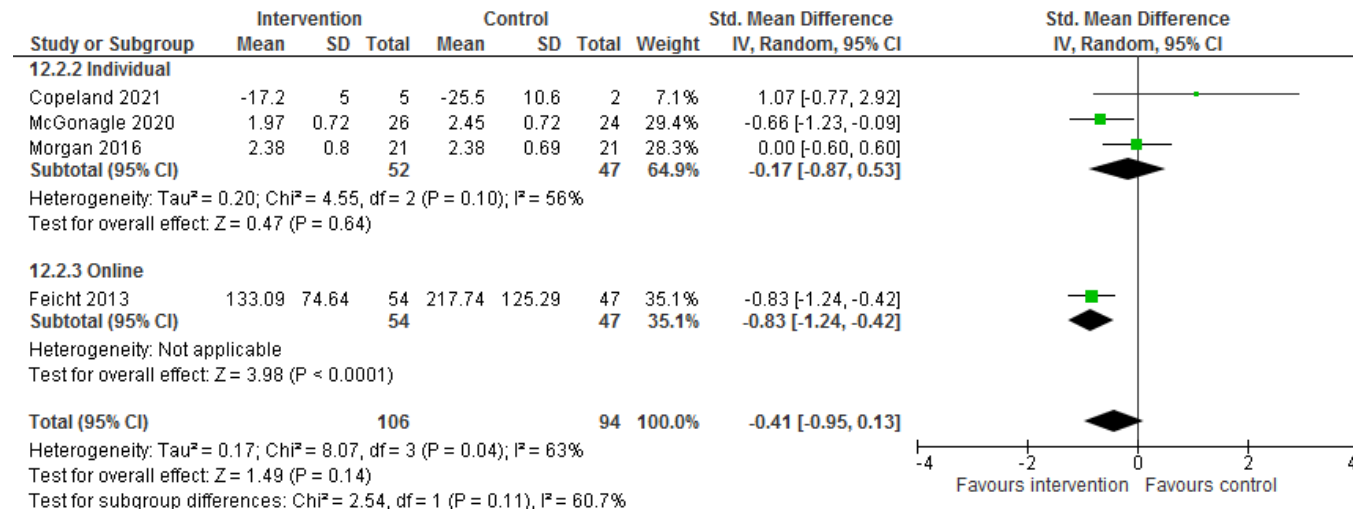


E.1.12 Emotion-focussed – Positive psychology

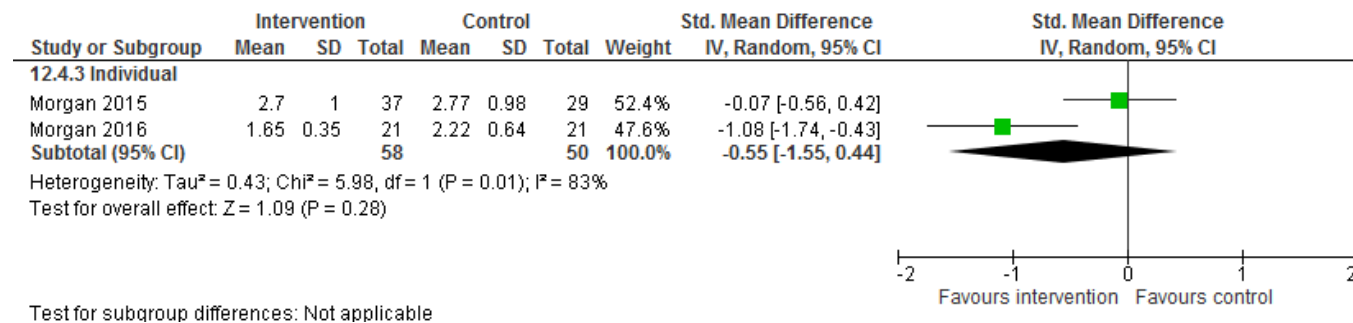
E.1.12.1 Mental wellbeing



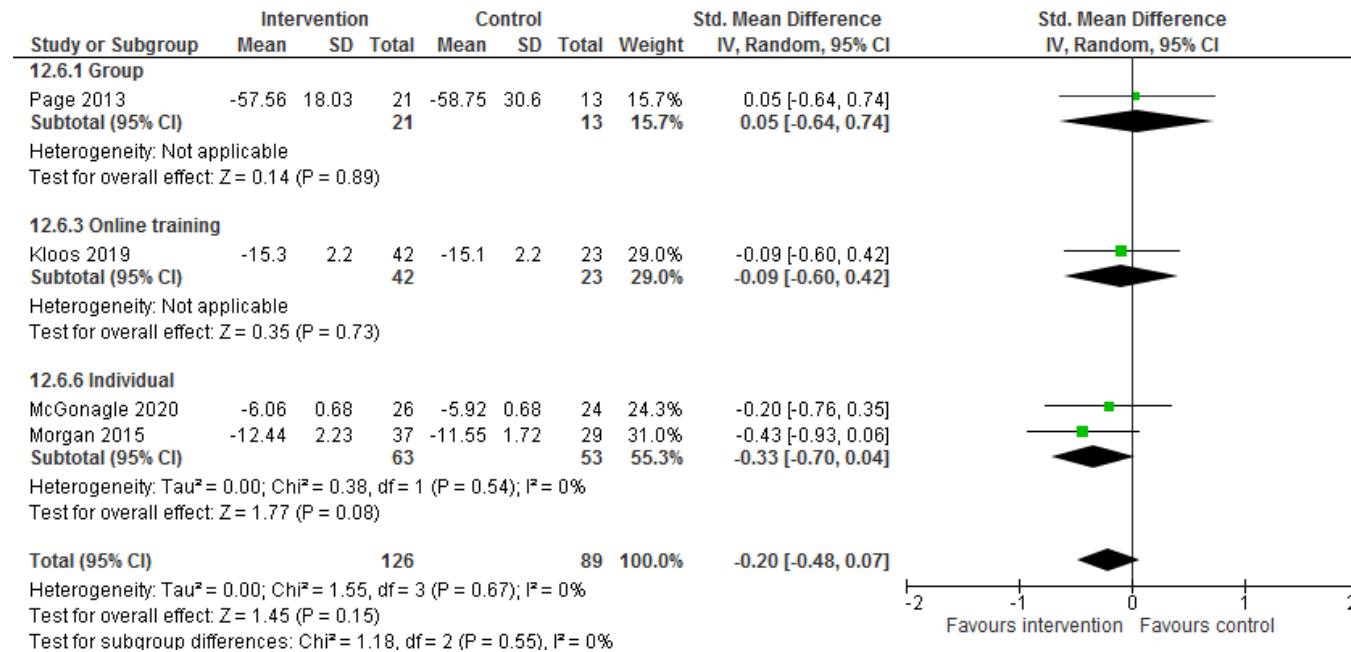
E.1.12.2 Job stress



E.1.12.3 Mental health symptoms

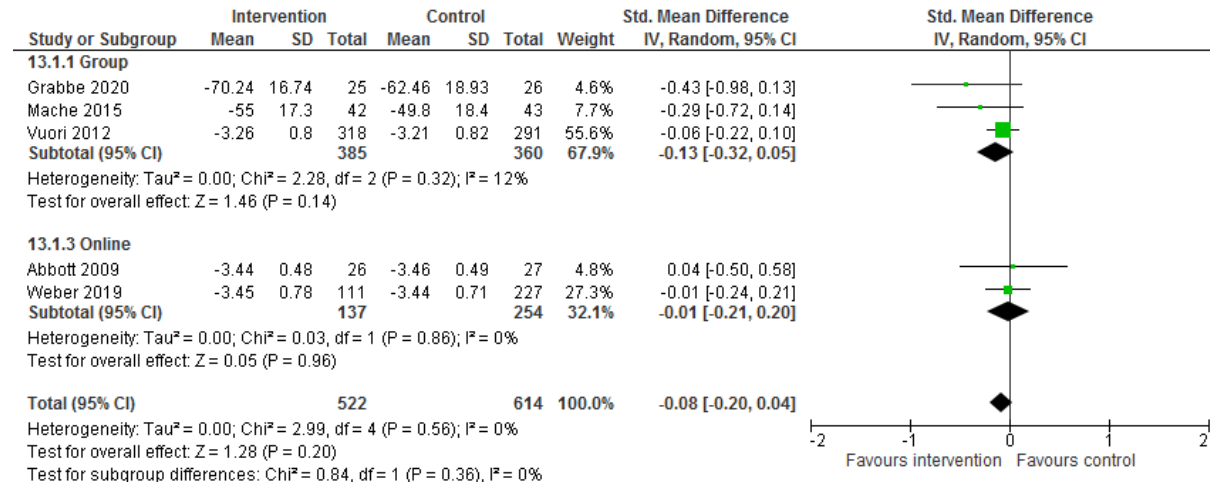


E.1.12.4 Job satisfaction

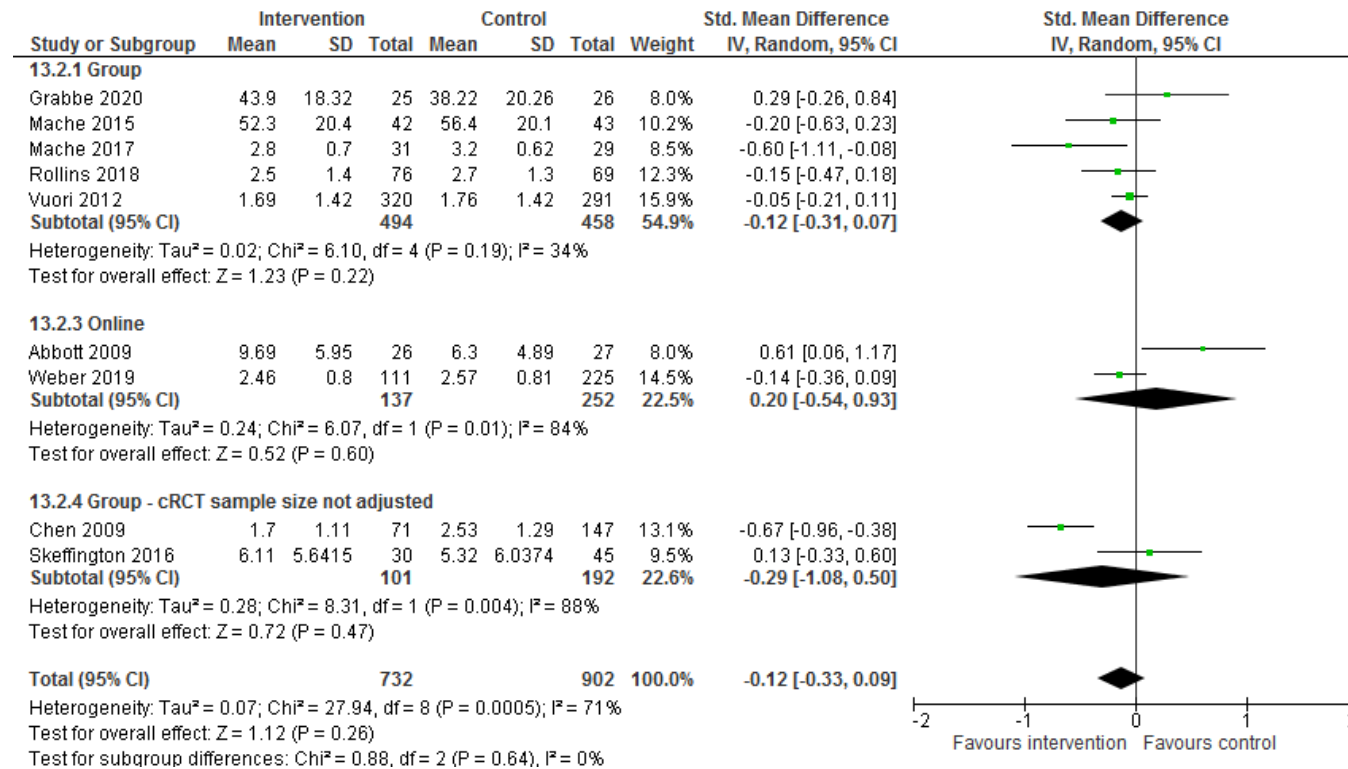


E.1.13 Emotion-focussed – Resilience training

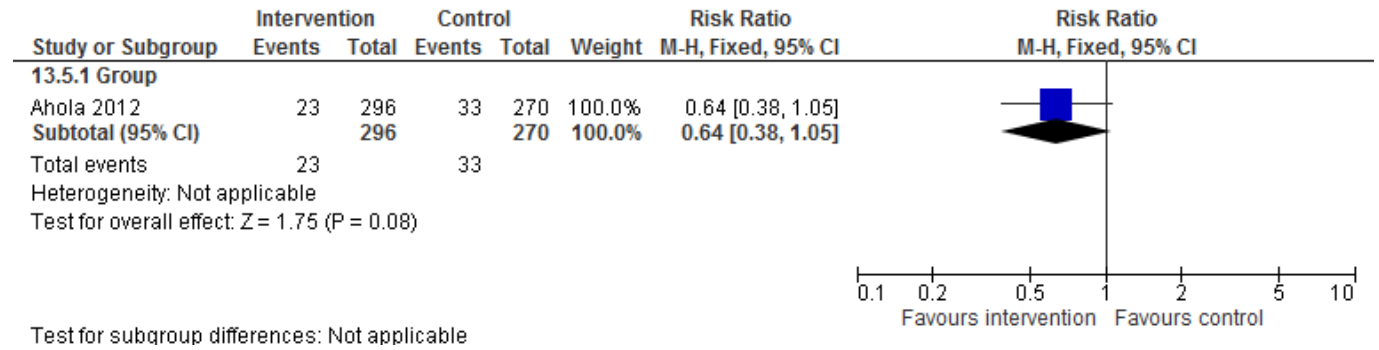
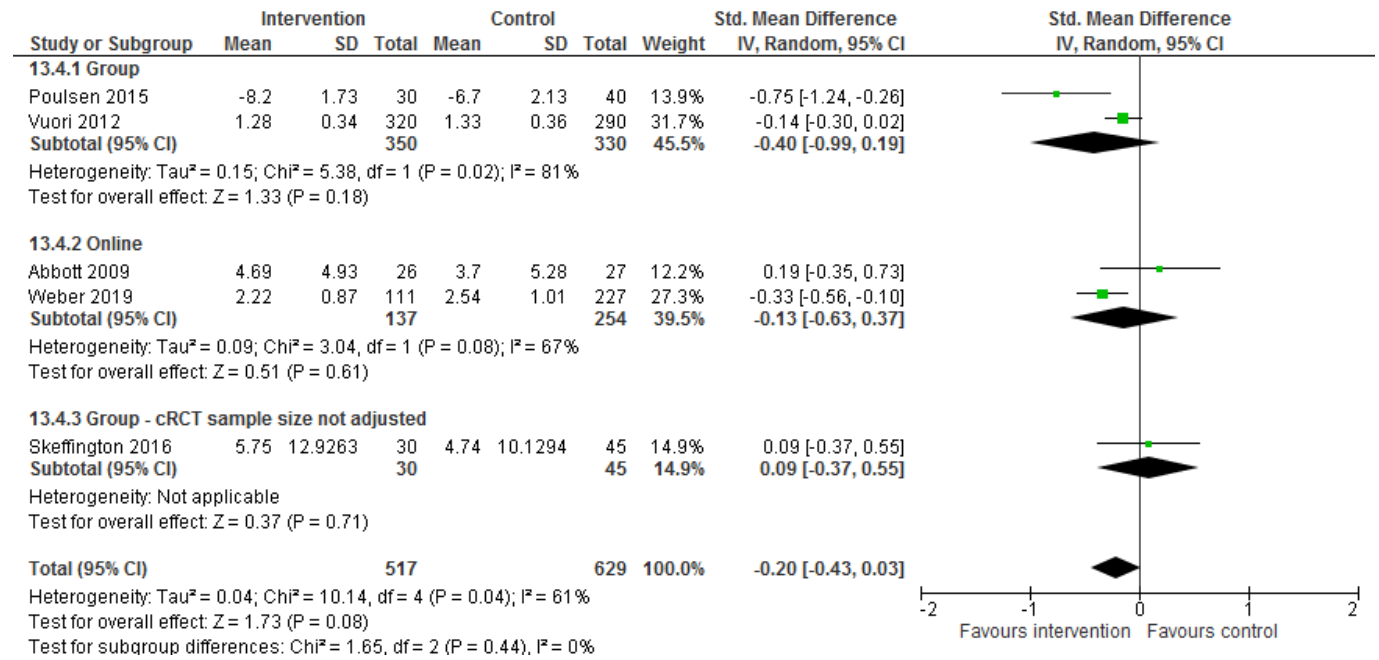
E.1.13.1 Mental wellbeing



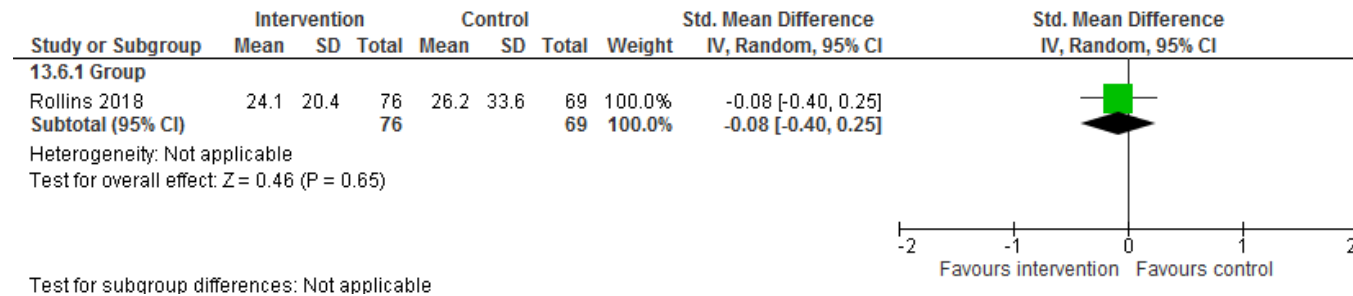
E.1.13.2 Job stress



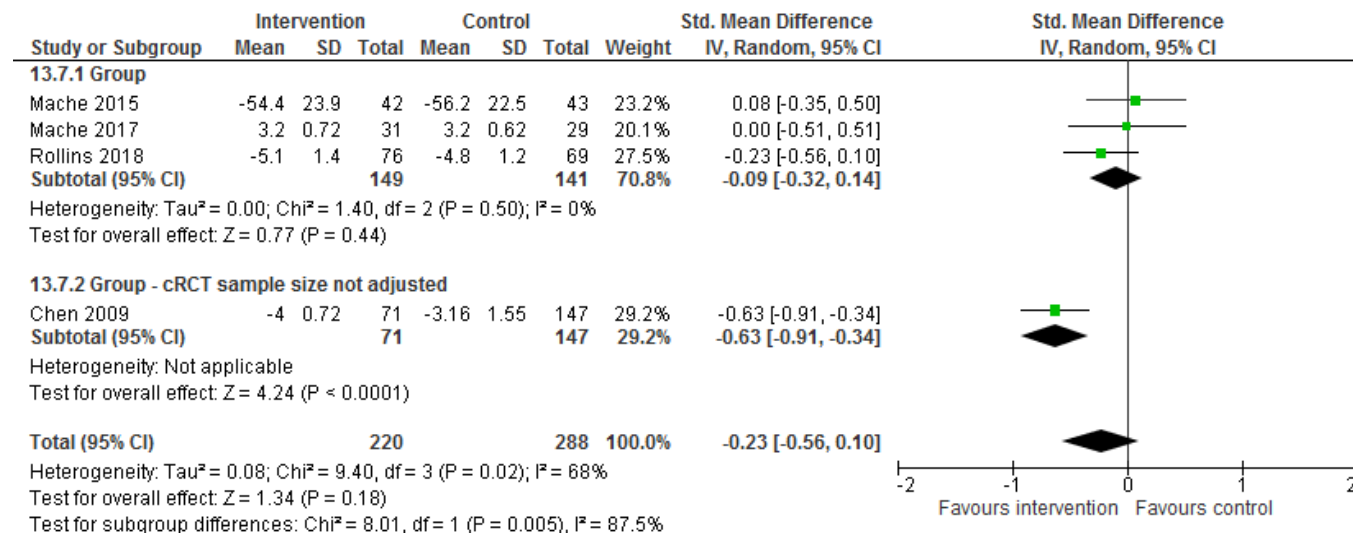
E.1.13.3 Mental health symptoms



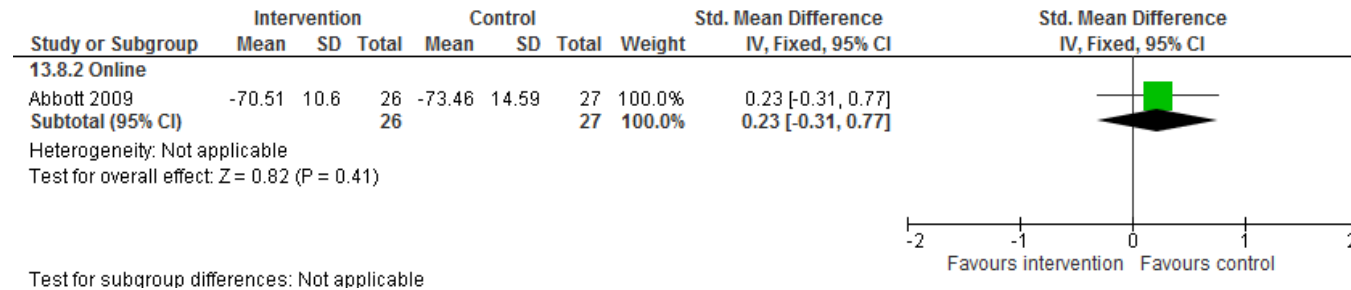
E.1.13.4 Absenteeism



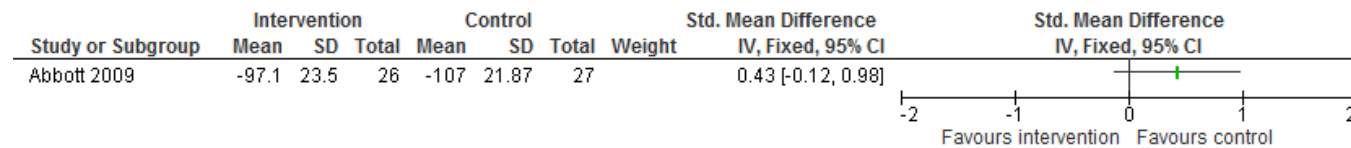
E.1.13.5 Job satisfaction



E.1.13.6 Quality of life

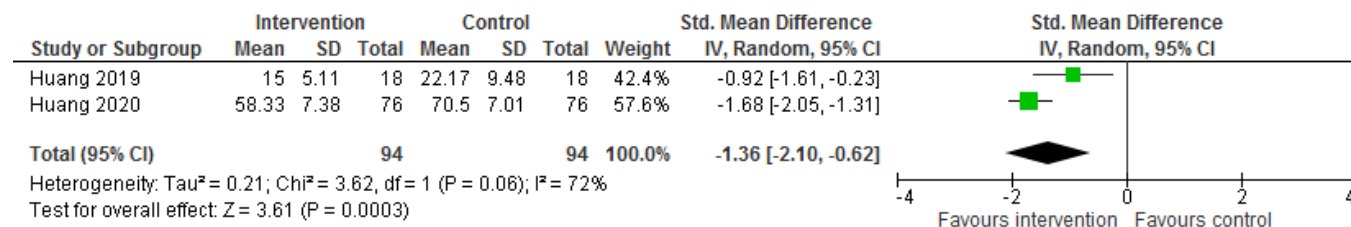


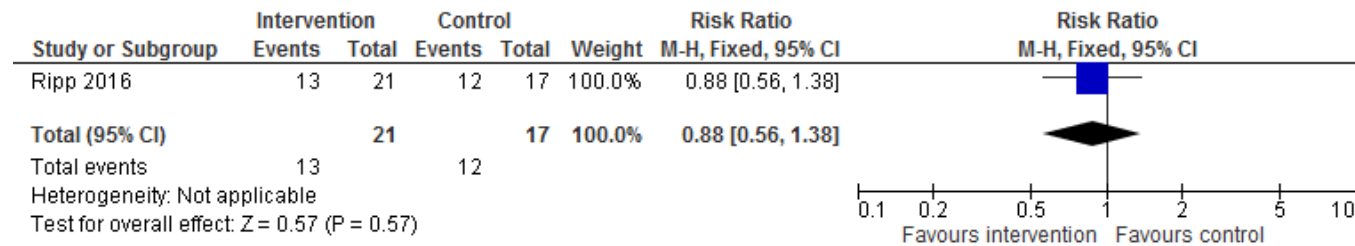
E.1.13.7 Productivity



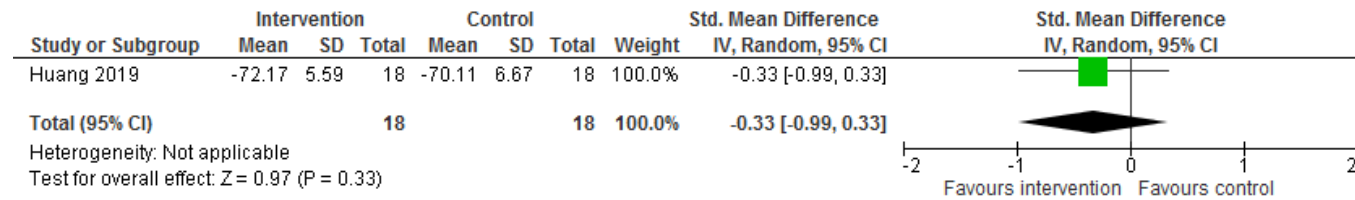
E.1.14 Emotion-focussed – Group support

E.1.14.1 Job stress



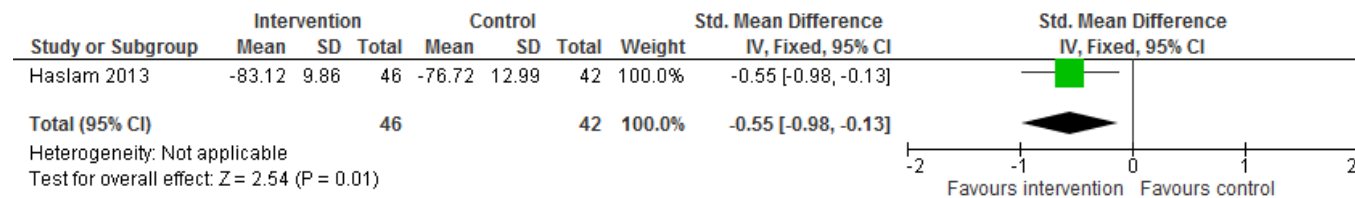


E.1.14.2 Job satisfaction

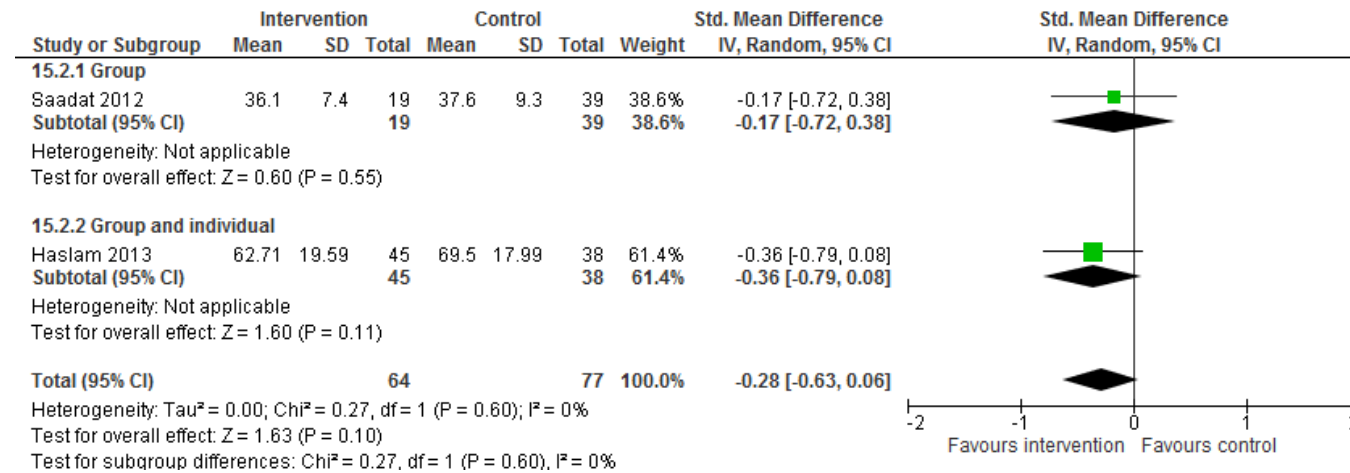


E.1.15 Emotion-focussed – Work-life balance

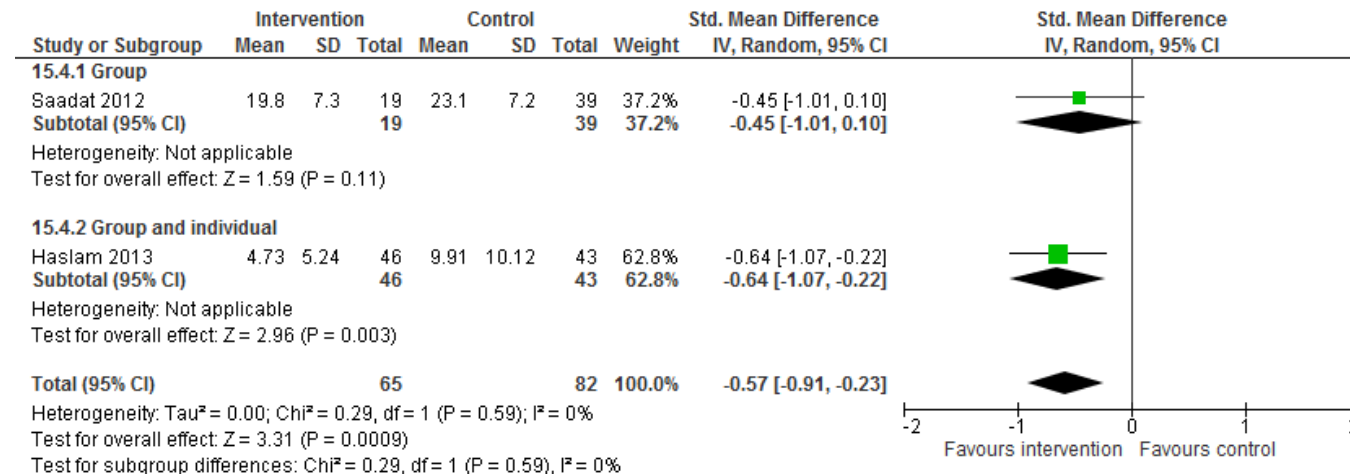
E.1.15.1 Mental wellbeing



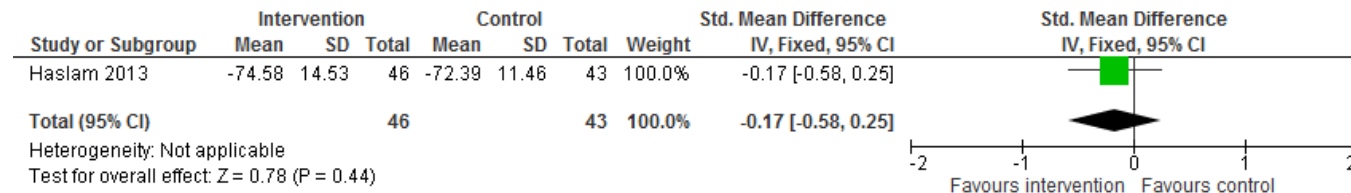
E.1.15.2 Job stress



E.1.15.3 Mental health symptoms

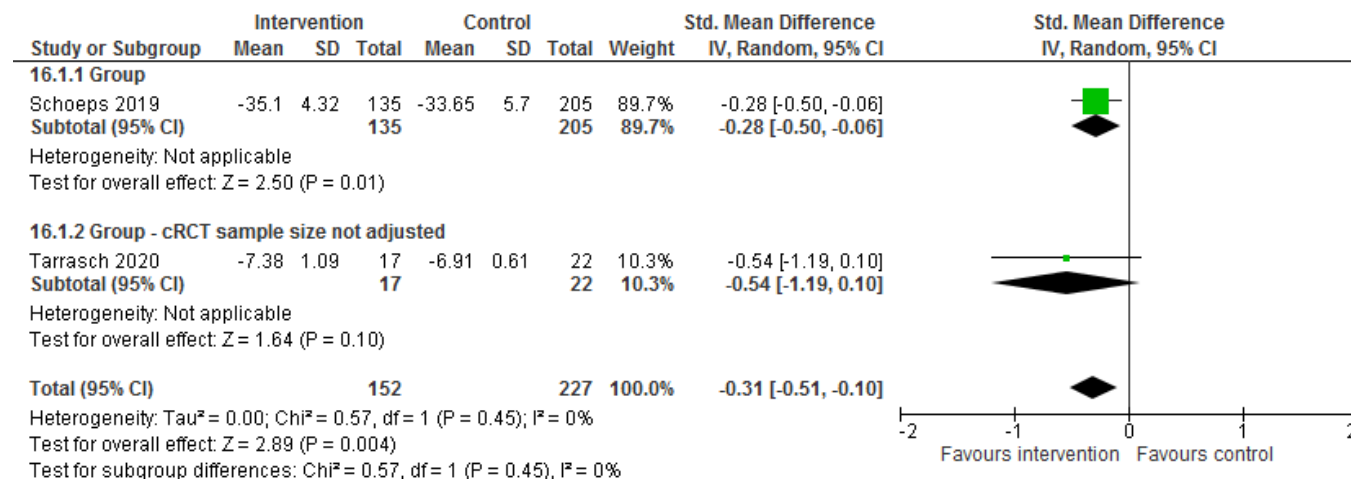


E.1.15.4 Job satisfaction

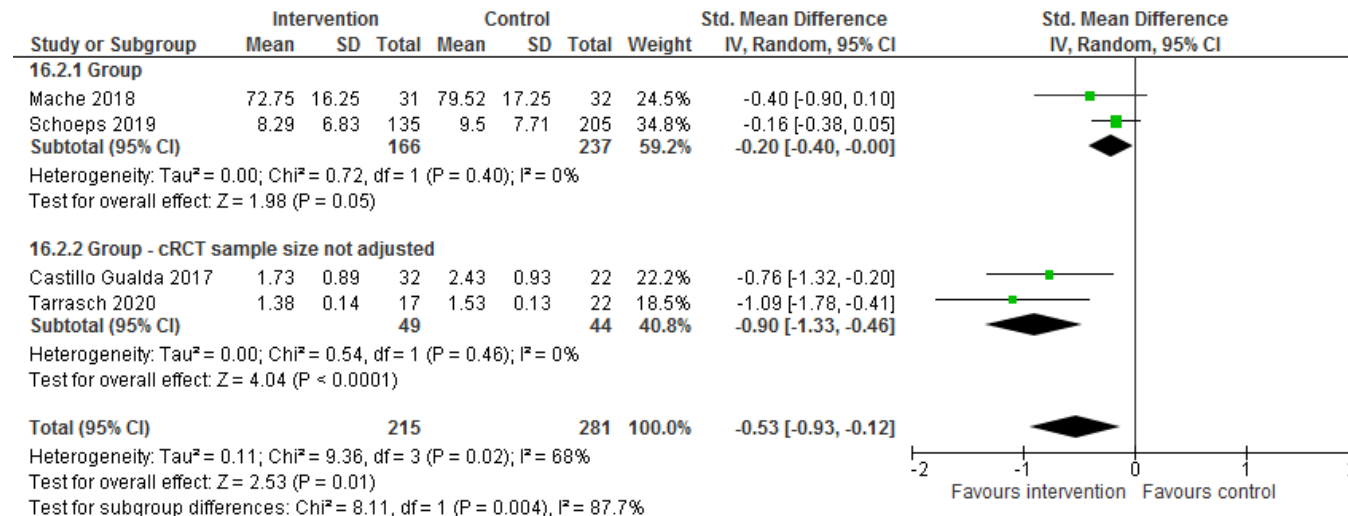


E.1.16 Emotion-focussed – Emotional skills training

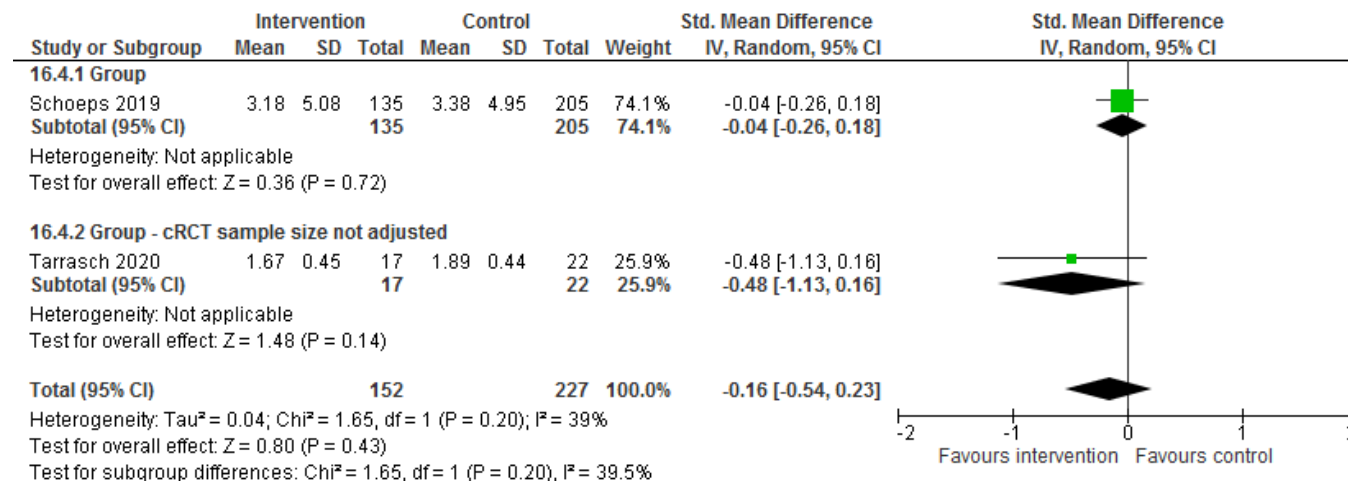
E.1.16.1 Mental wellbeing



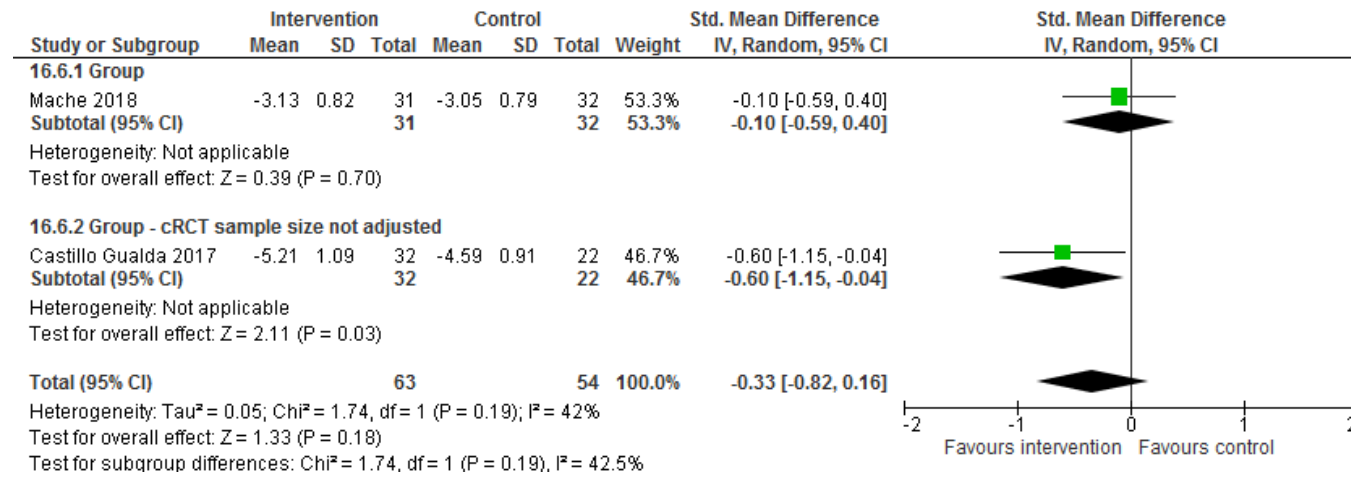
E.1.16.2 Job stress



E.1.16.3 Mental health symptoms

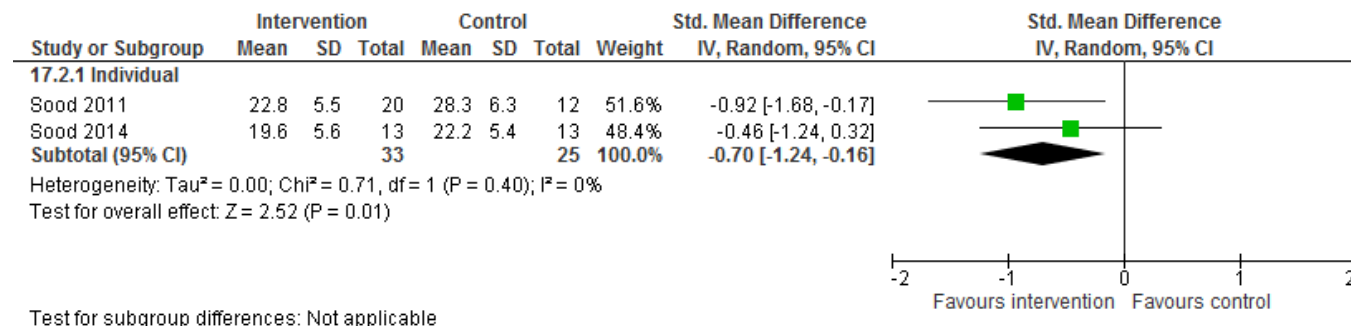


E.1.16.4 Job satisfaction

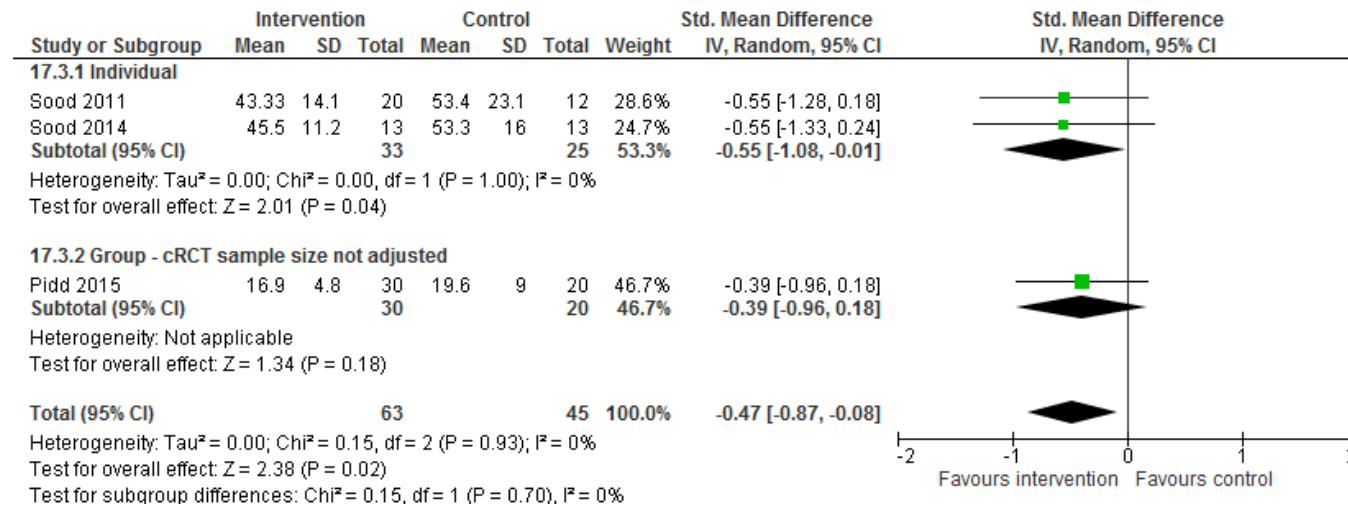


E.1.17 Emotion-focussed – Stress management and resilience training

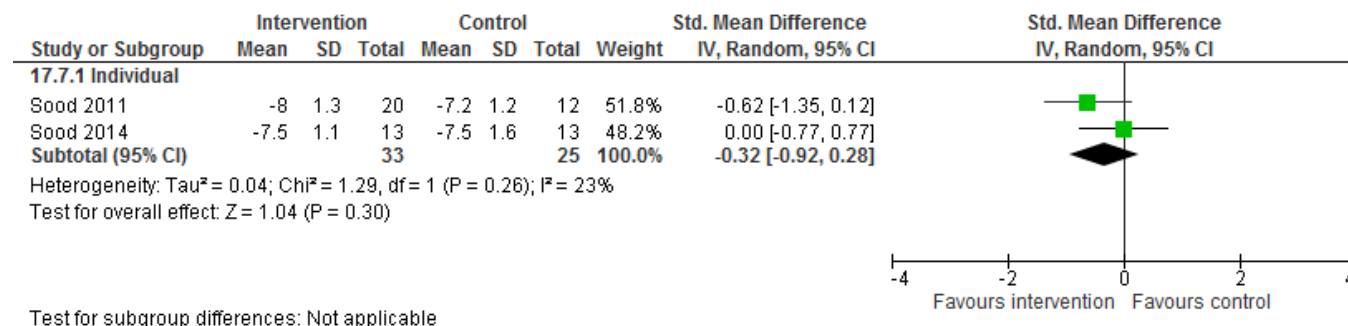
E.1.17.1 Job stress

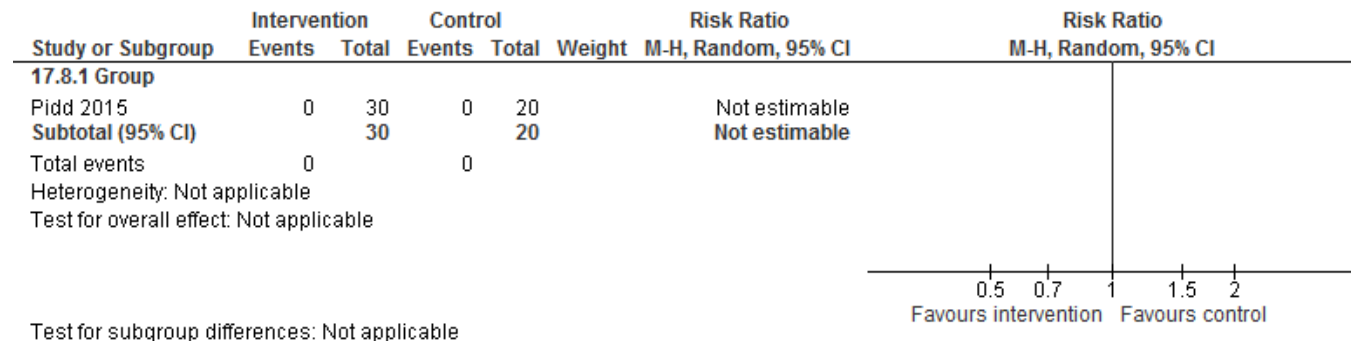


E.1.17.2 Mental health symptoms



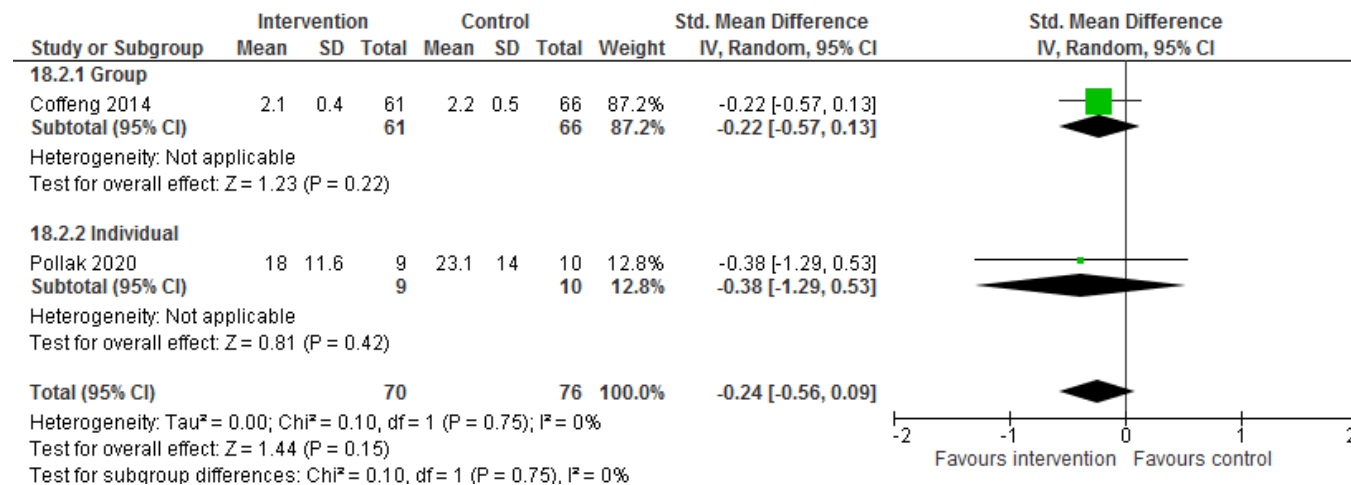
E.1.17.3 Quality of life

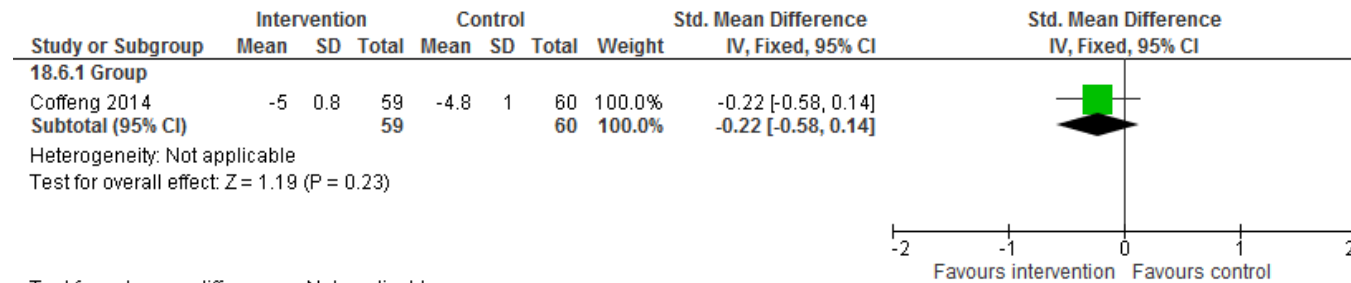
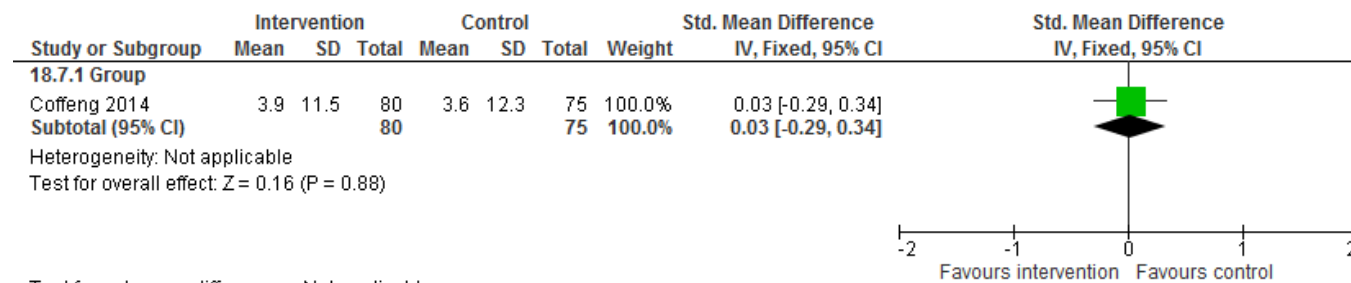
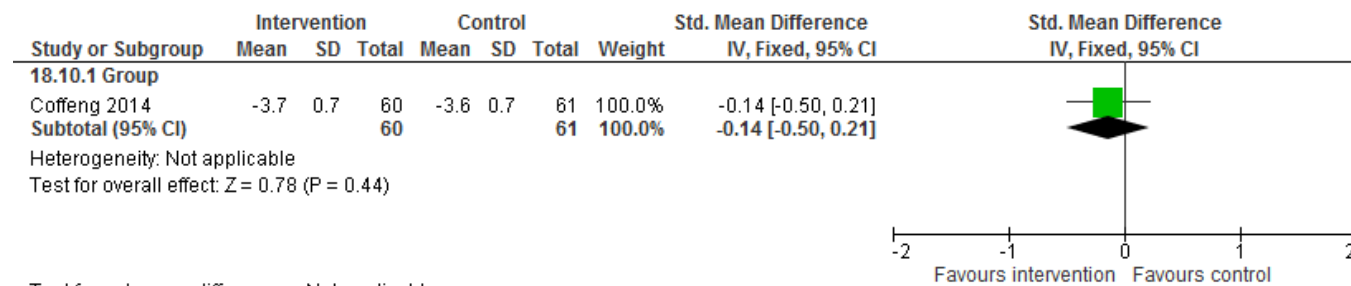




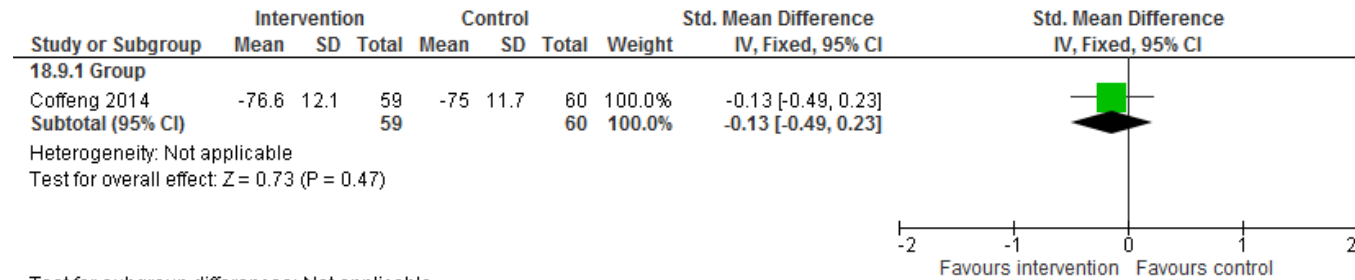
E.1.18 Emotion-focussed – Motivational interviewing

E.1.18.1 Job stress



E.1.18.2 Job satisfaction**E.1.18.3 Absenteeism****E.1.18.4 Productivity**

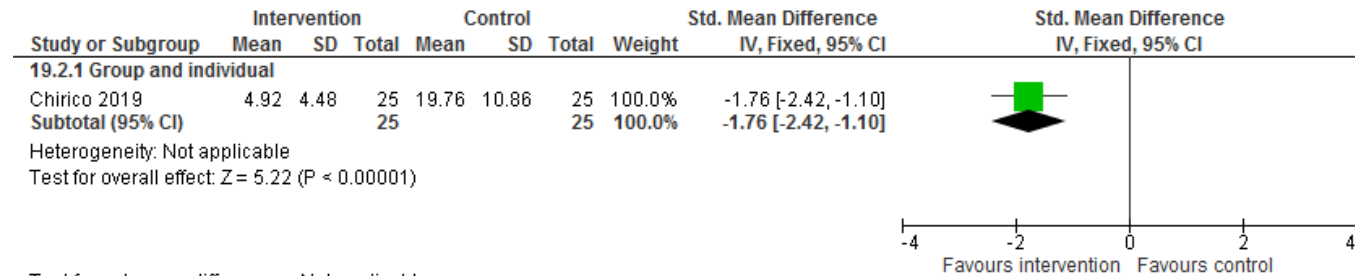
E.1.18.5 Presenteeism



Test for subgroup differences: Not applicable

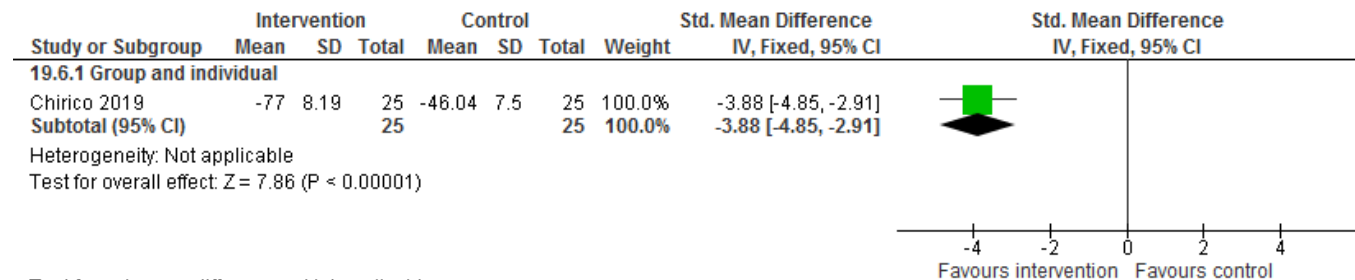
E.1.19 Emotion-focussed – Prayer vs usual practice

E.1.19.1 Job stress



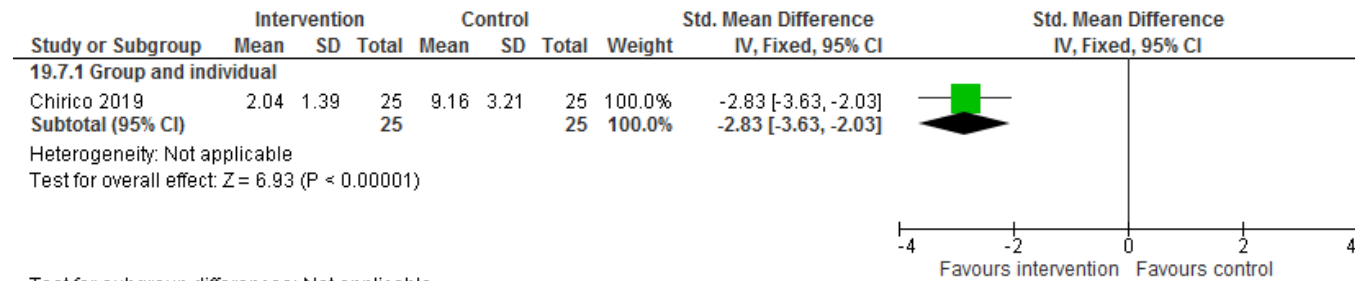
Test for subgroup differences: Not applicable

E.1.19.2 Job satisfaction



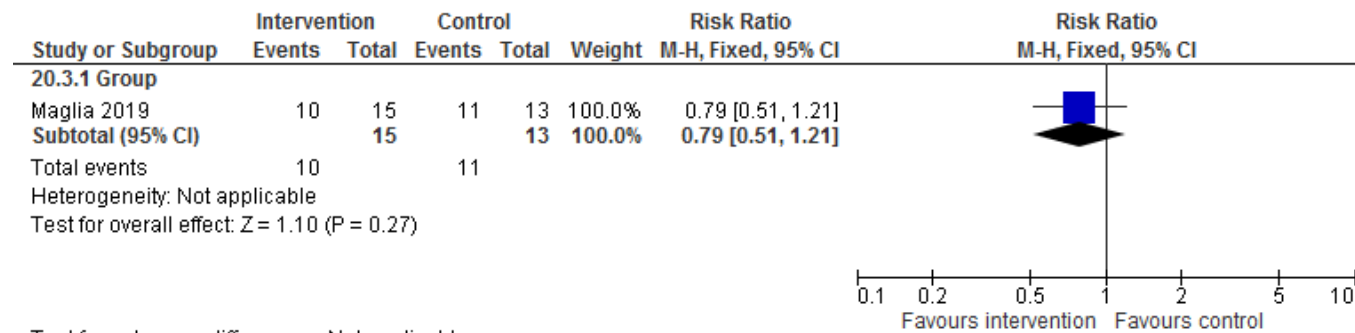
Test for subgroup differences: Not applicable

E.1.19.3 Quality of life

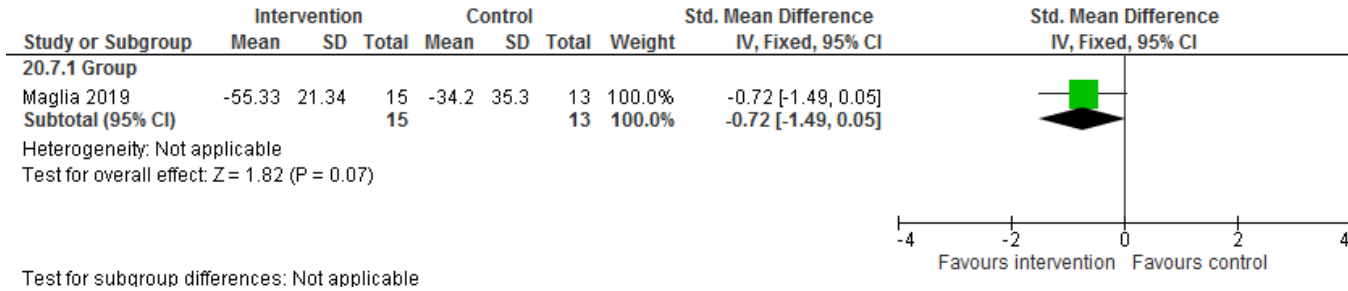


E.1.20 Emotion-focussed – Psychotherapy and yoga

E.1.20.1 Job stress

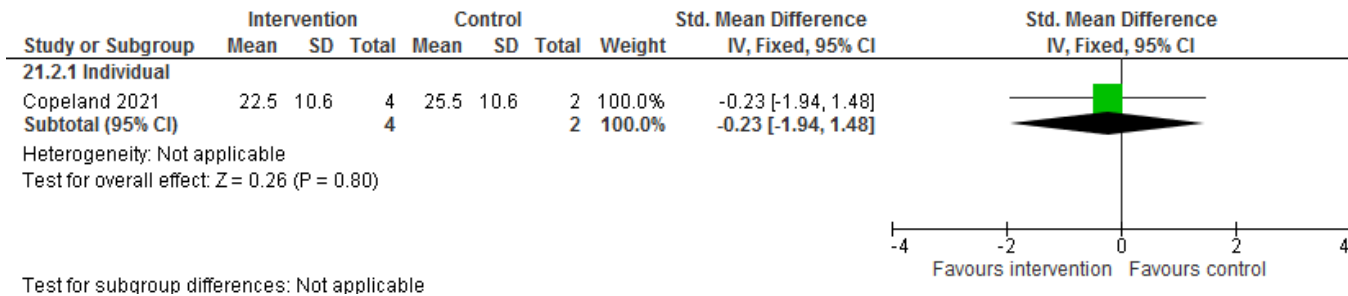


E.1.20.2 Quality of life



E.1.21 Emotion-focussed – Journaling

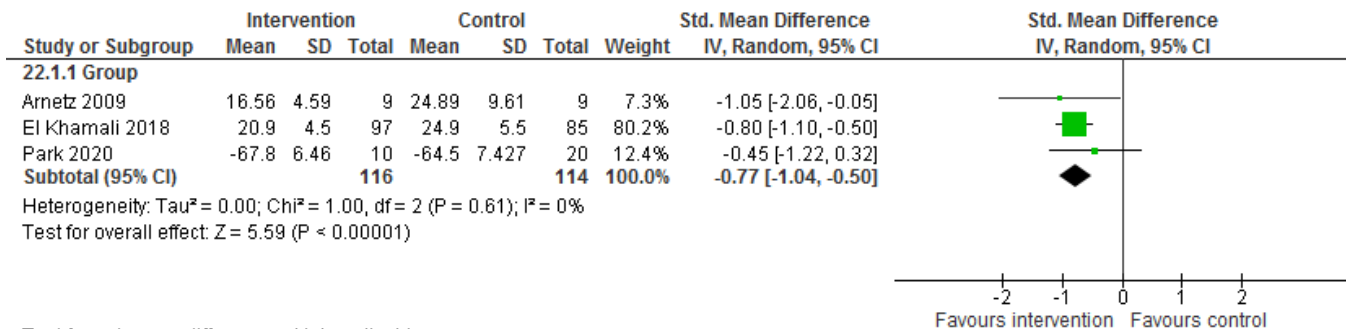
E.1.21.1 Job stress



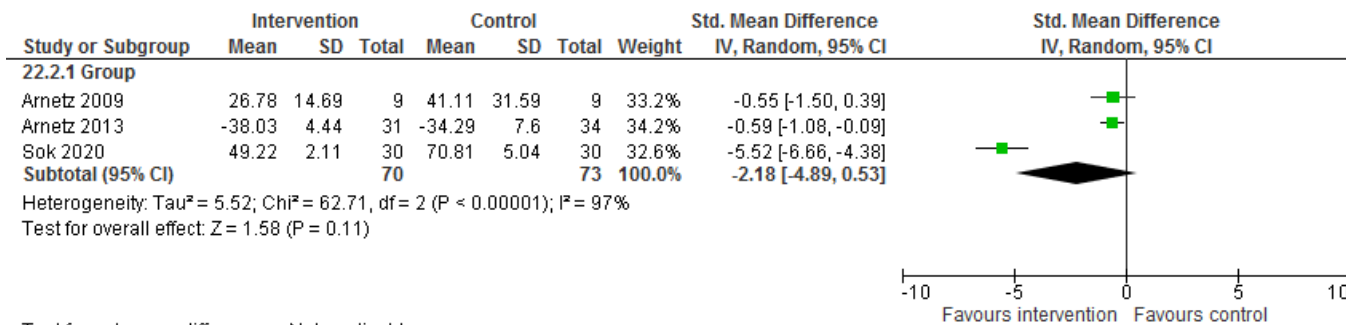
E.2 Task-focussed skills training

E.2.1 Task-focussed – Imagery and skills training

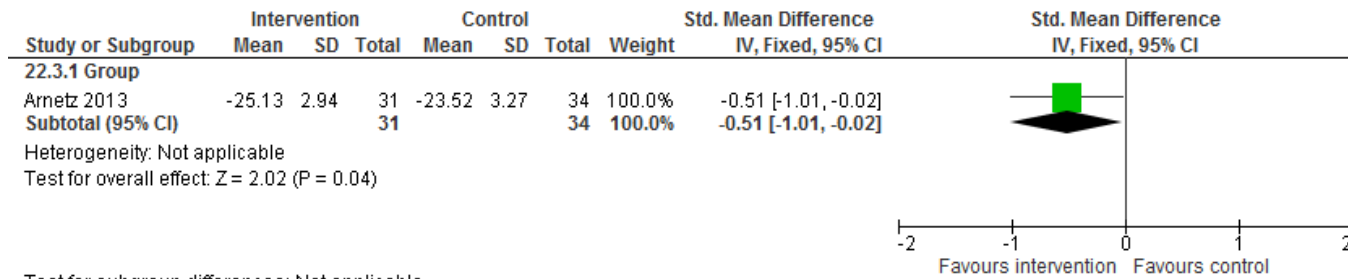
E.2.1.1 Mental wellbeing



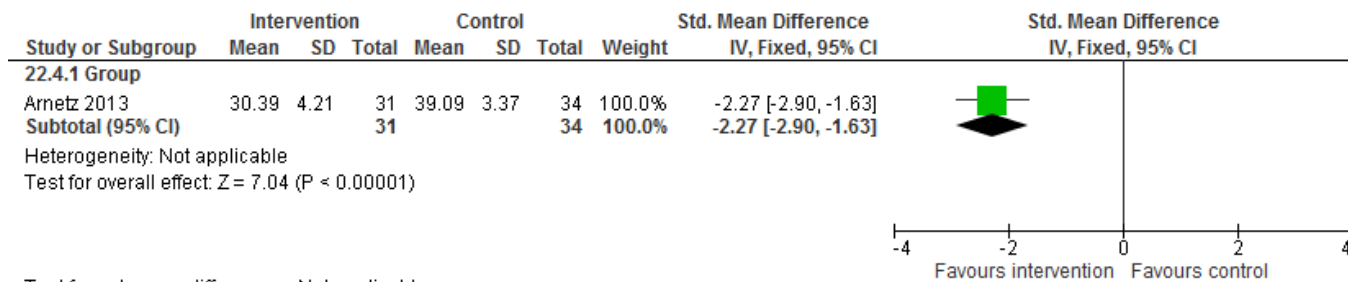
E.2.1.2 Job stress



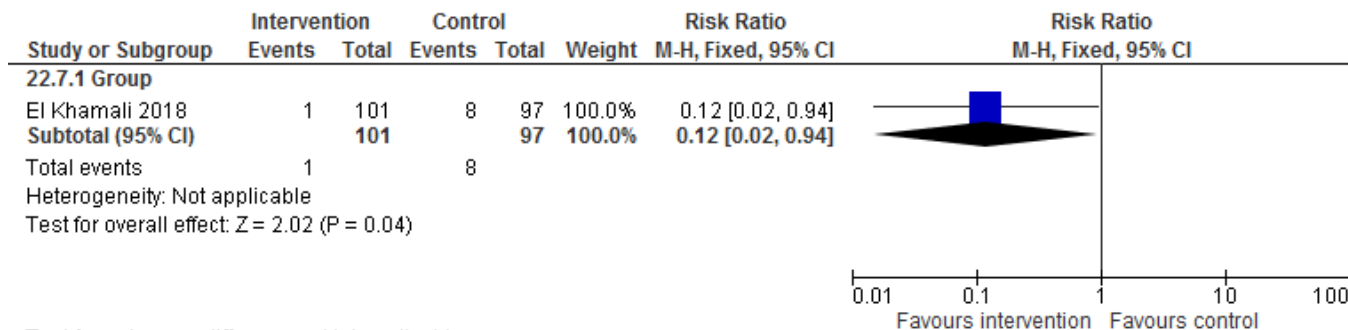
E.2.1.3 Mental health symptoms



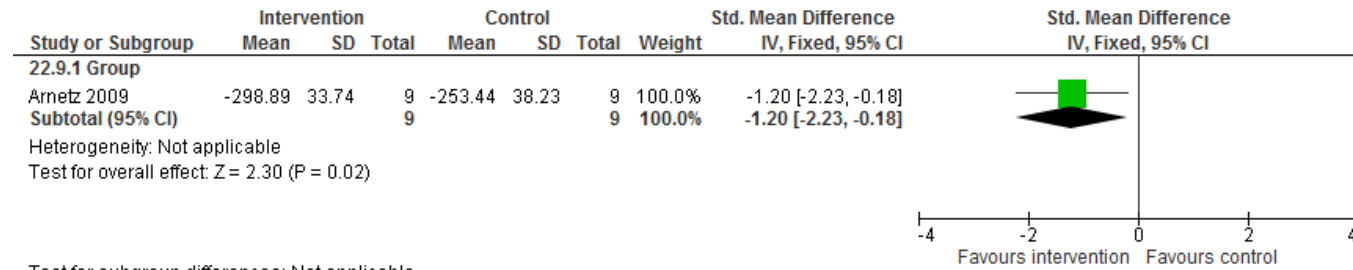
E.2.1.4 Quality of life



E.2.1.5 Absenteeism

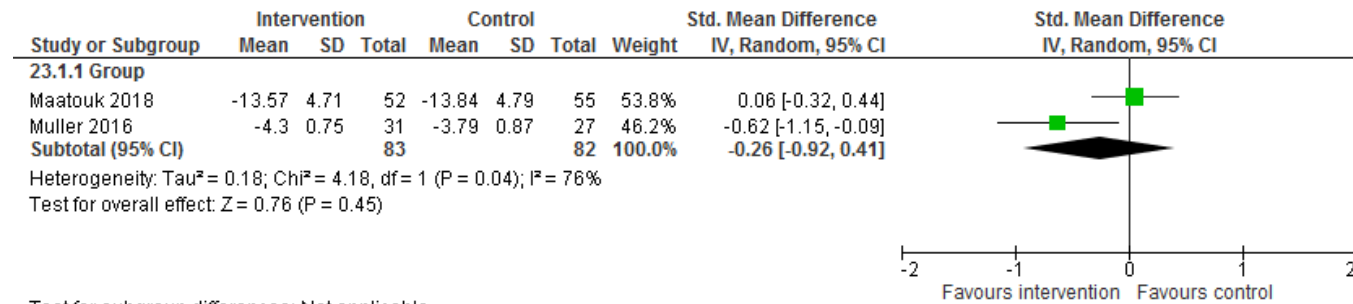


E.2.1.6 Productivity

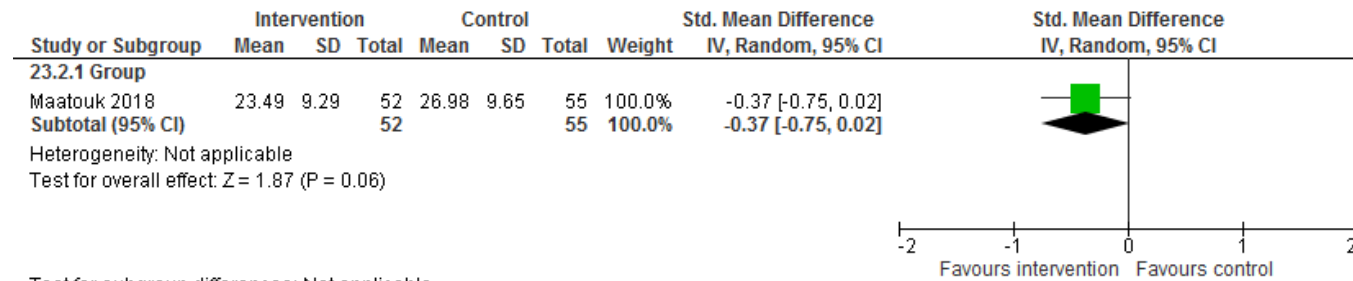


E.2.2 Task-focussed – SOC training

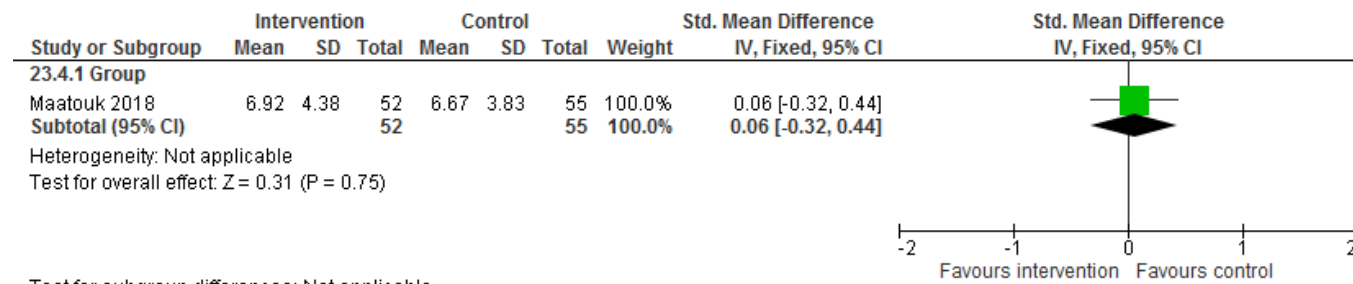
E.2.2.1 Mental wellbeing



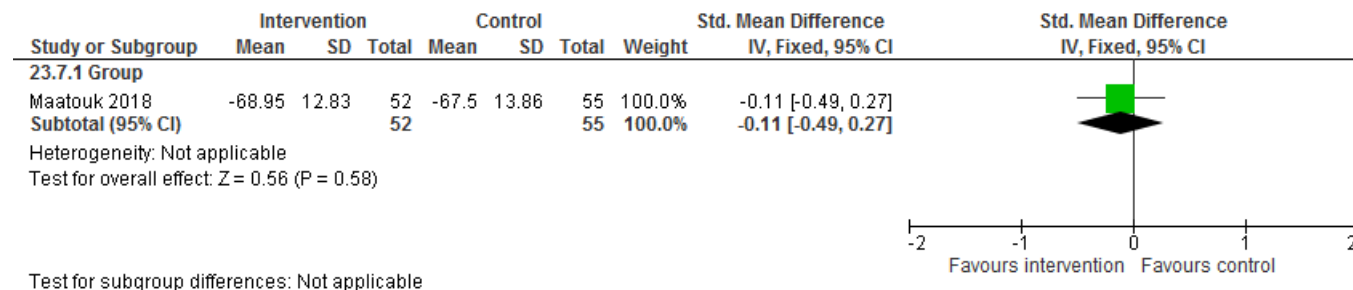
E.2.2.2 Job stress



E.2.2.3 Mental health symptoms

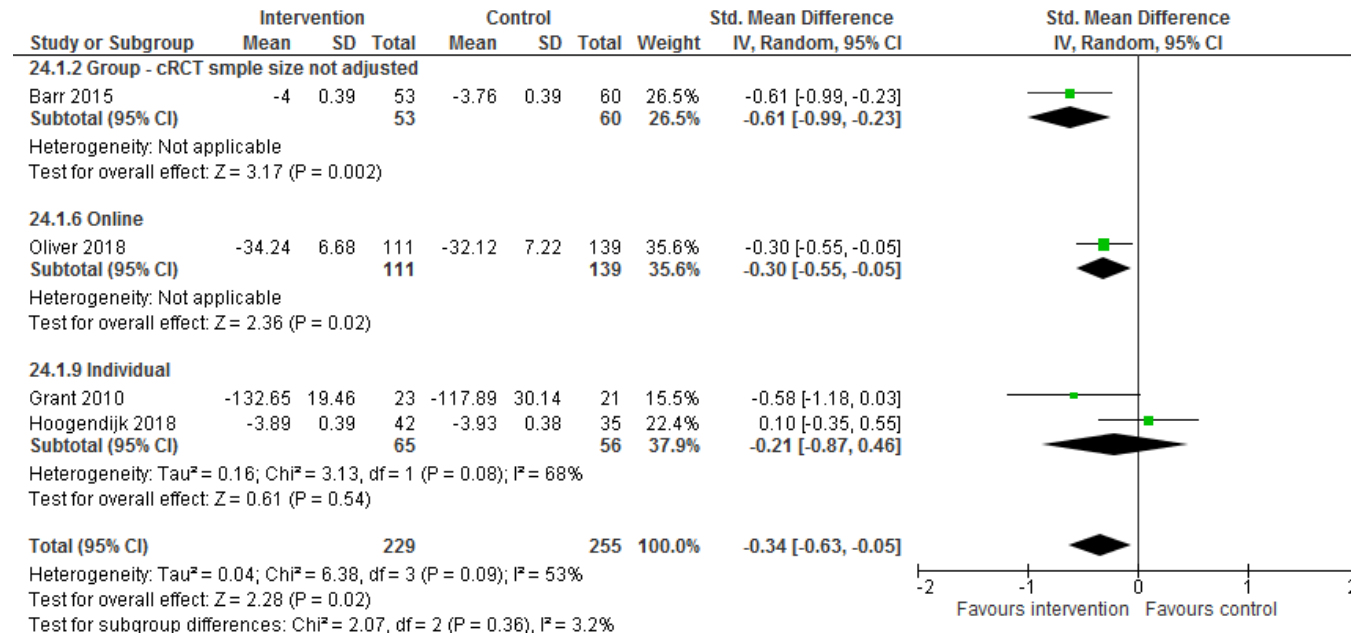


E.2.2.4 Quality of life

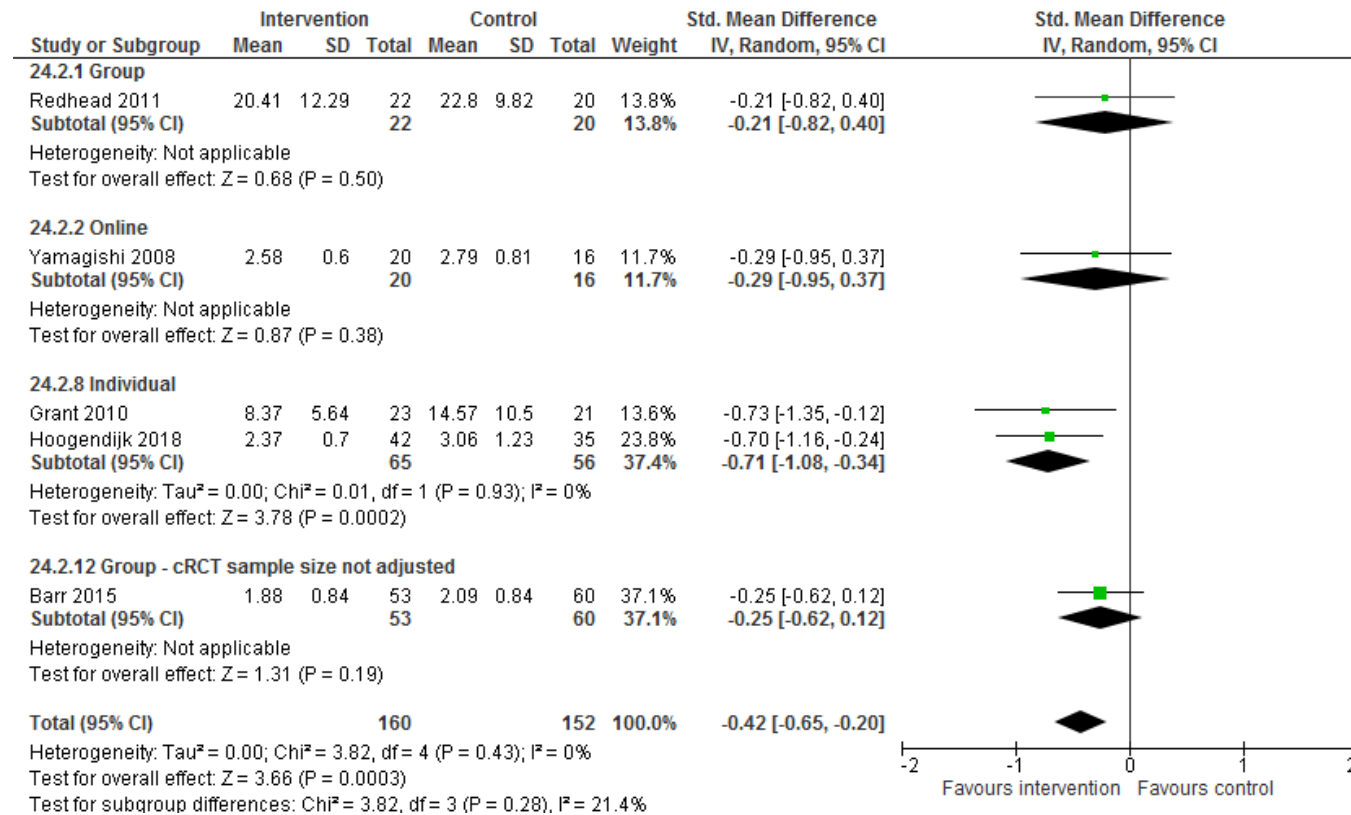


E.2.3 Task-focussed – Professional development

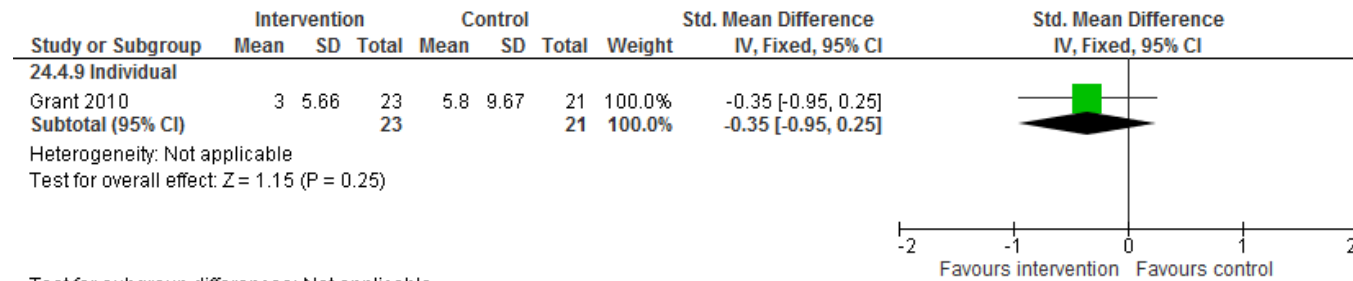
E.2.3.1 Mental wellbeing



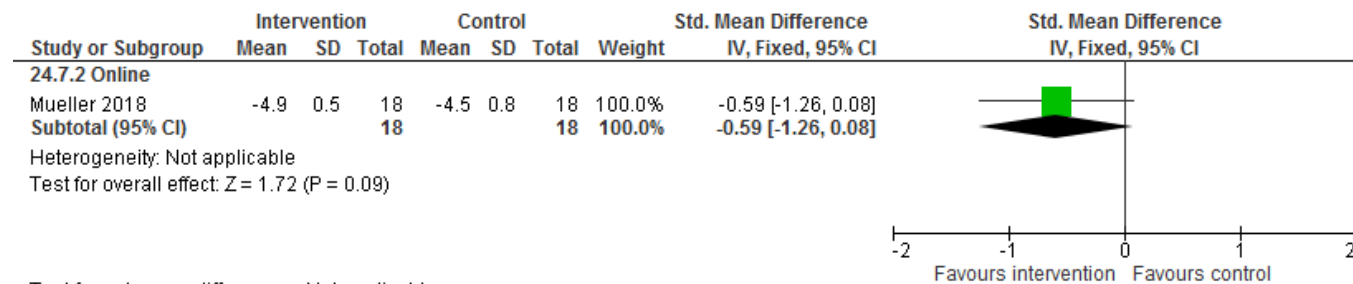
E.2.3.2 Job stress



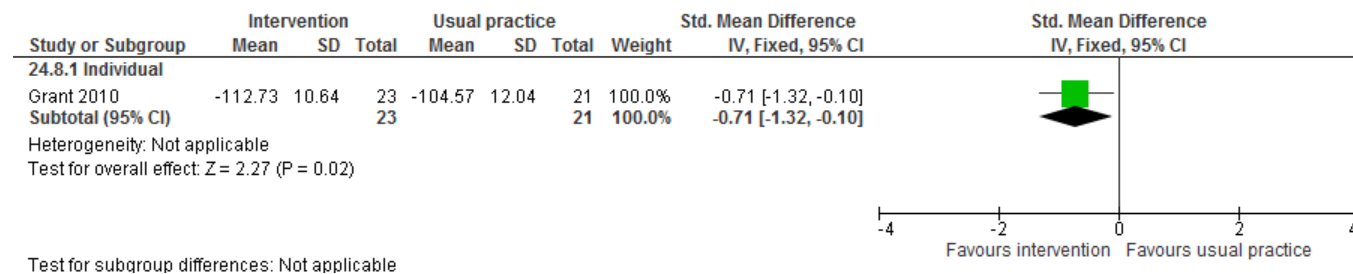
E.2.3.3 Mental health symptoms



E.2.3.4 Job satisfaction



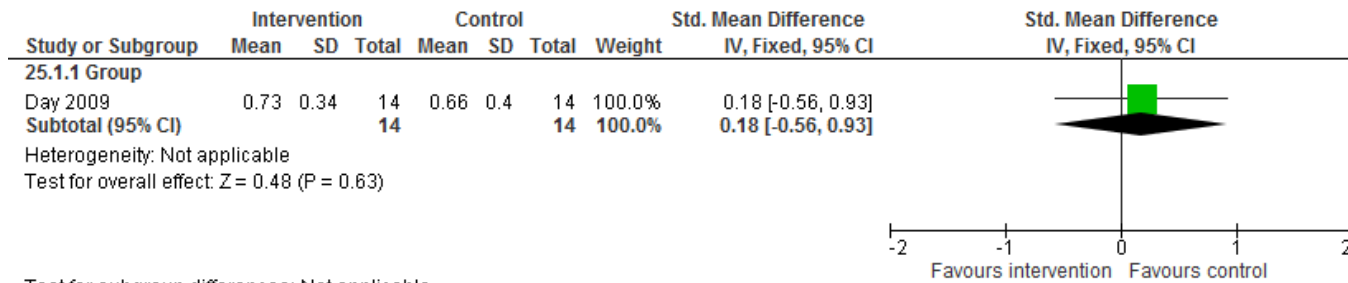
E.2.3.5 Resilience



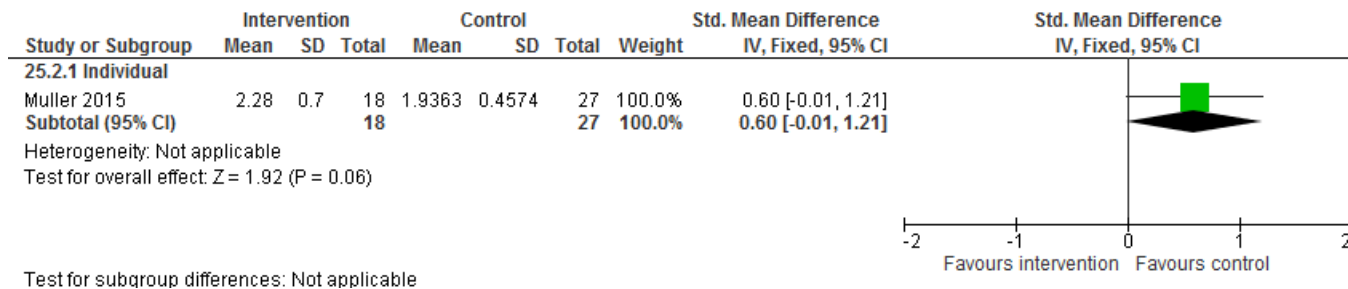
E.3 Physical interventions

E.3.1 Massage therapy

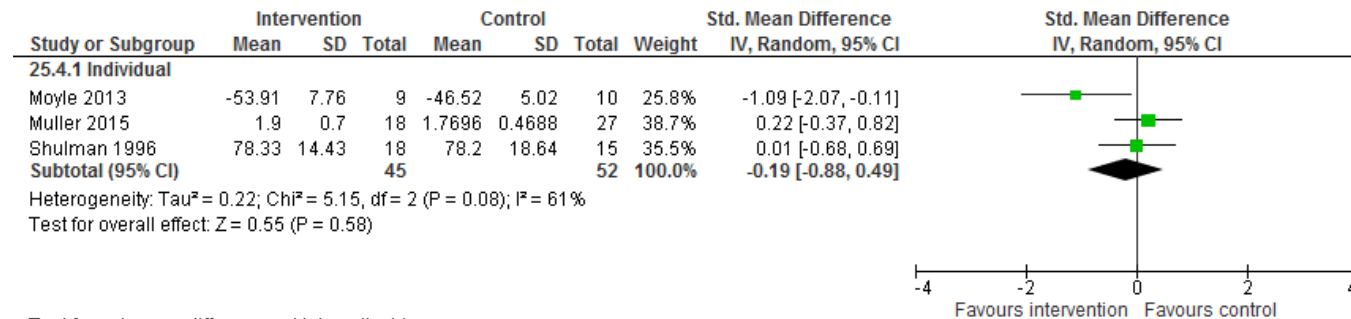
E.3.1.1 Mental wellbeing



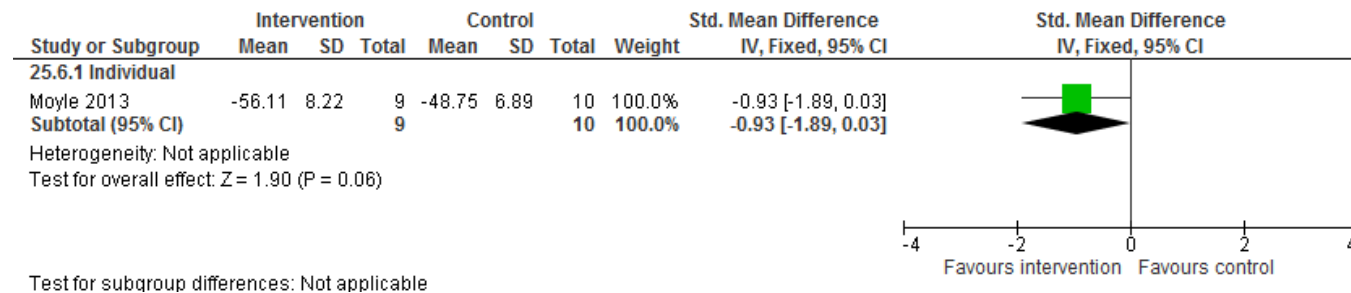
E.3.1.2 Job stress



E.3.1.3 Mental health symptoms

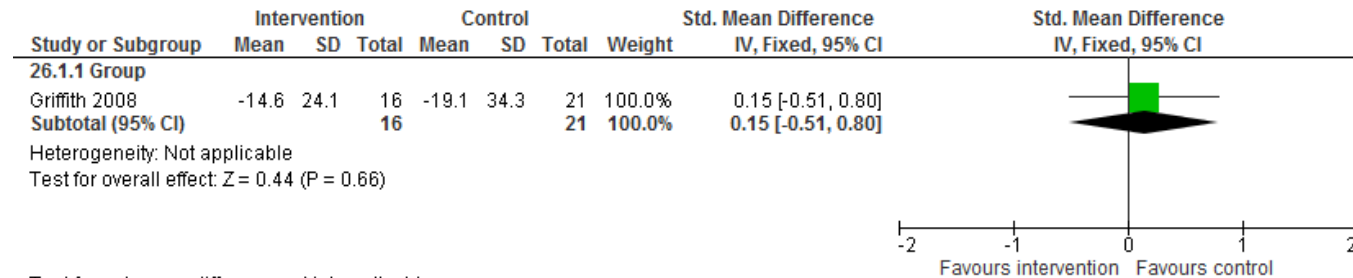


E.3.1.4 Job satisfaction

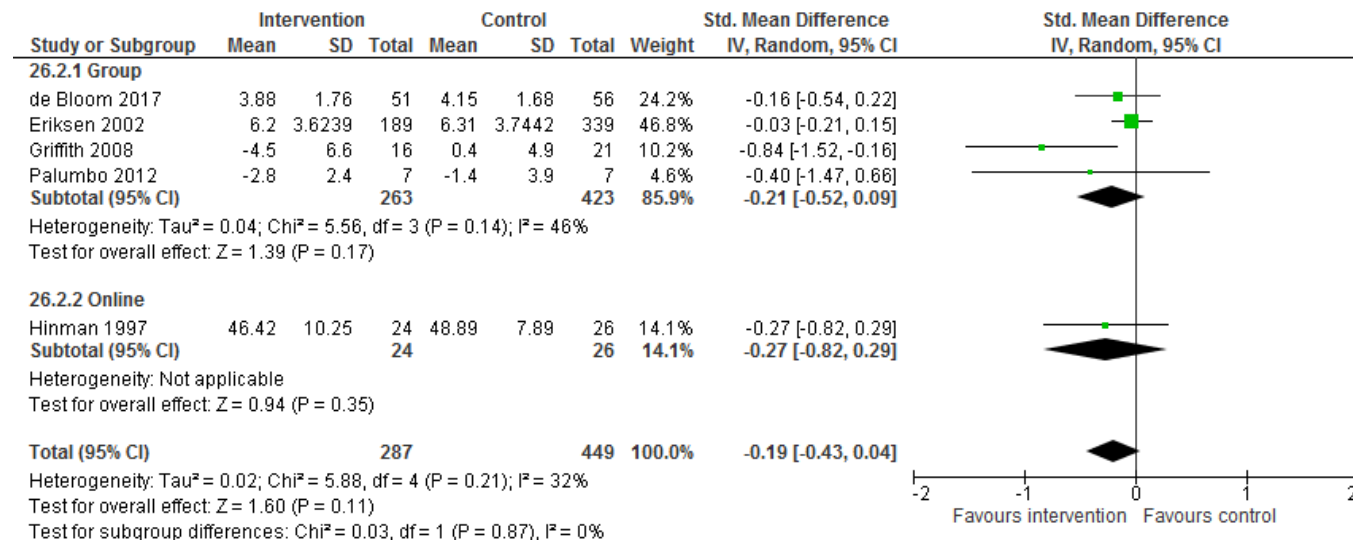


E.3.2 Physical activity

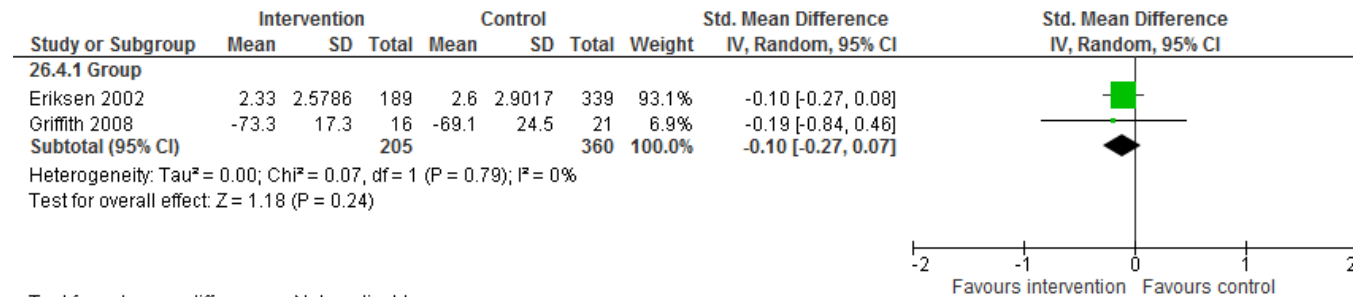
E.3.2.1 Mental wellbeing



E.3.2.2 Job stress

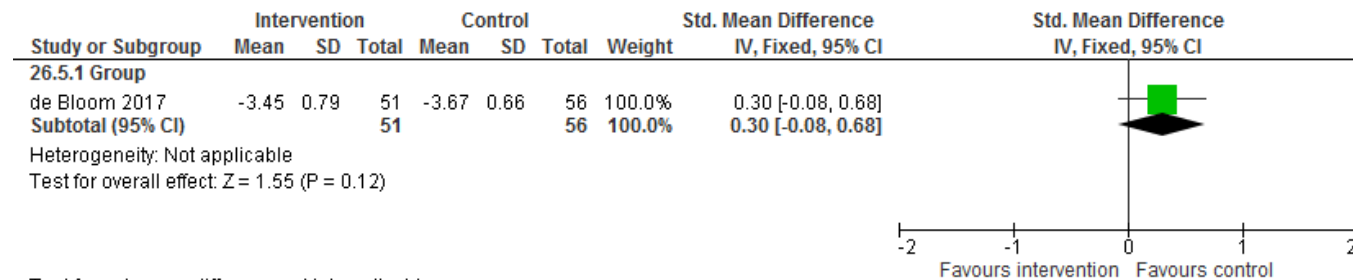


E.3.2.3 Mental health symptoms



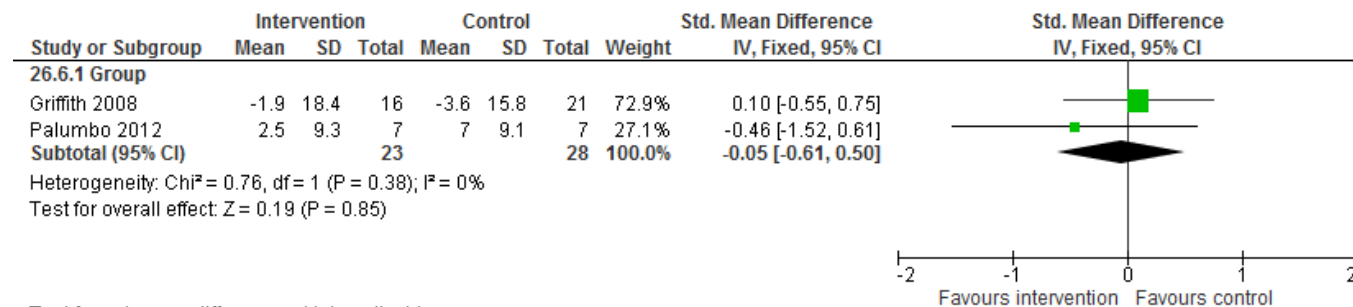
Test for subgroup differences: Not applicable

E.3.2.4 Job satisfaction



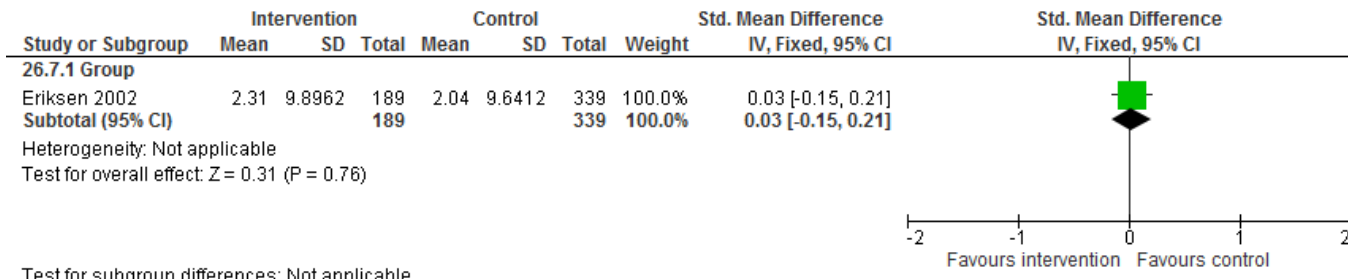
Test for subgroup differences: Not applicable

E.3.2.5 Quality of life



Test for subgroup differences: Not applicable

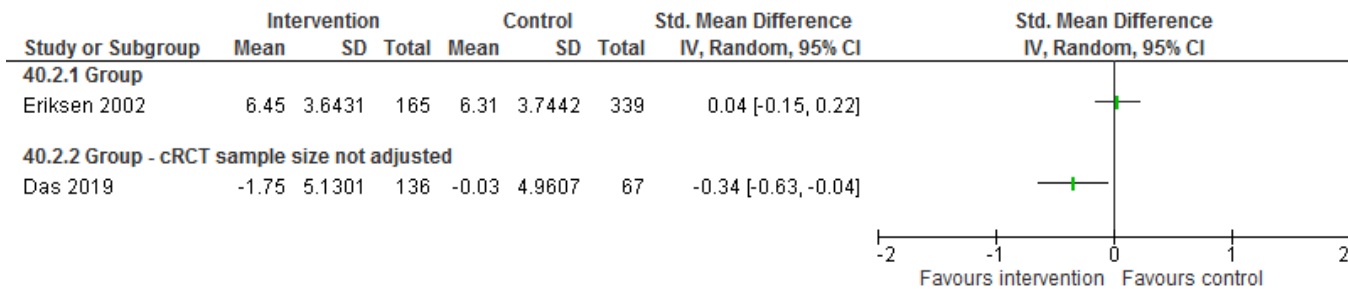
E.3.2.6 Absenteeism



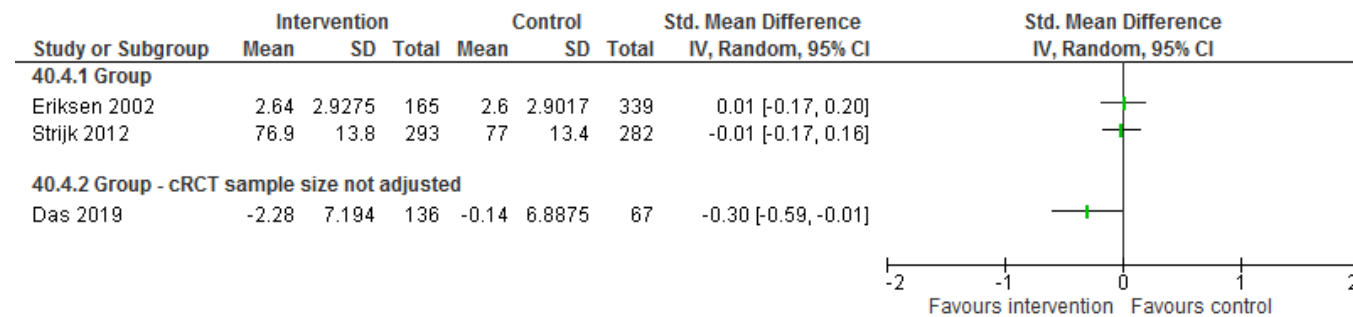
E.4 Other interventions

E.4.1 Multi-component interventions

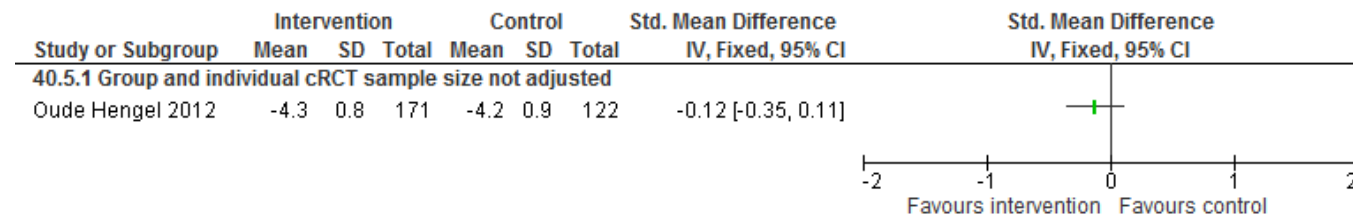
E.4.1.1 Job stress



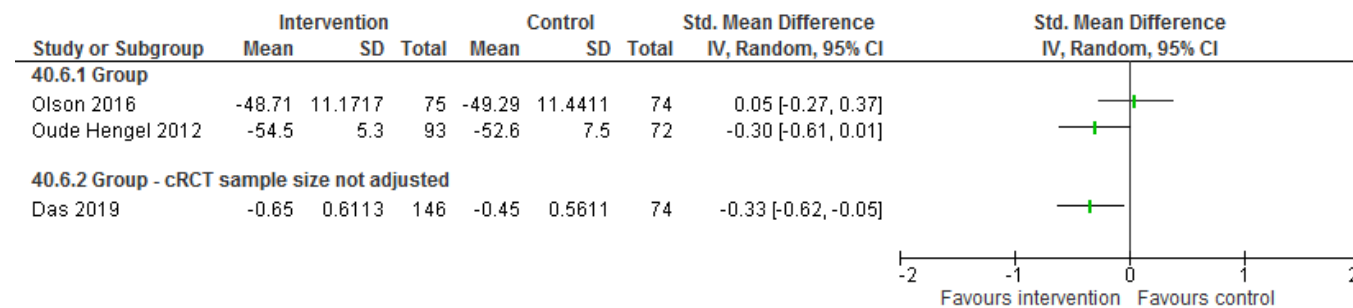
E.4.1.2 Mental health symptoms



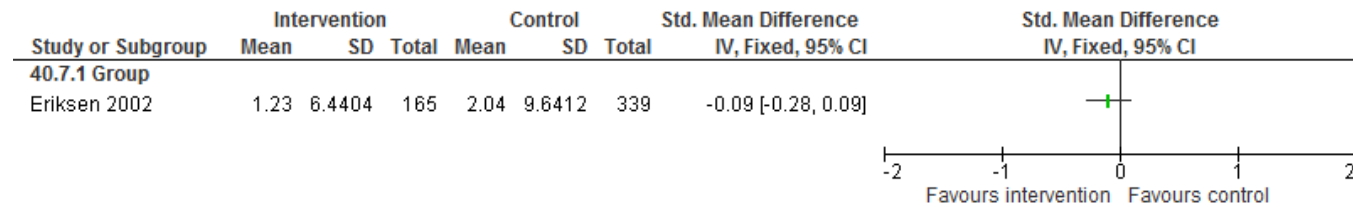
E.4.1.3 Job satisfaction



E.4.1.4 Quality of life

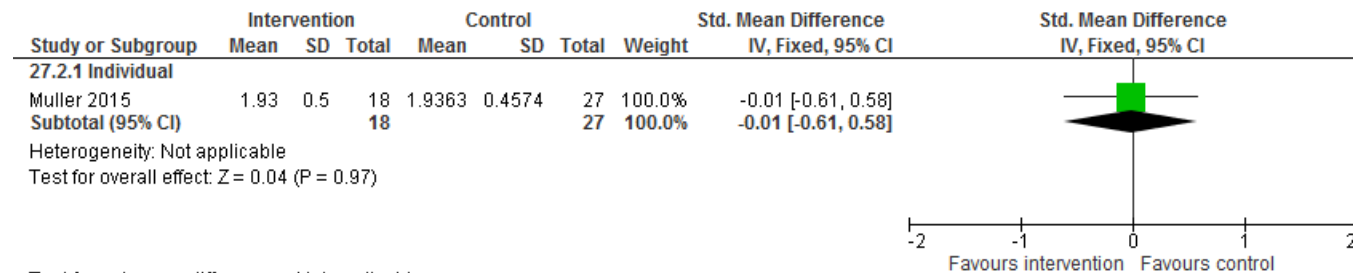


E.4.1.5 Absenteeism



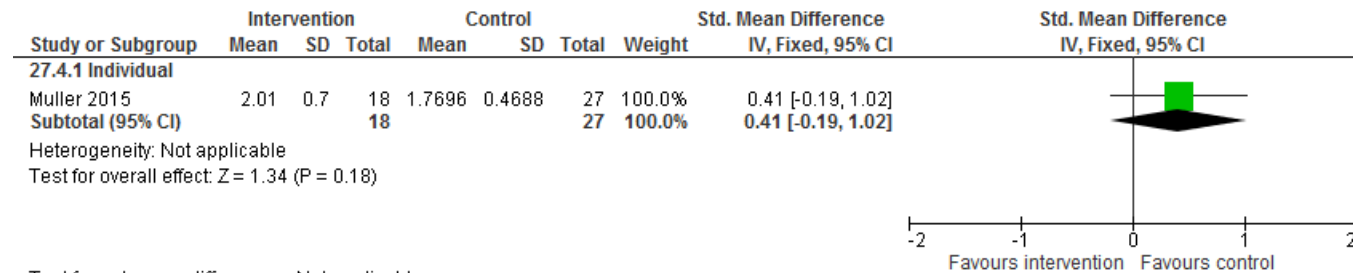
E.4.2 Relaxation and massage

E.4.2.1 Job stress



Test for subgroup differences: Not applicable

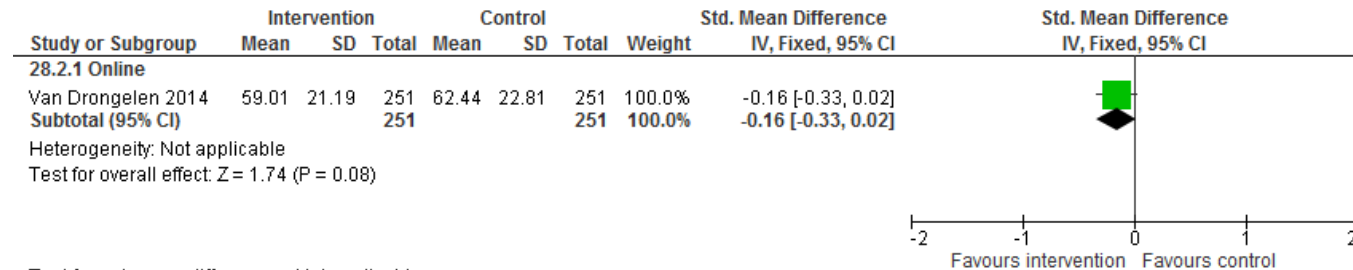
E.4.2.2 Mental health symptoms



Test for subgroup differences: Not applicable

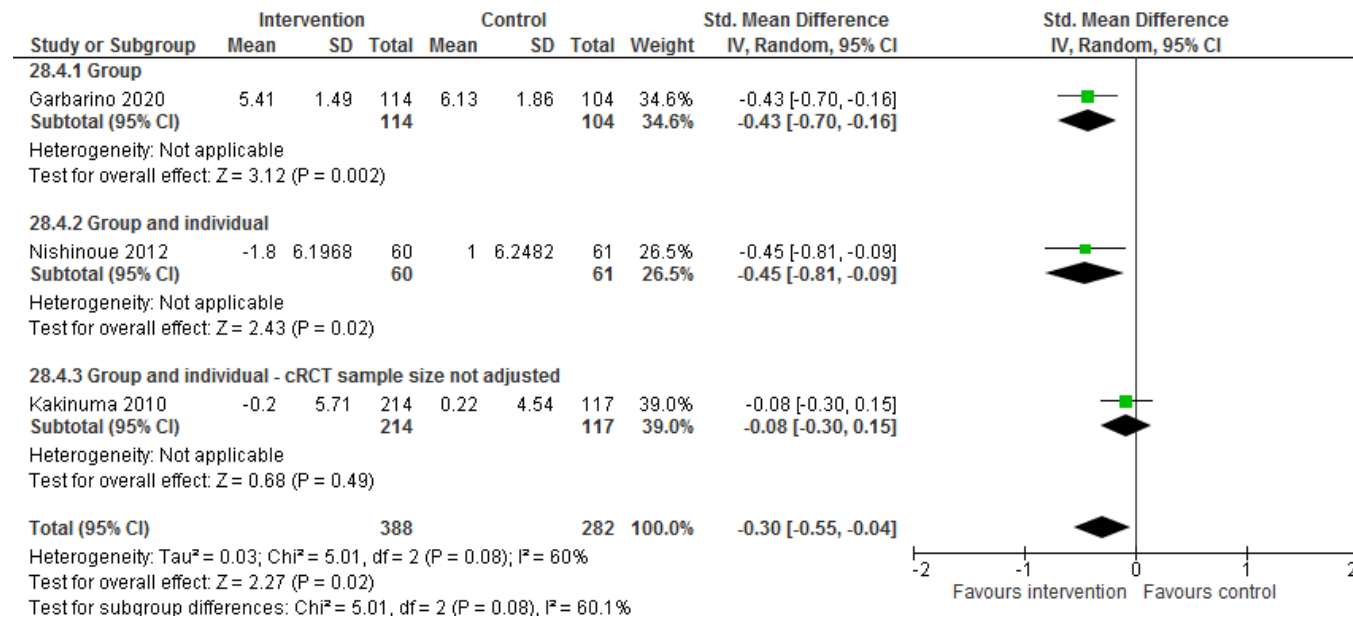
E.4.3 Sleep therapy

E.4.3.1 Job stress



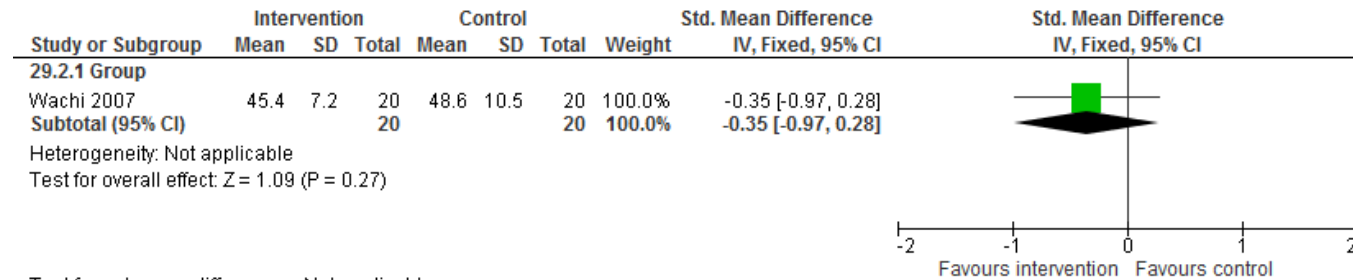
Test for subgroup differences: Not applicable

E.4.3.2 Mental health symptoms

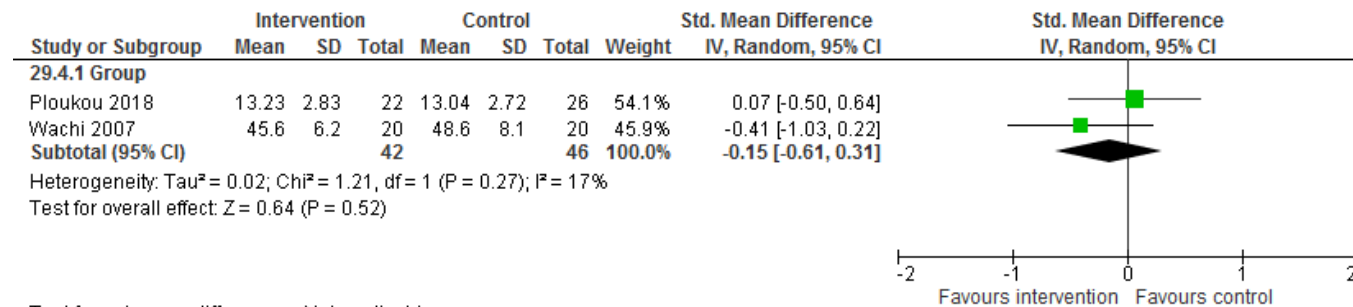


E.4.4 Music therapy

E.4.4.1 Job stress

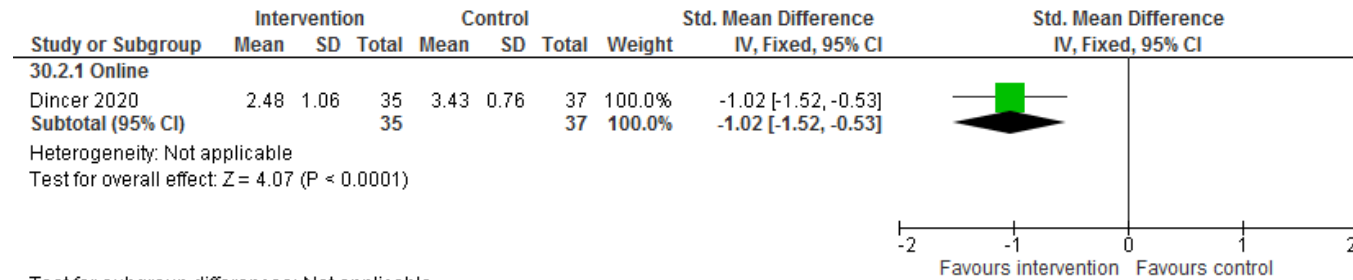


E.4.4.2 Mental health symptoms

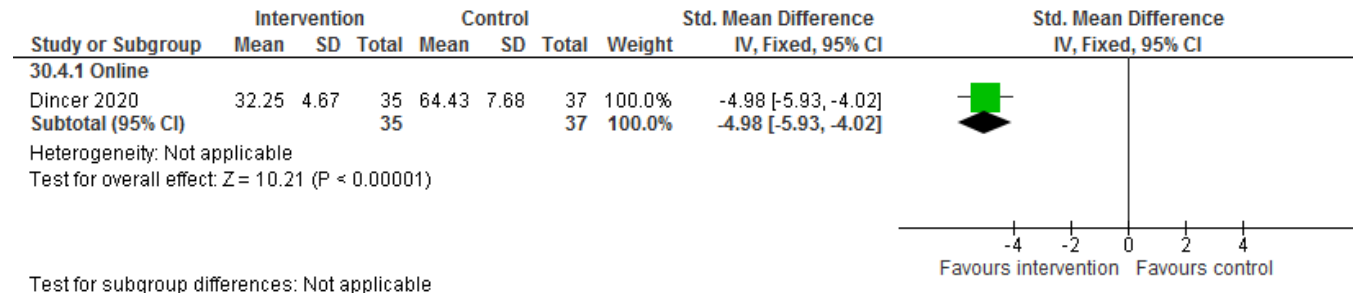


E.4.5 Emotional freedom technique

E.4.5.1 Job stress

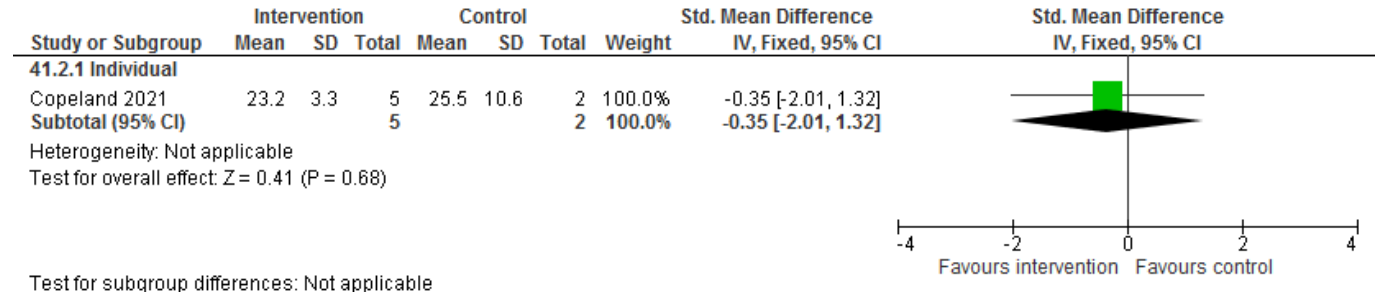


E.4.5.2 Mental health symptoms



E.4.6 Outdoor breaks

E.4.6.1 Job stress



Appendix F - GRADE & GRADE CERQual tables

F.1 GRADE tables

F.1.1 Mindfulness

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Mindfulness	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
12	randomised trials	serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	660	642	-	SMD 0.64 lower (0.85 to 0.43 lower)	⊕⊕○○ LOW
Mental wellbeing - Group (Better indicated by lower values)											
8	randomised trials	serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	442	435	-	SMD 0.61 lower (0.88 to 0.34 lower)	⊕⊕○○ LOW
Mental wellbeing - Online (Better indicated by lower values)											
3	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	185	177	-	SMD 0.49 lower (0.71 to 0.28 lower)	⊕⊕○○ LOW
Mental wellbeing - Online and group (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	33	18	-	SMD 1.48 lower (2.34 to 0.63 lower)	⊕⊕○○ MODERATE
Job stress (Better indicated by lower values)											
19	randomised trials	serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	1008	885	-	SMD 0.50 lower (0.71 to 0.29 lower)	⊕⊕○○ LOW
Job stress - Group (Better indicated by lower values)											

11	randomised trials	very serious ⁷	very serious ⁸	no serious indirectness ³	no serious imprecision ⁴	none	642	531	-	SMD 0.47 lower (0.74 to 0.19 lower)	⊕○○○ VERY LOW
Job stress - Online (Better indicated by lower values)											
5	randomised trials	serious ¹	very serious ⁸	no serious indirectness ³	no serious imprecision ⁴	none	317	323	-	SMD 0.42 lower (0.77 to 0.07 lower)	⊕○○○ VERY LOW
Job stress - Online and group (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	34	20	-	SMD 1.19 lower (1.9 to 0.48 lower)	⊕⊕⊕○ MODERATE
Job stress - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	serious ¹⁰	none	15	19	-	SMD 0.61 lower (1.3 lower to 0.08 higher)	⊕⊕○○ LOW
Mental health symptoms (Better indicated by lower values)											
13	randomised trials	serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	879	751	-	SMD 0.48 lower (0.69 to 0.27 lower)	⊕⊕○○ LOW
Mental health symptoms - Group (Better indicated by lower values)											
10	randomised trials	serious ¹	very serious ⁸	no serious indirectness ³	serious ⁴	none	686	557	-	SMD 0.54 lower (0.82 to 0.26 lower)	⊕○○○ VERY LOW
Mental health symptoms - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ⁴	none	123	106	-	SMD 0.47 lower (0.73 to 0.21 lower)	⊕⊕⊕○ MODERATE
Mental health symptoms - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	serious ¹⁰	none	15	19	-	SMD 0.22 lower (0.9 lower to 0.46 higher)	⊕⊕○○ LOW
Mental health symptoms - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	very serious ¹¹	none	55	69	-	SMD 0.29 lower (0.65 lower to 0.06 higher)	⊕○○○ VERY LOW

Job satisfaction (Better indicated by lower values)											
4	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	220	180	-	SMD 0.28 lower (0.48 to 0.08 lower)	⊕⊕⊕○ MODERATE
Job satisfaction - Group (Better indicated by lower values)											
3	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	176	135	-	SMD 0.24 lower (0.47 to 0.01 lower)	⊕⊕⊕○ MODERATE
Job satisfaction - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	serious ¹⁰	none	44	45	-	SMD 0.41 lower (0.83 lower to 0.01 higher)	⊕⊕○○ LOW
Quality of life - Group (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	Serious ¹⁰	none	56	54	-	SMD 0.21 lower (0.58 lower to 0.17 higher)	⊕⊕○○ LOW
Absenteeism - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	serious ¹⁰	none	26	26	-	SMD 0.07 higher (0.47 lower to 0.62 higher)	⊕⊕○○ LOW
Work climate - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	serious ¹⁰	none	123	106	-	SMD 0.16 lower (0.42 lower to 0.1 higher)	⊕⊕○○ LOW
Productivity (Better indicated by lower values)											
3	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁹	none	64	48	-	SMD 0.34 higher (0.14 lower to 0.81 higher)	⊕⊕○○ LOW
Productivity - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ⁴	none	22	24	-	SMD 0.63 higher (0.2 lower to 1.46 higher)	⊕⊕⊕○ MODERATE
Productivity - Online and group (Better indicated by lower values)											

2	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ¹⁰	none	42	24	-	SMD 0.2 higher (0.38 lower to 0.77 higher)	⊕⊕○○ LOW
Resilience (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ¹⁰	none	13	16	-	SMD 1.06 lower (1.85 to 0.27 lower)	⊕⊕⊕○ MODERATE

¹ Serious concerns due to self-reported outcomes

² Serious concerns as I-squared is between 50% and 75%

³ No concerns as study, population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes and missing outcome data

⁶ No concerns as I-squared is less than 50%

⁷ Very serious concerns due to self-reported outcomes, issues with randomisation, per-protocol analysis, and deviations from intended interventions.

⁸ Very serious concerns as I-squared is above 75%

⁹ Single-study analysis

¹⁰ Serious concerns as 95% CIs cross the line of no effect

¹¹ Very serious concerns as 95% CIs cross the line of no effect, and ICC to adjust sample size was not reported

F.1.2 Mindfulness and E-Coaching

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Mindfulness and E-Coaching	Usual practice	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	117	109	-	SMD 0.03 higher (0.23 lower to 0.29 higher)	⊕⊕○○ LOW
Mental health symptoms (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	119	111	-	SMD 0.09 higher (0.17 lower to 0.35 higher)	⊕⊕○○ LOW
Job satisfaction (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	120	112	-	SMD 0.11 higher (0.15 lower to 0.37 higher)	⊕⊕○○ LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

F.1.3 Yoga

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Yoga	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
3	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	87	75	-	SMD 0.78 lower (1.1 to 0.46 lower)	⊕⊕⊕ LOW
Mental wellbeing - Group (Better indicated by lower values)											
2	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	53	46	-	SMD 0.89 lower (1.3 to 0.47 lower)	⊕⊕⊕ LOW
Mental wellbeing - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ⁷	no serious indirectness ³	serious ⁸	none	34	29	-	SMD 0.62 lower (1.13 to 0.12 lower)	⊕⊕⊕ VERY LOW
Job stress (Better indicated by lower values)											
6	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	168	154	-	SMD 0.51 lower (0.74 to 0.29 lower)	⊕⊕⊕ LOW
Job stress - Group (Better indicated by lower values)											
3	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	73	66	-	SMD 0.72 lower (1.06 to 0.37 lower)	⊕⊕⊕ LOW
Job stress - Group and individual (Better indicated by lower values)											
1	randomised trials	serious ⁹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	73	66	-	SMD 0.64 lower (1.1 to 0.18 lower)	⊕⊕⊕ MODERATE

Job stress - Group - cRCT sample size not adjusted (Better indicated by lower values)											
2	randomised trials	very serious ⁶	no serious inconsistency ²	no serious indirectness ³	very serious ¹⁰	none	73	66	-	SMD 0.16 lower (0.54 lower to 0.22 higher)	⊕○○○ VERY LOW
Job stress											
1	randomised trials	serious ⁹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	19/54 (35.2%)	39/51 (76.5%)	RR 0.46 (0.31 to 0.68)	413 fewer per 1000 (from 245 fewer to 528 fewer)	⊕⊕⊕○ MODERATE
Mental health symptoms (Better indicated by lower values)											
5	randomised trials	serious ⁹	serious ¹¹	no serious indirectness ³	no serious imprecision ⁴	none	165	165	-	SMD 0.8 lower (1.2 to 0.39 lower)	⊕⊕○○ LOW
Mental health symptoms - Group (Better indicated by lower values)											
3	randomised trials	serious ⁹	serious ¹¹	no serious indirectness ³	no serious imprecision ⁴	none	92	90	-	SMD 1.01 lower (1.54 to 0.49 lower)	⊕⊕○○ LOW
Mental health symptoms - Group and individual (Better indicated by lower values)											
1	randomised trials	serious ⁹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	39	37	-	SMD 0.64 lower (1.1 to 0.18 lower)	⊕⊕⊕○ MODERATE
Mental health symptoms - Group - cRCT sample size no adjusted (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ⁷	no serious indirectness ³	very serious ¹⁰	none	39	37	-	SMD 0.37 lower (0.87 lower to 0.13 higher)	⊕○○○ VERY LOW
Job satisfaction (Better indicated by lower values)											
1	randomised trials	serious ⁹	no serious inconsistency ⁷	no serious indirectness ³	serious ¹²	none	18	19	-	SMD 0.06 lower (0.7 lower to 0.59 higher)	⊕⊕○○ LOW
Quality of life (Better indicated by lower values)											
1	randomised trials	serious ⁹	no serious inconsistency ⁷	no serious indirectness ³	serious ¹²	none	18	19	-	SMD 0.11 higher (0.54 lower to 0.75 higher)	⊕⊕○○ LOW

¹ Very serious concerns due to issues with randomisation, per-protocol analysis, and issues with randomisation

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes and per-protocol analysis

⁶ Very serious concerns due to issues with randomisation and self-reported outcomes

⁷ Single-study analysis

⁸ Serious concerns as ICC to adjust sample size was not reported

⁹ Serious concerns due to self-reported outcomes

¹⁰ Very serious concerns as 95% CIs cross the line of no effect, and ICC to adjust sample size was not reported

¹¹ Serious concerns as I-squared is between 50% and 75%

¹² Serious concerns as 95% CIs cross the line of no effect

F.1.4 Meditation

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Meditation	Control	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
4	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	84	84	-	SMD 0.76 lower (1.12 to 0.41 lower)	⊕⊕⊕O MODERATE
Job stress - Group and individual (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	60	64	-	SMD 0.91 lower (1.29 to 0.54 lower)	⊕⊕⊕O MODERATE
Job stress - Online (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁵	none	24	20	-	SMD 0.37 lower (0.97 lower to 0.24 higher)	⊕⊕OO LOW
Mental health symptoms (Better indicated by lower values)											
3	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	80	82	-	SMD 0.53 lower (0.93 to 0.13 lower)	⊕⊕⊕O MODERATE
Mental health symptoms - Group and individual (Copy) (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	60	64	-	SMD 0.71 lower (1.07 to 0.35 lower)	⊕⊕⊕O MODERATE

Mental health symptoms - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁵	none	20	82	-	SMD 0.06 lower (0.7 lower to 0.57 higher)	⊕⊕⊕ LOW

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns as 95% CIs cross the line of no effect

⁶ Single-study analysis

F.1.5 CBT

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - CBT	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
3	randomised trials	serious ¹	very serious ²	no serious indirectness ³	serious ⁴	none	219	199	-	SMD 0.17 lower (0.75 lower to 0.4 higher)	⊕⊕⊕ VERY LOW
Mental wellbeing - Group (Better indicated by lower values)											
2	randomised trials	serious ¹	very serious ²	no serious indirectness ³	serious ⁵	none	194	176	-	SMD 0.46 lower (0.93 lower to 0.01 higher)	⊕⊕⊕ VERY LOW
Mental wellbeing - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ⁷	no serious indirectness ³	serious ⁵	none	25	23	-	SMD 0.55 higher (0.03 lower to 1.13 higher)	⊕⊕⊕ VERY LOW
Job stress (Better indicated by lower values)											
5	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	no serious imprecision ⁴	none	262	274	-	SMD 0.21 lower (0.38 lower to 0.04 higher)	⊕⊕⊕ MODERATE
Job stress - Group (Better indicated by lower values)											

3	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	serious ⁵	none	117	131	-	SMD 0.23 lower (0.48 lower to 0.02 higher)	⊕⊕⊕⊕ LOW
Job stress - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ⁷	no serious indirectness ³	serious ⁵	none	25	23	-	SMD 0.2 higher (0.37 lower to 0.77 higher)	⊕⊕⊕⊕ VERY LOW
Job stress - Group and online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	120	120	-	SMD 0.27 lower (0.52 to 0.01 lower)	⊕⊕⊕⊕ MODERATE
Mental health symptoms (Better indicated by lower values)											
5	randomised trials	very serious ⁹	very serious ²	no serious indirectness ³	serious ⁵	none	514	549	-	SMD 0.43 lower (1.02 lower to 0.17 higher)	⊕⊕⊕⊕ VERY LOW
Mental health symptoms - Group training (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	no serious imprecision ⁴	none	134	121	-	SMD 0.4 lower (0.65 to 0.15 lower)	⊕⊕⊕⊕ MODERATE
Mental health symptoms - Online (Better indicated by lower values)											
2	randomised trials	very serious ⁹	serious ¹⁰	no serious indirectness ³	serious ⁵	none	297	343	-	SMD 0.07 higher (0.37 lower to 0.5 higher)	⊕⊕⊕⊕ VERY LOW
Mental health symptoms - Group and Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	83	85	-	SMD 1.62 lower (1.97 to 1.27 lower)	⊕⊕⊕⊕ MODERATE
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	81	85	-	SMD 0.46 lower (0.77 to 0.15 lower)	⊕⊕⊕⊕ MODERATE
Quality of life - Group (Better indicated by lower values)											
1	randomised trials	very serious ¹¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	21	30	-	SMD 0.12 lower (0.68 lower to 0.44 higher)	⊕⊕⊕⊕ LOW

Employee turnover											
1	randomised trials	no serious risk of bias	no serious inconsistency ⁷	no serious indirectness ³	serious ⁵	none	3/82 (3.7%)	10/95 (10.5%)	RR 0.31 (0.09 to 1.1)	73 fewer per 1000 (from 96 fewer to 11 more)	⊕⊕⊕O MODERATE

¹ Serious concerns due to self-reported outcomes

² Serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns as 95% CIs cross the line of no effect

⁶ Very serious concerns due to self-reported outcomes, issues with randomisation and per-protocol analysis

⁷ Single-study analysis

⁸ No concerns as I-squared is less than 50%

⁹ Very serious concerns due to self-reported outcomes, missing data, issues with randomisation and per-protocol analysis

¹⁰ Serious concerns as I-squared is between 50% and 75%

¹¹ Very serious concerns due to self-reported outcomes and missing outcome data

F.1.6 Problem solving

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Problem solving	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
2	randomised trials	very serious ¹	very serious ²	no serious indirectness ³	serious ⁴	none	156	168	-	SMD 0.52 lower (1.23 lower to 0.2 higher)	⊕○○○ VERY LOW
Mental wellbeing - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	100	113	-	SMD 0.17 lower (0.44 lower to 0.1 higher)	⊕○○○ VERY LOW
Mental wellbeing - Individual (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁷	none	56	55	-	SMD 0.89 lower (1.28 to 0.5 lower)	⊕⊕⊕O MODERATE
Job stress - Online (Better indicated by lower values)											

1	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	100	113	-	SMD 0.06 lower (0.32 lower to 0.21 higher)	⊕○○○ VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	21	20	-	SMD 0.03 lower (0.64 lower to 0.59 higher)	⊕⊕○○ LOW
Job satisfaction (Better indicated by lower values)											
3	randomised trials	very serious ¹	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	177	179	-	SMD 0.16 lower (0.37 lower to 0.04 higher)	⊕○○○ VERY LOW
Job satisfaction - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	100	104	-	SMD 0.2 lower (0.48 lower to 0.07 higher)	⊕○○○ VERY LOW
Job satisfaction - Individual (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	56	55	-	SMD 0.19 lower (0.57 lower to 0.18 higher)	⊕⊕○○ LOW
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	21	20	-	SMD 0.12 higher (0.5 lower to 0.73 higher)	⊕⊕○○ LOW
Quality of life - Group (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	21	20	-	SMD 0.08 higher (0.53 lower to 0.69 higher)	⊕⊕○○ LOW

¹ Very serious concerns due to self-reported outcomes and issues with randomisation

² Serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

⁶ Serious concerns due to self-reported outcomes

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ No concerns as I-squared is less than 50%

F.1.7 Psychoeducation

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion- focussed - Psychoeducation	Control	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
6	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	241	124	-	SMD 0.07 lower (0.3 lower to 0.15 higher)	⊕○○○ VERY LOW
Job stress - Online (Better indicated by lower values)											
4	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	167	52	-	SMD 0.02 higher (0.29 lower to 0.33 higher)	⊕○○○ VERY LOW
Job stress - Group - cRCT sample size not adjusted (Better indicated by lower values)											
2	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	very serious ⁶	none	74	72	-	SMD 0.17 lower (0.5 lower to 0.15 higher)	⊕○○○ VERY LOW
Mental health symptoms - Online training (Better indicated by lower values)											
4	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	175	52	-	SMD 0.05 higher (0.26 lower to 0.36 higher)	⊕○○○ VERY LOW
Job satisfaction - Group - cRCT sample size not adjusted (Copy) (Better indicated by lower values)											
1	randomised trials	serious ⁷	no serious inconsistency ²	no serious indirectness ³	serious ⁸	none	27	31	-	SMD 0.55 lower (1.07 to 0.02 lower)	⊕⊕○○ LOW
Quality of life - Group training (Better indicated by lower values)											
4	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	175	52	-	SMD 0.09 lower (0.4 lower to 0.22 higher)	⊕○○○ VERY LOW

Mental health literacy - Online training (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ¹⁰	none	121	154	-	SMD 0.25 lower (0.49 to 0.01 lower)	⊕⊕⊕ LOW
Uptake of support services - Online training (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁹	no serious indirectness ¹	no serious imprecision ¹⁰	none	121	154	-	SMD 0.79 lower (1.04 to 0.55 lower)	⊕⊕⊕ LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns due to self-reported outcomes or missing outcome data

⁶ Very serious concerns as 95% CIs crossed the line of no effect and ICC to adjust sample size was not reported

⁷ Serious concerns due to missing outcome data

⁸ Serious concerns as ICC to adjust sample size was not reported

⁹ Single-study analysis

¹⁰ No concerns as 95% CIs do not cross the line of no effect

F.1.8 Stress management

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Stress management	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	26	25	-	SMD 0.34 lower (0.89 lower to 0.21 higher)	⊕⊕⊕ LOW
Job stress (Better indicated by lower values)											
10	randomised trials	very serious ⁵	very serious ⁶	no serious indirectness ³	serious ⁷	none	1029	909	-	SMD 0.28 lower (0.49 to 0.06 lower)	⊕⊕⊕ VERY LOW
Job stress - Group (Better indicated by lower values)											
5	randomised trials	very serious ⁵	very serious ⁶	no serious indirectness ³	serious ⁴	none	427	633	-	SMD 0.34 lower (0.72 lower to 0.05 higher)	⊕⊕⊕ VERY LOW

Job stress - Online (Better indicated by lower values)											
3	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	564	249	-	SMD 0.08 lower (0.23 lower to 0.07 higher)	⊕○○○ VERY LOW
Job stress - Individual (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	38	27	-	SMD 0.48 lower (1 lower to 0.03 higher)	⊕⊕○○ LOW
Job stress - Online -Hasson 2005											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁷	none	20/156 (12.8%)	8/121 (6.6%)	OR 2.36 (1.22 to 3.14)	77 more per 1000 (from 13 more to 116 more)	⊕⊕⊕○ MODERATE
Mental health symptoms (Better indicated by lower values)											
3	randomised trials	very serious ⁵	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	255	437	-	SMD 0.03 higher (0.12 lower to 0.19 higher)	⊕○○○ VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
2	randomised trials	very serious ⁵	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	237	418	-	SMD 0.03 higher (0.14 lower to 0.19 higher)	⊕○○○ VERY LOW
Mental health symptoms - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	237	418	-	SMD 0.16 higher (0.48 lower to 0.81 higher)	⊕⊕○○ LOW
Mental health symptoms - Online -Hasson 2005											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	20/156 (12.8%)	8/121 (6.6%)	OR 1.64 (0.85 to 3.14)	38 more per 1000 (from 9 fewer to 116 more)	⊕⊕○○ LOW
Job satisfaction - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	84	72	-	SMD 0.21 lower (0.52 lower to 0.11 higher)	⊕○○○ VERY LOW
Absenteeism - Group (Better indicated by lower values)											

1	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	162	339	-	SMD 0.05 higher (0.13 lower to 0.24 higher)	⊕○○○ VERY LOW
Productivity - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	67	57	-	SMD 0.22 lower (0.57 lower to 0.14 higher)	⊕○○○ VERY LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes and missing outcome data

⁶ Serious concerns as I-squared is greater than 75%

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ No concerns as I-squared is less than 50%

F.1.9 Acceptance and commitment therapy

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Acceptance and commitment therapy	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
2	randomised trials	very serious ¹	very serious ²	no serious indirectness ³	no serious imprecision ⁴	none	147	149	-	SMD 0.54 lower (1.02 to 0.05 lower)	⊕○○○ VERY LOW
Mental wellbeing - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁷	none	66	54	-	SMD 0.28 lower (0.64 lower to 0.08 higher)	⊕○○○ VERY LOW
Mental wellbeing - Individual (Better indicated by lower values)											
1	randomised trials	very serious ⁸	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	81	95	-	SMD 0.77 lower (1.08 to 0.47 lower)	⊕⊕○○ LOW

Job stress (Better indicated by lower values)											
4	randomised trials	very serious ⁹	no serious inconsistency ¹⁰	no serious indirectness ³	serious ⁷	none	123	139	-	SMD 0.23 lower (0.55 lower to 0.08 higher)	⊕⊕⊕ VERY LOW
Job stress - Group (Better indicated by lower values)											
3	randomised trials	very serious ¹¹	no serious inconsistency ¹⁰	no serious indirectness ³	serious ⁷	none	86	101	-	SMD 0.06 lower (0.35 lower to 0.23 higher)	⊕⊕⊕ VERY LOW
Job stress - Individual written (Better indicated by lower values)											
1	randomised trials	very serious ⁸	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	37	38	-	SMD 0.65 lower (1.12 to 0.19 lower)	⊕⊕⊕ LOW
Mental health symptoms (Better indicated by lower values)											
2	randomised trials	very serious ⁸	very serious ²	no serious indirectness ³	serious ⁷	none	50	48	-	SMD 0.62 lower (1.63 lower to 0.39 higher)	⊕⊕⊕ VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	serious ¹²	no serious inconsistency ⁶	no serious indirectness ³	serious ⁷	none	24	20	-	SMD 0.11 lower (0.7 lower to 0.49 higher)	⊕⊕⊕ LOW
Mental health symptoms - Individual written (Better indicated by lower values)											
1	randomised trials	very serious ⁸	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	26	28	-	SMD 1.13 lower (1.71 to 0.56 lower)	⊕⊕⊕ LOW
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	serious ¹²	no serious inconsistency ⁶	no serious indirectness ³	serious ⁷	none	24	20	-	SMD 0.43 lower (1.03 lower to 0.17 higher)	⊕⊕⊕ LOW
Quality of life - Group (Better indicated by lower values)											
4	randomised trials	very serious ¹³	serious ¹⁴	no serious indirectness ³	serious ⁷	none	151	147	-	SMD 0.15 lower (0.38 lower to 0.08 higher)	⊕⊕⊕ VERY LOW

¹ Very serious concerns due to deviation from intended intervention, missing outcome data and self-reported outcomes

² Very serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to deviation from intended intervention and self-reported outcomes

⁶ Single study analysis

⁷ Serious concerns as 95% CIs cross the line of no effect

⁸ Very serious concerns due to missing outcome data and self-reported outcomes

⁹ Very serious concerns due to self-reported outcomes, missing outcome data and per-protocol analysis

¹⁰ No concerns as I-squared is less than 50%

¹¹ Very serious concerns due to self-reported outcomes and per-protocol analysis

¹² Serious concerns due to self-reported outcomes

¹³ Very serious concerns due to deviation from intended intervention, per-protocol analysis and self-reported outcomes

¹⁴ Serious concerns as I-squared is between 50% and 75%

F.1.10 Wellbeing promotion

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Wellbeing promotion	Control	Relative (95% CI)	Absolute	
Mental wellbeing - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	237	242	-	MD 0.03 lower (0.21 lower to 0.15 higher)	⊕○○○ VERY LOW
Job stress (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	158	204	-	SMD 0.03 lower (0.24 lower to 0.18 higher)	⊕○○○ VERY LOW
Job stress - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	21	59	-	SMD 0.01 lower (0.51 lower to 0.49 higher)	⊕⊕○○ LOW
Job stress - Online (Better indicated by lower values)											
1	randomised trials	serious ⁷	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	137	145	-	SMD 0.04 lower (0.27 lower to 0.2 higher)	⊕⊕○○ LOW

Mental health symptoms - Online											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	36/137 (26.3%)	40/142 (28.2%)	RR 0.93 (0.64 to 1.37)	20 fewer per 1000 (from 101 fewer to 104 more)	⊕○○○ VERY LOW
Job satisfaction (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁴	none	158	201	-	SMD 0.10 lower (0.31 lower to 0.11 higher)	⊕⊕○○ LOW
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁶	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	21	59	-	SMD 0.06 higher (0.44 lower to 0.55 higher)	⊕○○○ VERY LOW
Job satisfaction - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	137	142	-	SMD 0.13 lower (0.37 lower to 0.1 higher)	⊕○○○ VERY LOW
Quality of life - Individual (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	137	142	-	SMD 0 higher (0.23 lower to 0.23 higher)	⊕○○○ VERY LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and control match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ No concerns as I-squared is less than 50%

⁶ Very serious concerns due to issues with randomisation, lack of clarity over analysis, missing outcome data, self-reported outcomes, and lack of reporting for key outcome

⁷ Serious concerns due to self-reported outcomes

⁸ Single study analysis

F.1.11 Relaxation

Quality assessment	No of patients	Effect	Quality
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No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Relaxation	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
3	randomised trials	serious ¹	very serious ²	no serious indirectness ³	serious ⁴	none	79	71	-	SMD 0.18 lower (0.93 lower to 0.57 higher)	⊕○○○ VERY LOW
Mental wellbeing - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁶	none	27	27	-	SMD 0.93 lower (1.5 to 0.37 lower)	⊕⊕⊕○ MODERATE
Mental wellbeing - Individual (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁴	none	52	44	-	SMD 0.2 higher (0.2 lower to 0.61 higher)	⊕⊕○○ LOW
Job stress (Better indicated by lower values)											
7	randomised trials	serious ¹	serious ⁷	no serious indirectness ³	no serious imprecision ⁶	none	238	242	-	SMD 0.37 lower (0.67 to 0.08 lower)	⊕⊕○○ LOW
Job stress - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁶	none	27	27	-	SMD 1.03 lower (1.6 to 0.46 lower)	⊕⊕⊕○ MODERATE
Job stress - Individual (Better indicated by lower values)											
6	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	no serious imprecision ⁶	none	211	215	-	SMD 0.26 lower (0.51 to 0.01 lower)	⊕⊕⊕○ MODERATE
Mental health symptoms (Better indicated by lower values)											
4	randomised trials	serious ¹	no serious inconsistency ⁸	no serious indirectness ³	no serious imprecision ⁶	none	113	125	-	SMD 0.46 lower (0.82 to 0.11 lower)	⊕⊕⊕○ MODERATE
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁶	none	42	45	-	SMD 0.44 lower (0.87 to 0.02 lower)	⊕⊕⊕○ MODERATE

Mental health symptoms - Individual (Better indicated by lower values)											
3	randomised trials	serious ¹	serious ⁷	no serious indirectness ³	serious ⁶	none	71	80	-	SMD 0.46 lower (1.01 lower to 0.08 higher)	⊕○○○ VERY LOW
Job satisfaction - Individual (Better indicated by lower values)											
2	observational studies	very serious ⁹	no serious inconsistency ⁸	no serious indirectness ³	serious ⁴	none	74	85	-	SMD 0.01 higher (0.38 lower to 0.39 higher)	⊕○○○ VERY LOW

¹ Serious concerns due to self-reported outcomes

² Very serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

⁶ No concerns as 95% CIs do not cross the line of no effect

⁷ Serious concerns as I-squared is between 50% and 75%

⁸ No concerns as I-squared is less than 50%

⁹ Very serious concerns due to self-reported outcomes, per-protocol analysis, and lack of clarity around missing outcome data

F.1.12 Positive psychology

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Positive psychology	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
6	randomised trials	very serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	201	157	-	SMD 0.56 lower (0.89 to 0.24 lower)	⊕○○○ VERY LOW
Mental wellbeing - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	21	13	-	SMD 0.99 lower (1.72 to 0.25 lower)	⊕⊕○○ LOW
Mental wellbeing - Online (Better indicated by lower values)											

2	randomised trials	very serious ¹	very serious ⁷	no serious indirectness ³	serious ⁸	none	96	70	-	SMD 0.55 lower (1.31 lower to 0.22 higher)	⊕○○○ VERY LOW
Mental wellbeing - Individual (Better indicated by lower values)											
3	randomised trials	very serious ⁹	no serious inconsistency ¹⁰	no serious indirectness ³	no serious imprecision ⁴	none	84	74	-	SMD 0.46 lower (0.9 to 0.02 lower)	⊕⊕○○ LOW
Job stress (Better indicated by lower values)											
3	randomised trials	very serious ¹¹	serious ²	no serious indirectness ³	serious ⁸	none	106	94	-	SMD 0.41 lower (0.95 lower to 0.13 higher)	⊕○○○ VERY LOW
Job stress - Individual (Better indicated by lower values)											
3	randomised trials	very serious ⁹	serious ²	no serious indirectness ³	serious ⁸	none	52	47	-	SMD 0.17 lower (0.87 lower to 0.53 higher)	⊕○○○ VERY LOW
Job stress - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	54	47	-	SMD 0.83 lower (1.24 to 0.42 lower)	⊕⊕○○ LOW
Mental health symptoms - Individual (Better indicated by lower values)											
2	randomised trials	serious ¹²	very serious ⁷	no serious indirectness ³	serious ⁸	none	58	50	-	SMD 0.55 lower (1.55 lower to 0.44 higher)	⊕○○○ VERY LOW
Job satisfaction (Better indicated by lower values)											
4	randomised trials	serious ¹²	no serious inconsistency ¹⁰	no serious indirectness ³	serious ⁸	none	126	89	-	SMD 0.2 lower (0.48 lower to 0.07 higher)	⊕⊕○○ LOW
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	21	13	-	SMD 0.05 higher (0.64 lower to 0.74 higher)	⊕○○○ VERY LOW

Job satisfaction - Online training (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	42	23	-	SMD 0.09 lower (0.6 lower to 0.42 higher)	⊕○○○ VERY LOW
Job satisfaction - Individual (Better indicated by lower values)											
2	randomised trials	very serious ¹³	no serious inconsistency ¹⁰	no serious indirectness ¹	serious ⁸	none	63	53	-	SMD 0.33 lower (0.7 lower to 0.04 higher)	⊕○○○ VERY LOW

¹ Very serious concerns due to self-reported outcomes, missing outcome data and issues with randomisation

² Serious concerns as I-squared is between 50% and 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns due to missing outcome data and self-reported outcomes

⁶ Single-study analysis

⁷ Very serious concerns as I-squared is above 75%

⁸ Serious concerns as 95% CIs cross the line of no effect

⁹ Very serious concerns due to deviation from intended interventions and self-reported outcomes

¹⁰ No concerns as I-squared is less than 50%

¹¹ Very serious concerns due to deviation from intended interventions, missing outcome data, and self-reported outcomes

¹² Serious concerns due to self-reported outcomes

¹³ Very serious concerns due to issues with randomisation and self-reported outcomes

F.1.13 Resilience

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Resilience	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
5	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	522	614	-	SMD 0.08 lower (0.2 lower to 0.04 higher)	⊕⊕○○ LOW
Mental wellbeing - Group (Better indicated by lower values)											
3	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	385	360	-	SMD 0.13 lower (0.32 lower to 0.05 higher)	⊕⊕○○ LOW

Mental wellbeing - Online (Better indicated by lower values)											
2	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	137	254	-	SMD 0.01 lower (0.21 lower to 0.2 higher)	⊕000 VERY LOW
Job stress (Better indicated by lower values)											
9	randomised trials	very serious ⁶	serious ⁷	no serious indirectness ³	serious ⁴	none	732	902	-	SMD 0.12 lower (0.33 lower to 0.09 higher)	⊕000 VERY LOW
Job stress - Group (Better indicated by lower values)											
5	randomised trials	very serious ⁶	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	494	458	-	SMD 0.12 lower (0.31 lower to 0.07 higher)	⊕000 VERY LOW
Job stress - Online (Better indicated by lower values)											
2	randomised trials	very serious ⁵	very serious ⁸	no serious indirectness ³	serious ⁴	none	137	252	-	SMD 0.20 higher (0.54 lower to 0.93 higher)	⊕000 VERY LOW
Job stress - Group - cRCT sample size not adjusted (Better indicated by lower values)											
2	randomised trials	very serious ⁹	very serious ⁸	no serious indirectness ³	very serious ¹⁰	none	101	192	-	SMD 0.29 lower (1.08 lower to 0.5 higher)	⊕000 VERY LOW
Mental health symptoms (Better indicated by lower values)											
5	randomised trials	very serious ⁵	serious ⁷	no serious indirectness ³	serious ⁴	none	517	629	-	SMD 0.20 lower (0.43 lower to 0.03 higher)	⊕000 VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
2	randomised trials	serious ¹	very serious ⁸	no serious indirectness ³	serious ⁴	none	350	330	-	SMD 0.40 lower (0.99 lower to 0.19 higher)	⊕000 VERY LOW
Mental health symptoms - Online (Better indicated by lower values)											

2	randomised trials	very serious ⁵	serious ⁷	no serious indirectness ³	serious ⁴	none	137	254	-	SMD 0.13 lower (0.63 lower to 0.37 higher)	⊕○○○ VERY LOW
Mental health symptoms Group											
1	randomised trials	serious ¹	no serious inconsistency ¹¹	no serious indirectness ³	serious ⁴	none	23/296 (7.8%)	33/270 (12.2%)	RR 0.64 (0.38 to 1.05)	44 fewer per 1000 (from 76 fewer to 6 more)	⊕⊕○○ LOW
Mental health symptoms - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	very serious ¹⁰	none	30	45	-	SMD 0.09 higher (0.37 lower to 0.55 higher)	⊕○○○ VERY LOW
Absenteeism - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁹	no serious inconsistency ¹¹	no serious indirectness ³	serious ⁴	none	76	69	-	SMD 0.08 lower (0.4 lower to 0.25 higher)	⊕○○○ VERY LOW
Job satisfaction (Better indicated by lower values)											
4	randomised trials	very serious ⁶	serious ⁷	no serious indirectness ³	serious ⁴	none	220	288	-	SMD 0.23 lower (0.56 lower to 0.1 higher)	⊕○○○ VERY LOW
Job satisfaction - Group (Better indicated by lower values)											
3	randomised trials	very serious ⁶	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	149	141	-	SMD 0.09 lower (0.32 lower to 0.14 higher)	⊕○○○ VERY LOW
Job satisfaction - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	very serious ⁹	no serious inconsistency ¹¹	no serious indirectness ³	serious ⁴	none	71	147	-	SMD 0.63 lower (0.91 to 0.34 lower)	⊕○○○ VERY LOW
Productivity - Online (Better indicated by lower values)											

1	randomised trials	very serious ⁹	no serious inconsistency ¹¹	no serious indirectness ³	serious ⁴	none	26	27	-	SMD 0.43 higher (0.12 lower to 0.98 higher)	⊕○○○ VERY LOW
Quality of life - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁹	no serious inconsistency ¹¹	no serious indirectness ³	serious ⁴	none	26	27	-	SMD 0.23 higher (0.31 lower to 0.77 higher)	⊕○○○ VERY LOW

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to per-protocol analysis, missing outcome data, and self-reported outcomes

⁶ Very serious concerns due to missing outcome data, per-protocol analysis and self-reported outcomes

⁷ Serious concerns as I-squared is between 50% and 75%

⁸ Very serious concerns as I-squared is greater than 75%

⁹ Very serious concerns due to missing outcome data and self-reported outcomes

¹⁰ Very serious concerns as 95% CIs cross the line of no effect and ICC used to adjust sample size not reported

¹¹ Single-study analysis

F.1.14 Group support

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Group support	Control	Relative (95% CI)	Absolute	
Job stress											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	13/21 (61.9%)	12/17 (70.6%)	RR 0.88 (0.56 to 1.38)	85 fewer per 1000 (from 311 fewer to 268 more)	⊕⊕○○ LOW
Job stress (Better indicated by lower values)											
2	randomised trials	serious ¹	serious ⁵	no serious indirectness ³	no serious imprecision ⁶	none	94	94	-	SMD 1.36 lower (2.1 to 0.62 lower)	⊕⊕○○ LOW
Job satisfaction (Better indicated by lower values)											

1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	18	18	-	SMD 0.33 lower (0.99 lower to 0.33 higher)	⊕⊕⊕ LOW
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¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome matched the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns as I-squared is between 50% and 75%

⁶ No concerns as 95% CIs do not cross the line of no effect

F.1.15 Work-life balance

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Work-life balance	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	46	42	-	SMD 0.55 lower (0.98 to 0.13 lower)	⊕⊕⊕ MODERATE
Job stress (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁶	none	64	77	-	SMD 0.28 lower (0.63 lower to 0.06 higher)	⊕⊕⊕ LOW
Job stress - group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	19	39	-	SMD 0.17 lower (0.72 lower to 0.38 higher)	⊕⊕⊕ LOW
Job stress - group and individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	45	38	-	SMD 0.36 lower (0.79 lower to 0.08 higher)	⊕⊕⊕ LOW
Mental health symptoms (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ⁴	no serious indirectness ³	no serious imprecision ⁴	none	65	82	-	SMD 0.57 lower (0.91 to 0.23 lower)	⊕⊕⊕ MODERATE

Mental health symptoms - group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	19	39	-	SMD 0.45 lower (1.01 lower to 0.1 higher)	⊕⊕○○ LOW
Mental health symptoms - group and individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	46	43	-	SMD 0.64 lower (1.07 to 0.22 lower)	⊕⊕⊕○ MODERATE
Job satisfaction (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	46	43	-	SMD 0.17 lower (0.58 lower to 0.25 higher)	⊕⊕○○ LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome matched the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ No concerns as I-squared is greater than 50%

⁶ Serious concerns as 95% CIs cross the line of no effect

F.1.16 Emotional skills training

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Emotional skills training	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	152	227	-	SMD 0.31 lower (0.51 to 0.1 lower)	⊕⊕○○ LOW
Mental wellbeing - group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁴	none	135	205	-	SMD 0.28 lower (0.5 to 0.06 lower)	⊕⊕○○ LOW
Mental wellbeing - group - cRCT sample size not adjusted (Better indicated by lower values)											

1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	very serious ⁷	none	17	22	-	SMD 0.54 lower (1.19 lower to 0.1 higher)	⊕○○○ VERY LOW
Job stress (Better indicated by lower values)											
4	randomised trials	very serious ¹	serious ⁸	no serious indirectness ³	no serious imprecision ⁴	none	215	281	-	SMD 0.53 lower (0.93 to 0.12 lower)	⊕○○○ VERY LOW
Job stress - Group (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	166	237	-	SMD 0.20 lower (0.4 lower to 0 higher)	⊕⊕○○ LOW
Job stress - group - cRCT sample size not adjusted (Better indicated by lower values)											
2	randomised trials	serious ⁶	no serious inconsistency ²	no serious indirectness ³	serious ⁹	none	49	44	-	SMD 0.90 lower (1.33 to 0.46 lower)	⊕⊕○○ LOW
Mental health symptoms (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ¹⁰	none	152	227	-	SMD 0.16 lower (0.54 lower to 0.23 higher)	⊕○○○ VERY LOW
Mental health symptoms - group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ¹⁰	none	135	205	-	SMD 0.04 lower (0.26 lower to 0.18 higher)	⊕○○○ VERY LOW
Mental health symptoms - group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	very serious ⁷	none	17	22	-	SMD 0.48 lower (1.13 lower to 0.16 higher)	⊕○○○ VERY LOW
Job satisfaction (Better indicated by lower values)											
2	randomised trials	serious ⁶	no serious inconsistency ²	no serious indirectness ³	serious ¹⁰	none	63	54	-	SMD 0.33 lower (0.82 lower to 0.16 higher)	⊕⊕○○ LOW

Job satisfaction - group (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ¹⁰	none	31	32	-	SMD 0.10 lower (0.59 lower to 0.4 higher)	⊕⊕⊕ LOW
Job satisfaction - group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ⁶	no serious inconsistency ⁵	no serious indirectness ³	serious ⁹	none	32	22	-	SMD 0.60 lower (1.15 to 0.04 lower)	⊕⊕⊕ LOW

¹ Very serious concerns due to issues with randomisation and self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Single-study analysis

⁶ Serious concerns due to self-reported outcomes

⁷ Very serious concerns as 95% CIs cross the line of no effect and ICC to adjust sample size was not reported

⁸ Serious concerns as I-squared is between 50% and 75%

⁹ Serious concerns as ICC to adjust sample size was not reported

¹⁰ Serious concerns as 95% CIs cross the line of no effect

F.1.17 Stress management and resilience training

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Stress management and resilience training	Control	Relative (95% CI)	Absolute	
Job stress - individual (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	33	25	-	SMD 0.70 lower (1.24 to 0.16 lower)	⊕⊕⊕ LOW
Mental health symptoms (Better indicated by lower values)											
3	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	no serious imprecision ⁴	none	63	45	-	SMD 0.47 lower (0.87 to 0.08 lower)	⊕⊕⊕ LOW
Mental health symptoms - Individual (Better indicated by lower values)											

2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	33	25	-	SMD 0.55 lower (1.08 to 0.01 lower)	⊕⊕⊕ LOW
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	no serious risk of bias	no serious inconsistency ²	no serious indirectness ³	very serious ⁶	none	30	20	-	SMD 0.39 lower (0.96 lower to 0.18 higher)	⊕⊕⊕ LOW
Quality of life - Individual (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁷	none	33	25	-	SMD 0.32 lower (0.92 lower to 0.28 higher)	⊕⊕⊕ VERY LOW
Quality of life - Group											
1	randomised trials	no serious risk of bias	no serious inconsistency ²	no serious indirectness ³	serious ⁷	none	0/30 (0%)	0/20 (0%)	not pooled	not pooled	⊕⊕⊕ MODERATE

¹ Very serious concerns due to issues with randomisation, missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ No concerns as I-squared is less than 50%

⁶ Very serious concerns as 95% CIs cross the line of no effect and ICC to adjust sample size was not reported

⁷ Serious concerns as 95% CIs cross the line of no effect

F.1.18 Motivational interviewing

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Motivational interviewing	Control	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
2	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	70	76	-	SMD 0.24 lower (0.56 lower to 0.09 higher)	⊕⊕⊕ LOW
Job stress - group (Better indicated by lower values)											

1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	61	66	-	SMD 0.22 lower (0.57 lower to 0.13 higher)	⊕⊕⊕⊕ LOW
Job stress - individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	9	10	-	SMD 0.38 lower (1.29 lower to 0.53 higher)	⊕⊕⊕⊕ LOW
Job satisfaction - group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	75	76	-	SMD 0.22 lower (0.58 lower to 0.14 higher)	⊕⊕⊕⊕ LOW
Absenteeism - group (Better indicated by lower values)											
1	randomised trials	no serious risk of bias	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	80	75	-	SMD 0.03 higher (0.29 lower to 0.34 higher)	⊕⊕⊕⊕ MODERATE
Presenteeism - group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	74	76	-	SMD 0.13 lower (0.49 lower to 0.23 higher)	⊕⊕⊕⊕ LOW
Productivity - group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	60	61	-	SMD 0.14 lower (0.5 lower to 0.21 higher)	⊕⊕⊕⊕ LOW

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared < 50%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

F.1.19 Prayer

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Prayer	Control	Relative (95% CI)	Absolute	
Job stress - group and individual (Better indicated by lower values)											

1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	25	25	-	SMD 1.76 lower (2.42 to 1.1 lower)	⊕⊕⊕○ MODERATE
Job satisfaction - group and individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	25	25	-	SMD 3.88 lower (4.85 to 2.91 lower)	⊕⊕⊕○ MODERATE
Quality of life - group and individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	25	25	-	SMD 2.83 lower (3.63 to 2.03 lower)	⊕⊕⊕○ MODERATE

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

F.1.20 Psychotherapy and yoga

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Psychotherapy and yoga	Control	Relative (95% CI)	Absolute	
Job stress											
1	randomised trials	very serious ¹	serious ²	no serious indirectness ³	serious ⁴	none	10/15 (66.7%)	11/13 (84.6%)	RR 0.79 (0.51 to 1.21)	178 fewer per 1000 (from 415 fewer to 178 more)	⊕○○○ VERY LOW
Quality of life (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	15	13	-	SMD 0.72 lower (1.49 lower to 0.05 higher)	⊕○○○ VERY LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

F.1.21 Journalling

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotion-focussed - Journaling	Usual practice	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	4	2	-	SMD 0.23 lower (1.94 lower to 1.48 higher)	⊕○○○ VERY LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

F.1.22 Imagery, simulation and skills training

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Task-focussed - Imagery, simulation and skills training	Control	Relative (95% CI)	Absolute	
Mental wellbeing - Group (Better indicated by lower values)											
3	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	116	114	-	SMD 0.77 lower (1.04 to 0.5 lower)	⊕⊕⊕○ MODERATE
Job stress - Group (Better indicated by lower values)											
3	randomised trials	serious ¹	very serious ⁵	no serious indirectness ³	serious ⁶	none	70	73	-	SMD 2.18 lower (4.89 lower to 0.53 higher)	⊕○○○ VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	31	34	-	SMD 0.51 lower (1.01 to 0.02 lower)	⊕⊕⊕○ MODERATE
Quality of life - Group (Better indicated by lower values)											

1	randomised trials	serious ¹	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	31	34	-	SMD 2.27 lower (2.9 to 1.63 lower)	⊕⊕⊕○ MODERATE
Absenteeism											
1	randomised trials	no serious risk of bias	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	1/101 (0.99%)	8/97 (8.2%)		73 fewer per 1000 (from 5 fewer to 81 fewer)	⊕⊕⊕⊕ HIGH
Productivity - Group (Better indicated by lower values)											
1	randomised trials	no serious risk of bias	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	9	9	-	SMD 1.2 lower (2.23 to 0.18 lower)	⊕⊕⊕⊕ HIGH
Employee turnover											
1	randomised trials	no serious risk of bias	no serious inconsistency ⁷	no serious indirectness ³	no serious imprecision ⁴	none	4/101 (4%)	12/97 (12.4%)	RR 0.32 (0.11 to 0.96)	84 fewer per 1000 (from 5 fewer to 110 fewer)	⊕⊕⊕⊕ HIGH

¹ Serious concerns due to self-reported outcomes

² No concerns as I-squared is less than 50%

³ No concerns as study population, intervention, comparator and outcome match the study protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Very serious concerns as I-squared is greater than 75%

⁶ Serious concerns as 95% CIs cross the line of no effect

⁷ Single-study analysis

F.1.23 SOC training

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Task-focussed - SOC training	Wait list	Relative (95% CI)	Absolute	
Mental wellbeing - Group (Better indicated by lower values)											
2	randomised trials	serious ¹	very serious ²	no serious indirectness ³	serious ⁴	none	83	82	-	SMD 0.26 lower (0.92 lower to 0.41 higher)	⊕○○○ VERY LOW

Job stress - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	52	55	-	SMD 0.37 lower (0.75 lower to 0.02 higher)	⊕⊕⊕ LOW
Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	52	55	-	SMD 0.06 higher (0.32 lower to 0.44 higher)	⊕⊕⊕ LOW
Quality of life - Group (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	52	55	-	SMD 0.11 lower (0.49 lower to 0.27 higher)	⊕⊕⊕ LOW

¹ Serious concerns due to self-reported outcomes

² Very serious concerns as I-squared is greater than 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Single-study analysis

F.1.24 Professional development

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Task-focussed - Professional development	Control	Relative (95% CI)	Absolute	
Mental wellbeing (Better indicated by lower values)											
4	randomised trials	very serious ¹	serious ²	no serious indirectness ³	no serious imprecision ⁴	none	229	255	-	SMD 0.34 lower (0.63 to 0.05 lower)	⊕⊕⊕ VERY LOW
Mental wellbeing - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁷	none	53	60	-	SMD 0.61 lower (0.99 to 0.23 lower)	⊕⊕⊕ LOW
Mental wellbeing - Online (Better indicated by lower values)											

1	randomised trials	serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	111	139	-	SMD 0.30 lower (0.55 to 0.05 lower)	⊕⊕⊕ MODERATE
Mental wellbeing - Individual (Better indicated by lower values)											
2	randomised trials	very serious ¹	serious ²	no serious indirectness ³	serious ⁸	none	65	56	-	SMD 0.21 lower (0.87 lower to 0.46 higher)	⊕ VERY LOW
Job stress (Better indicated by lower values)											
5	randomised trials	very serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ⁴	none	160	152	-	SMD 0.42 lower (0.65 to 0.2 lower)	⊕⊕ LOW
Job stress - Group (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	22	20	-	SMD 0.21 lower (0.82 lower to 0.4 higher)	⊕⊕ LOW
Job stress - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	very serious ¹⁰	none	53	60	-	SMD 0.25 lower (0.62 lower to 0.12 higher)	⊕ VERY LOW
Job stress - Individual (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ⁹	no serious indirectness ³	no serious imprecision ⁴	none	65	56	-	SMD 0.71 lower (1.08 to 0.34 lower)	⊕⊕ LOW
Job stress - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	20	16	-	SMD 0.29 lower (0.95 lower to 0.37 higher)	⊕ VERY LOW
Mental health symptoms (Better indicated by lower values)											
2	randomised trials	very serious ¹²	no serious inconsistency ⁹	no serious indirectness ³	serious ⁸	none	43	37	-	SMD 0.26 lower (0.7 lower to 0.18 higher)	⊕ VERY LOW
Mental health symptoms - Online (Better indicated by lower values)											
1	randomised trials	very serious ¹³	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	20	16	-	SMD 0.14 lower (0.8 lower to 0.52 higher)	⊕ VERY LOW

Mental health symptoms - Individual (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	23	21	-	SMD 0.35 lower (0.95 lower to 0.25 higher)	⊕⊕⊕ VERY LOW
Job satisfaction - Online (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁸	none	18	18	-	SMD 0.59 lower (1.26 lower to 0.08 higher)	⊕⊕⊕ LOW
Resilience - Individual (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ⁶	no serious indirectness ³	no serious imprecision ⁴	none	23	21	-	SMD 0.71 lower (1.32 to 0.1 lower)	⊕⊕⊕ LOW

¹ Very serious concerns due to self-reported outcomes, lack of clarity around missing outcome data and per-protocol analysis

² Serious concerns as I-squared is between 50% and 75%

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

⁵ Serious concerns due to self-reported outcomes

⁶ Single-study analysis

⁷ Serious concerns as ICC was not reported to adjust sample size

⁸ Serious concerns as 95% CIs cross the line of no effect

⁹ No concerns as I-squared is less than 50%

¹⁰ Very serious concerns as 95% CIs cross the line of no effect and ICCs to adjust sample size were not reported

¹¹ Very serious concerns due to self-reported outcomes and missing outcome data

¹² Very serious concerns due to missing outcome data, self-reported outcomes, per-protocol analysis, and lack of clarity over randomisation and participant characteristics.

¹³ Very serious concerns due to missing outcome data, self-reported outcomes, and a lack information around randomisation and participant characteristics,

F.1.25 Massage therapy

Quality assessment							No of patients			Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physical-focussed - Massage therapy	Control	Relative (95% CI)	Absolute		
Mental wellbeing - Group (Better indicated by lower values)												
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	14	14	-	SMD 0.18 higher (0.56 lower to 0.93 higher)	⊕⊕⊕ LOW	

Job stress - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	18	27	-	SMD 0.6 higher (0.01 lower to 1.21 higher)	⊕⊕⊕ LOW
Mental health symptoms - Individual (Better indicated by lower values)											
3	randomised trials	very serious ⁵	serious ⁶	no serious indirectness ³	serious ⁴	none	45	52	-	SMD 0.19 lower (0.88 lower to 0.49 higher)	⊕⊕⊕ VERY LOW
Job satisfaction - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	9	10	-	SMD 0.93 lower (1.89 lower to 0.03 higher)	⊕⊕⊕ LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to issues with randomisation and self-reported outcomes

⁶ Serious concerns as I-squared is greater than 50%

F.1.26 Physical activity

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Physical-focussed-Physical activity	Control	Relative (95% CI)	Absolute	
Mental wellbeing - Group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	16	21	-	SMD 0.15 higher (0.51 lower to 0.8 higher)	⊕⊕⊕ VERY LOW
Job stress (Better indicated by lower values)											
5	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁴	none	287	449	-	SMD 0.19 lower (0.43 lower to 0.04 higher)	⊕⊕⊕ VERY LOW

Job stress - Group (Better indicated by lower values)											
4	randomised trials	very serious ⁵	no serious inconsistency ⁶	no serious indirectness ³	serious ⁴	none	263	423	-	SMD 0.21 lower (0.52 lower to 0.09 higher)	⊕000 VERY LOW
Job stress - Online (Better indicated by lower values)											
1	randomised trials	very serious ⁷	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	24	26	-	SMD 0.27 lower (0.82 lower to 0.29 higher)	⊕000 VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁴	none	205	360	-	SMD 0.1 lower (0.27 lower to 0.07 higher)	⊕000 VERY LOW
Job satisfaction - Group (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	51	56	-	SMD 0.3 higher (0.08 lower to 0.68 higher)	⊕000 VERY LOW
Quality of life - Group (Better indicated by lower values)											
2	randomised trials	very serious ¹	no serious inconsistency ⁶	no serious indirectness ³	serious ⁴	none	23	28	-	SMD 0.05 lower (0.61 lower to 0.5 higher)	⊕000 VERY LOW
Absenteeism - Group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	189	339	-	SMD 0.03 higher (0.15 lower to 0.21 higher)	⊕000 VERY LOW

¹ Very serious concerns due to self-reported outcomes and missing outcome data

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to self-reported outcomes, missing or lack of detail around outcome data and per-protocol analysis

⁶ No concerns as I-squared is less than 50%

⁷ Very serious concerns due to self-reported outcomes and per-protocol analysis

F.1.27 Relaxation and massage therapy

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Relaxation and massage	Control	Relative (95% CI)	Absolute	
Job stress - Individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	18	27	-	SMD 0.01 lower (0.61 lower to 0.58 higher)	⊕⊕⊕ LOW
Mental health symptoms - Individual (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	18	27	-	SMD 0.41 higher (0.19 lower to 1.02 higher)	⊕⊕⊕ VERY LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

F.1.28 Sleep therapy

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Sleep therapy	Control	Relative (95% CI)	Absolute	
Job stress - Online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	251	251	-	SMD 0.16 lower (0.33 lower to 0.02 higher)	⊕⊕⊕ LOW
Mental health symptoms (Better indicated by lower values)											
3	randomised trials	very serious ⁵	serious ⁶	no serious indirectness ³	no serious imprecision ⁷	none	388	282	-	SMD 0.30 lower (0.55 to 0.04 lower)	⊕⊕⊕ VERY LOW

Mental health symptoms - Group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁷	none	114	104	-	SMD 0.43 lower (0.7 to 0.16 lower)	⊕⊕⊕ LOW
Mental health symptoms - Group and individual (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁷	none	60	61	-	SMD 0.45 lower (0.81 to 0.09 lower)	⊕⊕⊕ MODERATE
Mental health symptoms - Group and individual - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	very serious ⁵	no serious inconsistency ²	no serious indirectness ³	very serious ⁸	none	214	117	-	SMD 0.08 lower (0.3 lower to 0.15 higher)	⊕⊕⊕ VERY LOW

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Very serious concerns due to issues with randomisation and self-reported outcomes

⁶ Serious concerns as I-squared is between 50% and 75%

⁷ No concerns as 95% CIs do not cross the line of no effect

⁸ Very serious concerns as 95% CIs cross the line of no effect and ICC not reported to adjust sample size

F.1.29 Music therapy

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Music therapy	Control	Relative (95% CI)	Absolute	
Job stress - Group (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	20	20	-	SMD 0.35 lower (0.97 lower to 0.28 higher)	⊕⊕⊕ VERY LOW
Mental health symptoms - Group (Better indicated by lower values)											

2	randomised trials	very serious ¹	no serious inconsistency ⁵	no serious indirectness ³	serious ⁴	none	42	46	-	SMD 0.15 lower (0.61 lower to 0.31 higher)	⊕○○○ VERY LOW
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¹ Issues with randomisation and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ No concerns as I-squared is less than 50%

F.1.30 Outdoor breaks

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Outdoor breaks	Control	Relative (95% CI)	Absolute	
Job stress (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	5	2	-	SMD 0.35 lower (2.01 lower to 1.32 higher)	⊕○○○ VERY LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single study

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

F.1.31 Emotional freedom technique

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Emotional freedom technique	Control	Relative (95% CI)	Absolute	
Job stress - online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	35	37	-	SMD 1.02 lower (1.52 to 0.53 lower)	⊕⊕⊕○ MODERATE

Mental health symptoms - online (Better indicated by lower values)											
1	randomised trials	serious ¹	no serious inconsistency ²	no serious indirectness ³	no serious imprecision ⁴	none	35	37	-	SMD 4.98 lower (5.93 to 4.02 lower)	⊕⊕⊕O MODERATE

¹ Serious concerns due to self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ No concerns as 95% CIs do not cross the line of no effect

F.1.32 Multi-component intervention

Quality assessment							No of patients		Effect		Quality
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Multi-component intervention	Control	Relative (95% CI)	Absolute	
Job stress - Group - Eriksen 2002 (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	165	339	-	SMD 0.04 higher (0.15 lower to 0.22 higher)	⊕OOO VERY LOW
Job stress - Group - cRCT sample size not adjusted - Das 2019 (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	136	67	-	SMD 0.34 lower (0.63 to 0.04 lower)	⊕⊕OO LOW
Mental health symptoms - Group Eriksen 2002 (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	165	339	-	SMD 0.01 higher (0.17 lower to 0.20 higher)	⊕OOO VERY LOW
Mental health symptoms - Group - Strijk 2012 (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	293	282	-	SMD 0.01 lower (0.17 lower to 0.16 higher)	⊕⊕OO LOW

Mental health symptoms - Group - cRCT sample size not adjusted - Das 2019 (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	136	67	-	SMD 0.30 lower (0.59 to 0.01 lower)	⊕⊕⊕ LOW
Job satisfaction - Group and individual - Oude Hengel 2012 (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	very serious ⁷	none	171	122	-	SMD 0.12 lower (0.35 lower to 0.11 higher)	⊕⊕⊕ VERY LOW
Quality of life - Group - Olson 2016 (Better indicated by lower values)											
1	randomised trials	very serious ⁸	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	75	74	-	SMD 0.05 higher (0.27 lower to 0.37 higher)	⊕⊕⊕ VERY LOW
Quality of life - Group - Oude Hengel 2012 (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	93	72	-	SMD 0.30 lower (0.61 lower to 0.01 higher)	⊕⊕⊕ LOW
Quality of life - Group - cRCT sample size not adjusted (Better indicated by lower values)											
1	randomised trials	serious ⁵	no serious inconsistency ²	no serious indirectness ³	serious ⁶	none	146	74	-	SMD 0.33 lower (0.62 to 0.05 lower)	⊕⊕⊕ LOW
Absenteeism - Group - Eriksen 2002 (Better indicated by lower values)											
1	randomised trials	very serious ¹	no serious inconsistency ²	no serious indirectness ³	serious ⁴	none	165	339	-	SMD 0.09 lower (0.28 lower to 0.09 higher)	⊕⊕⊕ VERY LOW

¹ Very serious concerns due to missing outcome data and self-reported outcomes

² Single-study analysis

³ No concerns as study population, intervention, comparator and outcome match the review protocol

⁴ Serious concerns as 95% CIs cross the line of no effect

⁵ Serious concerns due to self-reported outcomes

⁶ Serious concerns as ICC not reported to adjust sample size

⁷ Very serious concerns as ICC to adjust sample sizes not reported and 95% CIs cross the line of no effect

⁸ Very serious concerns due to self-reported outcomes and lack of outcome reporting

F.2 – GRADE-CERQual tables

Views and experiences of those receiving universal individual-level interventions what and why certain approaches may or may not work, and how it could be improved.

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Rationale and evidence-base						
Having a clear rationale for the intervention and underpinning evidence-base facilitated employee engagement in individual interventions. Perceiving the subject matter to be relevant and a sense of co-production lent credibility to intervention content. The absence of a clear rationale and an underpinning evidence-base raised concerns regarding the validity and effectiveness of the intervention.	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Wright 2016; Brook 2021	No concerns Four studies with low risk of bias; One study with moderate risk of bias	No concerns Findings reflects all the data reported on this theme.	No concerns Data obtained from five studies	Minor concerns Included studies related to the views and experiences of NHS staff in clinical roles, NHS nurses, secondary school teachers and Higher education staff (academic/research roles; professional service roles [e.g management and finance]; clerical/student support role); students and staff from UK university and a large inner-city UK NHS healthcare organisation. Limited information	High confidence. Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees)

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
					on non-NHS and non-education sectors. Three studies focused on a mindfulness intervention; One study focused on complementary and alternative therapies which included wellness unit (SenzOri Egg), massage, aromatherapy and reflexology.	
Motivation and attitude						
<p>Participants outlined that acknowledging stress as an issue and interest in managing stress motivated their engagement in interventions (mindfulness). Participant prior interest and awareness of interventions encouraged engagement (mindfulness).</p> <p>Participants in a tailored resilience coaching intervention outlined that having some experience of the health system and</p>	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Johnson 2020	No concerns Four studies with low risk of bias	No concerns Findings reflects all the data reported on this theme.	No concerns Data obtained from 4 studies	Minor concerns Included studies related to the views and experiences of NHS staff in clinical roles, NHS nurses, secondary school teachers; Healthcare students and Healthcare professionals Limited information on non-NHS and	High confidence Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience coaching only impacting applicability to other workplace individual interventions.

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
adverse events to draw upon allowed some to get the most out of the intervention					non-education sectors. Three studies focused on mindfulness interventions and one focused on tailored resilience coaching.	
Time						
The length of sessions was outlined as facilitating engagement with shorter sessions preferred and longer sessions presenting challenges for engagement . Ongoing competing pressures impacted participants ability to attend interventions with some seeing the intervention as opportunity for respite or an additional pressure. Some participants incorporated 'mindfulness' into their daily routine or practiced opportunistically. There was an acknowledgement that you need to commit to the course to benefit from it with some participants outlining that the demands of the course and finding time to engage impacting commitment.	Bannerjee 2017; Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2021; Johnson 2020; Kinman 2020	No concerns Six studies with low risk of bias; One study with moderate risk of bias	No concerns Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.	No concerns Data obtained from 7 studies	Minor concerns Included studies related to the views and experiences of NHS staff in clinical roles, employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles); NHS midwives and secondary school teachers; Students and staff from UK university and a large inner-city UK NHS healthcare	High confidence Data from social workers, staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience training impacting applicability to other workplace individual interventions

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
					<p>organisation; Healthcare students and Healthcare professionals; social workers</p> <p>Limited information on non-NHS and non-education sectors. Five studies focused on mindfulness interventions and one study on tailored resilience training.</p>	
Convenience						
The convenience of session location and sessions occurring within working hours were outlined as facilitating attendance	Todd 2019; Wright, 2016	Minor concerns One study with low risk of bias; one study with moderate risk of bias)	No concerns Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.	No concerns Data obtained from 2 studies	Minor concerns Included studies related to the views and experiences of NHS nurses and secondary school teachers. Limited information on non-NHS and non-education sectors.	Moderate confidence. Data from staff in NHS and education settings impacting applicability to other settings. Data derived from studies there were not all low risk of bias and these statements were unique to the studies they were identified in.
Working environment						

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
<p>Participants outlined that management support facilitated staff engagement and 'made it ok' to engage. Some participants outlined that the provision of complementary and alternative therapies was an indication of employer valuing employees. Participants also considered that their engagement in interventions was indulgent with engagement dependent on working arrangements with some participants highlighting a working culture where breaks were not often taken.</p>	<p>Hugh-Jones 2018; Hunter 2018; Wright et al 2016; Brook 2021; Kinman 2020</p>	<p>Minor concerns</p> <p>Three studies with low risk of bias; Two studies with moderate risk of bias</p>	<p>No concerns</p> <p>Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.</p>	<p>No concerns</p> <p>Data obtained from 5 studies</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of social workers, employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles); NHS midwives and NHS nurses; Students and staff from UK university and a large inner-city UK NHS healthcare organisation</p> <p>Limited information on non-NHS and non-education sectors.</p>	<p>High confidence.</p> <p>Data from staff in social work, NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions</p>
Behaviours						

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Some participants began to apply mindfulness to their day-to-day influenced by self-care, awareness and choosing new ways to respond which facilitated engagement beyond the intervention period . Some participants found shifting their way of being difficult and changing pre-existing cognitive styles challenging. Other participants considered mindfulness as a mechanism to manage stress and not resolve root causes of stress .	Bannerjee 2017; Hugh-Jones 2018; Todd 2019; Brook 2021	No concerns Four studies with low risk of bias	No concerns Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.	No concerns Data obtained from 4 studies	Minor concerns Included studies related to the views and experiences of NHS staff in clinical roles, employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles) and secondary school teachers; Students and staff from UK university and a large inner-city UK NHS healthcare organisation. Limited information on non-NHS and non-education sectors. All four studies focused on mindfulness interventions only.	High confidence. Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions
Experiencing benefits						

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
<p>Participants experienced benefits from elements of the intervention such as present moment focus, which included changes in way of being, calmness, increased self-compassion, empathy, caring, increased agency over thoughts, heightened self-awareness; and having experienced these benefits post-session or practice encouraged engagement. Some participants expressed feelings of upward spiralling with positive feeling gained from just choosing to practicing mindfulness.</p> <p>Some participants highlighted that mindfulness had renewed enjoyment in work, increased work satisfaction and meaningfulness.</p> <p>Some participants found that mindfulness practice made more general negative thoughts emerge and found themselves being more critical which made them disengage from interventions.</p>	<p>Bannerjee 2017; Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2021; Kinman 2020</p>	<p>No concerns</p> <p>Five studies with low risk of bias; One study with moderate risk of bias.</p>	<p>No concerns</p> <p>Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.</p>	<p>No concerns</p> <p>Data obtained from 6 studies</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of NHS staff in clinical roles, employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles); NHS midwives and secondary school teachers; Students and staff from UK university and a large inner-city UK NHS healthcare organisation; social workers</p> <p>Limited information on non-NHS and non-education sectors. All four studies focused on mindfulness interventions only.</p>	<p>High confidence.</p> <p>Data from staff in NHS, education and social work settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions</p>

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Group experience						
<p>Participants outlined that the shared experience of the intervention was a positive experience that encourage engagement. The interventions providing an opportunity to reconnect with colleagues and a safe space for discussion.</p> <p>Participants of a resilience intervention highlighted the value of a small group structure and benefits of stimulating discussion and engagement of all attendees</p>	Hugh-Jones 2018; Hunter 2018; Todd 2019; Brook 2020 Johnson 2020	<p>No concerns</p> <p>Four studies with low risk of bias</p>	<p>No concerns</p> <p>Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.</p>	<p>No concerns</p> <p>Data obtained from 5 studies</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles); NHS midwives and secondary school teachers; Healthcare students and Healthcare professionals</p> <p>Limited information on non-NHS and non-education sectors. Four studies focused on mindfulness intervention, one study focused on</p>	<p>High confidence</p> <p>Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions and tailored resilience coaching only impacting applicability to other workplace individual interventions</p>

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
					tailored resilience coaching.	
Facilitating longer-term change						
Participants outlined that the intervention had given them a toolkit with which to cope, survive and thrive going forward . Participants referred to lasting change in relation to mindfulness intervention, with participants identifying opportunities to practice mindfulness.	Hugh-Jones 2018; Hunter 2018; Brook 2021	No concerns Three studies with low risk of bias	No concerns Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.	No concerns Data obtained from 3 studies	Minor concerns Included studies related to the views and experiences of employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles) and NHS midwives; Students and staff from UK university and a large inner-city UK NHS healthcare organisation Limited information on non-NHS and non-education sectors. All four studies focused on	High confidence Data from staff in NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees). Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions

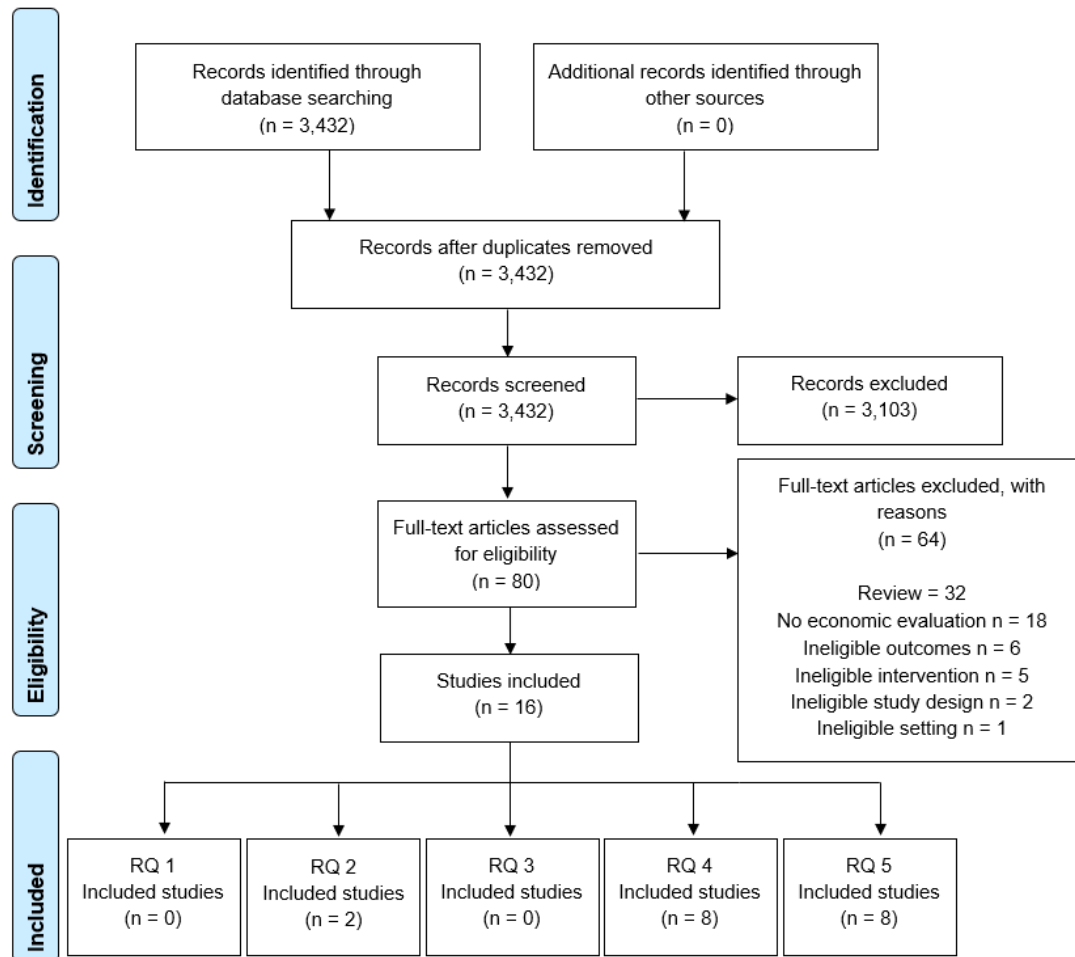
Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
					mindfulness interventions only.	
Legitimising and justification						
<p>Participants highlighted that intervention was required to address an identified need to improve affective and cognitive regulation in the context of increased organisational demand. Participants highlighted that taking care of personal mental and physical health needed a justification and benefits incurred from early sessions reinforced this.</p> <p>Some participants highlighted that the perceived cost of complementary and alternative therapies could be a barrier to implementation but it may be justified if it reduced stress.</p>	Hugh-Jones 2018; Wright et al 2016; Kinman 2020	<p>Minor concerns</p> <p>One study with low risk of bias; Two studies with moderate risk of bias</p>	<p>No concerns</p> <p>Findings reflects all the data reported on this theme, with sub-themes qualifying the overarching theme.</p>	<p>No concerns</p> <p>Data obtained from 3 studies</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of social workers, employees in a higher education institute (Academic and research roles; professional service roles such as in management and finance; clerical/student support roles) and NHS nurses.</p> <p>Limited information on non-NHS and non-education sectors.</p>	<p>Moderate confidence.</p> <p>Methodological limitations of the included studies. Data from Social work, NHS and education settings impacting applicability to other settings. Views expressed from across the work force (managers and employees).</p>
Follow-up, reminders and refreshers						

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
<p>Participants outlined that mindfulness refresher sessions would help continued engagement and practice. This was in the context of a busy and stressful working environment to continue practice</p> <p>Participants on a tailored resilience coaching intervention highlighted that a follow-up 'coaching phone call' consolidated knowledge facilitating understanding regarding the application of new skills in their personal context.</p> <p>The phone call component was identified in most interviews as a central and impactful aspect of the intervention. Some participants reported that they did not anticipate the impact the phone call would have on them and that this required careful planning to ensure they chose a suitable location and time for the discussion</p>	Hunter 2018	<p>No concerns</p> <p>One study with low risk of bias</p>	<p>Minor concerns</p> <p>One study with 9 NHS midwives</p>	<p>Minor concerns</p> <p>data obtained from 1 study</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of NHS midwives only.</p> <p>Limited information on non-NHS sectors. This study focused on a mindfulness intervention only.</p>	<p>Moderate confidence</p> <p>Data from NHS midwives only impacting applicability to other settings. Views expressed from NHS midwives only. Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions</p>

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Intervention facilitator						
Participants emphasised the importance of the facilitator to intervention engagement; and highlighting that having a facilitator with awareness of the barriers they faced was useful . Participants reflected positively on the respectful approach by facilitators which enabled sharing difficult experiences possible.	Todd 2019; Brook 2021; Kinman 2020	No concerns Two studies with low risk of bias; One study moderate risk of bias	No concerns One study with 10 secondary school teachers; One study with 12 students and 7 staff from UK university and a large inner-city UK NHS healthcare organisation; One study with 27 social workers	No concerns Data obtained from 3 studies	Minor concerns Included studies related to the views and experiences of secondary school teachers, social workers, staff and students from a UK university and a large inner-city UK NHS healthcare organisation. Data derived from mindfulness intervention only. Limited information on non-education and non-healthcare sectors.	High confidence Data from secondary school teachers, social workers and staff and students from a UK university and a large inner-city UK NHS healthcare organisation impacting applicability to other settings. Data derived from mindfulness interventions only impacting applicability to other workplace individual interventions
Tension between mandatory and voluntary delivery						

Summary of review finding	Studies contributing to review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
<p>Participants of a resilience coaching intervention acknowledged its benefits but differed in their opinions of the interventions impact under mandated conditions.</p> <p>Voluntary attendance was considered to have enhanced participants intervention experience. Some participants advocated for mandatory resilience training as part of health professionals basic training, but concerns were raised regarding the implications of mandatory training.</p>	Johnson 2020	<p>No concerns</p> <p>One study with low risk of bias</p>	<p>Minor concerns</p> <p>One study with 23 health professionals and students</p>	<p>Minor concerns</p> <p>data obtained from 1 study</p>	<p>Minor concerns</p> <p>Included studies related to the views and experiences of health professionals and students.</p> <p>Limited information on non-NHS sectors. This study focused on a resilience coaching only.</p>	<p>Moderate confidence</p> <p>Data from one study of health professionals and students only impacting applicability to other settings. Data derived from resilience coaching only only impacting applicability to other workplace individual interventions</p>

Appendix G – Economic evidence study selection



Appendix H – Economic evidence tables

Barbosa (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Study type: A group randomised field experiment with return on investment analysis</p> <p>Country: United States</p> <p>Population: Employees in the information technology division of a large Fortune 500 company</p> <p>Population size: 946 employees</p> <p>Intervention: STAR (support, transform, achieve, results), a network intervention aiming to reduce work-family conflict and encompassing three components: Face to face participatory training sessions delivered by external consultants,</p>	<p>Perspective: Employer's perspective</p> <p>Time horizon: 18 months</p> <p>Discounting: 3% costs 3% effects</p> <p>Data sources All data taken directly from the field experiment.</p>	<p>Total cost per person pre-intervention^b; \$ (SD): Intervention 5,838.93 (3,726.39) (=£4,204 in 2020 GBP)</p> <p>Control 6,005.43 (4,071.46) (=£4,323 in 2020 GBP)</p> <p>Intervention cost per person; \$ (SD): Intervention 707.48 (259.93) (=£509 in 2020 GBP)</p> <p>Control 14.95 (85.46) (=£11 in 2020 GBP)</p> <p>Currency & cost year: USD (\$); 2011</p>	<p>Total cost per person post-intervention^a; \$ (SD): Intervention 29,952.04 (44,884.53) (=£21,562 in 2020 GBP)</p> <p>Control 25,326.43 (37,033.32) (=£18,232 in 2020 GBP)</p>	<p>Return on investment^b (ROI); \$ (95% CI): 1.68 per dollar invested (-8.85 to 9.47)</p> <p>Uncertainty: Eleven different scenarios were evaluated in the sensitivity analysis, including scenarios adjusting the discount rate, the costs of presenteeism, turnover and healthcare utilization. Only one scenario gave a <1 ROI, with the majority being within 0.15 of the base case. When 'hours of paid time off' were included (an instrument for absenteeism), the ROI was 1.24</p>	<p>Author identified:</p> <ul style="list-style-type: none"> • Health care and presenteeism costs, as well as productivity, were self-reported. • Absenteeism was excluded from the main analysis. <p>Reviewer identified:</p> <ul style="list-style-type: none"> • Lack of probabilistic sensitivity analysis. 	<p>Source of funding: This research was conducted as part of the Work, Family, and Health Network, which is funded by a cooperative agreement through the National Institutes of Health and the Centers for Disease Control and Prevention: National Institute of Child Health and Human Development (NICHD) (Grant # U01HD051217, U01HD051218, U01HD051256, U01HD051276), National Institute on Aging (Grant # U01AG027669), Office of Behavioural and Social Sciences Research, and National Institute for Occupational Safety and Health (Grant # U010H008788).</p>

Barbosa (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
computer-based training and behavioural self-monitoring. A total of six sessions were delivered over 4 months, four for employees and managers together and two for managers only. The training aimed to reduce work-family conflict, which is linked to higher work stress, turnover intentions, job satisfaction and absenteeism. Comparator(s): No intervention						Further research: None specified
Overall applicability: Partially applicable Overall quality: Minor limitations						
<i>Abbreviations: CI: confidence intervals; ROI: return on investment; SD: standard deviation; STAR: support, transform, achieve, results;</i>						
a. Total costs were the cost of interventions, healthcare and presenteeism costs and the costs of voluntary termination.						
b. ROI was calculated as the total cost benefit (from medical costs, presenteeism and turnover) minus intervention costs divided by the intervention cost.						

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: Cohort study with return on investment evaluation	Perspective: Employer's perspective Time horizon:	Intervention cost per person; €: 300 (=£230 in 2020 GBP)	Annual cost increase; adjusted^b, %: Medical costs Intervention -3.8	Return on investment^d (ROI); \$: 1.95 per dollar invested Uncertainty:	Author identified: None identified Reviewer identified:	Source of funding: Not specified, though authors affiliated with Reformed Church in

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Country: United States</p> <p>Population: Clergy members of the Reformed Church in America</p> <p>Population size: 487 (144 in intervention group, 343 in control group)</p> <p>Intervention: Stress-reduction program from HeartMath: A 6-week program with 6 30- to 45-minute coaching sessions that provided a series of tools and techniques designed to help people better self-regulate stress, increase resiliency, and improve performance</p> <p>Comparator(s): Unclear ^a</p>	<p>Unclear, reviewer assumes a 12-month time horizon</p> <p>Discounting: Unclear; reviewer assumes there was no discounting</p> <p>Data sources All data came directly from cohort study</p>	<p>Currency & cost year: USD (\$); 2008</p>	<p>Control group 9</p> <p>Pharmacy costs Intervention 7.9</p> <p>Control 13.3</p> <p>First year cost savings per participant ^c; \$: 585 (=£449 in 2020 GBP)</p>	<p>No sensitivity analysis was undertaken.</p>	<ul style="list-style-type: none"> • ROI does not consider savings from absenteeism/presenteeism or disability programs. • There is no sensitivity analysis. • It is not clear what the comparator is. • The effectiveness is difficult to interpret due to a lack of information on outcome measure. • The percentage change in annual costs was provide. However, a breakdown if the underlying costs was not included. 	<p>America and PharmaLex GmbH</p> <p>Further research: None specified</p>
<p>Overall applicability: Limited applicability Overall quality: Major limitations</p>						

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year</i>						
a. The reviewer notes some participants in the control group received 'no intervention' while others had access to a phone-based lifestyle management program.						
b. 2008 cost were adjusted for Regression to the Mean. No further detail was provided.						
c. Cost savings only considered medical and pharmacy costs. Savings are between pastors that used HM stress reduction techniques and those who did not.						
d. ROI was calculated as the total cost benefit (from medical and pharmacy costs) divided by the intervention cost.						
Noben (2014)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: Pragmatic cluster randomised controlled trial with cost-utility analysis Country: Netherlands Population: Nurses in a Dutch hospital Population size: 617 Nurses Intervention: Two interventions, aiming to promote work functioning to reduce mental health complaints, used after a positive questionnaire result (negative result led to no further action): Occupational	Perspective: Employer's perspective Time horizon: 6 months Discounting: Since study ran for under 12 months, discounting was not necessary Data sources All data (costs and outcomes) came directly from the randomised controlled trial	Mean intervention cost per person; €: Control group 3.8 (=£3.81 in 2020 GBP) OP 76.91 (=£77.11 in 2020 GBP) e-Mental Health Not reported Total costs per person; €^d: Control group 1,752 (=£1,757 in 2020 GBP) OP 1,266 (=£1,269 in 2020 GBP) e-Mental Health 1,375 (=£1,379 in 2020 GBP)	Work functioning effectiveness^e: Control group 0.2 OP 0.24 e-Mental Health 0.16	Incremental cost effectiveness ratios (ICERs); €: OP vs control Dominant (less costly and more effective for work functioning) e-Mental Health vs control 4,054 (=£4,065 in 2020 GBP)per one-point increase in work functioning <u>CALCULATED BY YHEC</u> OP vs. e-Mental Health Dominant (OP was less costly and more effective for work functioning) Uncertainty: 75% of the 5,000 bootstrap replications	Author identified: None identified Reviewer identified: <ul style="list-style-type: none"> A six-month time horizon may not fully capture the effects of the interventions. 	Source of funding: The economic evaluation alongside the Mental Vitality @ Work trial was funded by grant # 208010001 from The Netherlands Organization for Health Research and Development (ZonMw) and co-financed by a grant from the Dutch Foundation GAK Institute. Further research: Effect of intervention over a longer time horizon.

Noben (2014)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Physician (OP) visit ^a and e-Mental Health training ^b		Currency & cost year: EUR (€); 2011		of the ICER were dominant for the OP group, and 76% were in the south-west quadrant for the e-Mental Health group (less costly but less effective). The results are similar in both alternative scenarios, which differed the imputation technique.		
Comparator(s): Control group (no intervention after questionnaire) ^c						
Overall applicability: Partly applicable Overall quality: Minor limitations						
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician; QALY: quality-adjusted life year; ROI: return on investment; WHS: Workers' Health Surveillance;</i>						
a. Occupational physician group nurses were screened for work functioning impairments, and 6 types of mental health complaints using an online survey. This was followed by an invitation for screen positives on either work functioning or mental health complaints to attend the occupational physician, where a seven-step protocol was applied.						
b. e-Mental Health group nurses were also screened for work functioning impairments, and 6 types of mental health complaints using an online survey. This was followed by referral to e-mental health interventions such as Psyfit (€30), Strong at Work (€175), Colour your Life (€195), Don't Panic Online (€225) and Drinking Less (€45).						
c. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using an online survey. No further action was taken.						
d. Total costs were direct medical costs like service use and medication, indirect non-medical costs like absenteeism and presenteeism, and direct non-medical costs						
e. The primary outcome was 'work functioning', as measured on the following subscales of the 'Nurses Work Functioning Questionnaire': Cognitive aspects of task execution, Causing incidents at work, Avoidance behaviour, Conflicts and irritations with colleagues, Impaired contact with patients and their family, Lack of energy and Motivation. The difference between the interventions was examined as the percentage of individuals who improved by at least 40% in the follow-up questionnaire. Hence the score of 0.24 for the OP group meant that 24% of nurses improved their work functioning by at least 40% in the OP intervention. There were no results reported for mental health complaints.						

Noben (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Study type: Pragmatic cluster randomised controlled trial with cost-benefit analysis</p> <p>Country: Netherlands</p> <p>Population: Nurses in a Dutch academic medical centre</p> <p>Population size: 413 nurses</p> <p>Intervention: After positive Workers' Health Surveillance (WHS) instrument result, an Occupational Physician visit ^a, after a negative result, no further action. This intervention aimed to reduce mental health complaints.</p> <p>Comparator(s): After screening using Workers' Health Surveillance</p>	<p>Perspective: Employer's perspective</p> <p>Time horizon: 6 months</p> <p>Discounting: Since study ran under a year, discounting was not necessary</p> <p>Data sources All data (costs and outcomes) came directly from the randomised controlled trial</p>	<p>Mean intervention cost per person; €: Control group 25 (=€25.07 in 2020 GBP)</p> <p>OP group 89 (=€89.24 in 2020 GBP)</p> <p><i>Incremental</i> 64 (=€64.17 in 2020 GBP)</p> <p>Currency & cost year: EUR (€); 2011</p>	<p>Costs averted per person; €: Absenteeism Control group 118 (=€118.31 in 2020 GBP)</p> <p>OP group 425 (=€426.13 in 2020 GBP)</p> <p><i>Incremental</i> 308 (=€308.82 in 2020 GBP)</p> <p>Presenteeism Control group -80 (=€80.21 in 2020 GBP)</p> <p>OP group 635 (=€636.68 in 2020 GBP)</p> <p><i>Incremental</i> 407 (=€408.08 in 2020 GBP)</p> <p>Net benefits per person; €: Control group -105 (=€105.28 in 2020 GBP)</p> <p>OP Group</p>	<p>Return on investment ^c (ROI); €: Control group -3 per euro invested</p> <p>OP Group 7 per euro invested</p> <p><i>Incremental</i> 11 per euro invested ^d</p> <p>Uncertainty: The incremental intervention cost difference and incremental total cost savings were both statistically significant (p<0.001 and p=0.004 respectively), as was the incremental net benefit (p=0.008).</p> <p>When the productivity gains were lowered by 30%, the incremental ROI was still €8 per €1 invested.</p> <p>When 'hard to quantify' presenteeism benefits were ignored, the ROI was still €5 per €1 invested.</p>	<p>Author identified:</p> <ul style="list-style-type: none"> There were high drop-out rates in the trial necessitating imputing missing observations under the expectation-maximization algorithm. Impacts on staff turnover and spill-over effects of absenteeism were not included. <p>Reviewer identified:</p> <ul style="list-style-type: none"> A six-month time horizon may not fully capture the effects of the interventions. There was a lack of probabilistic sensitivity analysis, though confidence intervals were reported. 	<p>Source of funding: Funded by the grant No. 208010001 from the Netherlands Organization for Health Research and Development (ZonMw) and co-financed by a grant from the Dutch Foundation Institute Gak. Netherlands Trial Register NTR2786.</p> <p>Further research:</p> <ul style="list-style-type: none"> Effect of the intervention over a longer time horizon.

Noben (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
(WHS) instrument result, no further action ^b			546 (=£547.45 in 2020 GBP) <i>Incremental</i> 651 (=£652.72 in 2020 GBP)			
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician; QALY: quality-adjusted life year; ROI: return on investment; WHS: Workers' Health Surveillance;</i>						
a. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using the WHS. This was followed by personalized feedback and screen-positive nurses receiving an invitation to visit an occupational physician (OP). The consultation with the OP followed a 7-step protocol, focussing on identifying impairments in work functioning and providing advice on how to improve wellbeing and work functioning.						
b. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using the WHS. No feedback was given to the nurses and no further action was taken, though the nurses had unrestricted access to usual care.						
c. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.						
d. For the incremental ROI, the cost of the questionnaire in the control group is considered even though it is not usual care. It must be highlighted that the main result from this study is the ROI of the intervention group, €7 per euro invested (reviewer comment).						

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: An RCT (randomised controlled trial) study with both cost-utility analysis (CUA) and return on investment (ROI) analysis Country:	Perspective: Employer's perspective and a societal perspective Time horizon: 12 months Discounting: NA	Average intervention cost per person; €: <u>Societal perspective</u> 171 (=£171 in 2020 GBP) <u>Employer's perspective</u> 464 (=£465 in 2020 GBP)	Effectiveness; % (95% CI): Work engagement ^c -0.19 (-0.38 to 0.01) General vitality ^d -3 (-6 to 0.1) Job satisfaction ^e -0.02 (-0.22 to 0.18)	Incremental cost effectiveness ratios (ICERs); €: <u>Societal perspective</u> Work engagement -7,321 (= -£7,340 in 2020 GBP) per one-point increase General vitality	Author identified: • Complete data was missing from 32% of participants, and multiple imputation was used to account for this	Source of funding: Not specified, though no conflicts of interest reported Further research: No further research specified

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Netherlands</p> <p>Population: Employees of 2 Dutch governmental research institutes</p> <p>Population size: 257 employees</p> <p>Intervention: Mindful VIP, mindfulness training, aiming to improve mental health and consisting of mindfulness training, e-coaching, and supporting elements like fruit/veg, lunch walking routes and a buddy system</p> <p>Comparator(s): No comparator</p>	<p>Data sources All data (costs and effects) were taken directly from the randomised controlled trial.</p>	<p>Mean total costs per person after 12-month follow-up; €: Societal perspective^a</p> <p>Control 18,960 (=£19,010 in 2020 GBP)</p> <p>Intervention 20,773 (=£20,828 in 2020 GBP)</p> <p><i>Incremental</i> 1,814 (-800 to 4588) (=£1,818 (£802 to £4,600) in 2020 GBP)</p> <p><u>Employer's perspective^b</u></p> <p>Control 17,992 (=£18,039 in 2020 GBP)</p> <p>Intervention 20,029 (=£20,082 in 2020 GBP)</p> <p><i>Incremental</i> 2,038 (-548 to 4,752) (=£2,043 (-£549 to £4,765) in 2020 GBP)</p> <p>Currency & cost year: EUR (€); 2011</p>	<p>Work ability^f -0.32 (-0.81 to 0.16)</p> <p><i>Negative scores indicate a reduction in that area</i></p> <p>Net monetary benefit per employee; €: Employer's perspective -1635</p>	<p>-470 (= -£471 in 2020 GBP) per one-point increase</p> <p><u>Employer's perspective</u> Work engagement -8,593 (= -£8,616 in 2020 GBP) per one-point increase</p> <p>Job satisfaction -81,295 (= -£81,510 in 2020 GBP) per one-point increase</p> <p>Work ability -5,081 (= -£5,094 in 2020 GBP) per one-point increase</p> <p>Return on investment^g; € (95% CI): <u>Employer's perspective</u> -2.51 per euro invested (-8.19 to 3.1), not statistically significant</p> <p>Uncertainty: Six additional analyses that differed from the main analysis were conducted. All gave similar negative results for both perspectives for the ICERs. In every scenario, the most</p>	<p>Reviewer identified: None identified</p>	

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
				probable region of the cost-effectiveness plane was the north-west (less effective and more costly)		
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: CI: confidence interval; CUA: cost-utility analysis; ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year; SS: statistically significant; RCT: randomised controlled trial</i>						
a. Total costs were the medical costs, sports costs, occupational health costs, absenteeism and presenteeism costs, and intervention costs						
b. Total costs were the occupational health costs, absenteeism and presenteeism costs, and intervention costs						
c. Assessed using Utrecht Work Engagement Scale, which is made up of 17 items and scored on a scale from 0 to 6						
d. Assessed using the RAND-36 Vitality Scale, which is scored on a 0 to 100 scale with higher scores indicating better general vitality.						
e. Explored using a one-item question of the Netherlands Working Conditions Survey, scored on a 0 to 5 scale.						
f. Explored using the Work Ability Index, which was scored on a 0 to 20 scale.						
g. ROI was calculated as the total cost benefit (from absenteeism, presenteeism and occupational health costs) divided by the intervention cost.						

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: A cluster randomised stepped wedge trial with a cost-benefit analysis ^a	Perspective: Employer's perspective	Intervention cost per person; €: 200 (=£158 in 2020 GBP)	Effectiveness (95% CI): 9 or more absence days 1.4 odds ratio (1.09 to 1.78)	Return on investment^b (ROI); € (95% CI): -3.9 per euro invested (-5.7 to -2.5)	Author identified: • Low response rate in certain plants, and the data analysis was complex.	Source of funding: Funding for this work was obtained from ZonMw, a Dutch funding organization (grant number 208030005).
Country: Netherlands	Time horizon: 12 months	Currency & cost year: EUR (€); possibly 2015 (unclear)	100% productivity 0.71 odds ratio (0.52 to 0.96)	Average total benefits per person; € (95% CI)^a: -775 (-1,077 to -440) (= -£614 (-£853 to -£348) in 2020 GBP)	• The authors commented that program failure may have contributed to the absence of	Further research: None identified
Population:	Discounting: NA		Work ability score 0.63 (0.14 to 1.13)			
	Data sources					

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Employees of a Dutch meat processing company</p> <p>Population size: 305</p> <p>Intervention: Promotion of Sustained Employability (POSE) program, a comprehensive workers' health surveillance (WHS) program aimed at improving sustainable employability and consisting of elements from occupational medicine (health surveillance and promoting a healthy lifestyle) and rehabilitation medicine (functional capacity evaluation and increasing physical capacity).</p> <p>Comparator(s): No intervention</p>	All data taken directly from trial.		<p>Net benefit per person; € (95% CI): -975 (-1,340 to -691)</p>	<p>Uncertainty: Several additional scenarios were evaluated, and all gave negative ROI.</p>	<p>positive effects. For example, some of the program was not properly implemented and there was a poor follow-up of recommendations.</p> <p>Reviewer identified:</p> <ul style="list-style-type: none"> • There was very limited sensitivity analysis. 	

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Overall applicability: Partly applicable			Overall quality: Minor limitations			
Abbreviations: <i>CI</i> : confidence interval; <i>ICER</i> : incremental cost-effectiveness ratio; <i>POSE</i> : Promotion of Sustained Employability; <i>QALY</i> : quality-adjusted life year; <i>ROI</i> : return on investment						
a. Total costs were the intervention costs, and the costs of presenteeism and absenteeism.						
b. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.						

Wijnen (2019)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: Matched-cohort study in two parallel groups, with return on investment (ROI) analysis Country: Netherlands Population: Teams of health-care workers (mainly nurses) in the Dutch health service Population size: 473 nurses Intervention: Stress-Prevention@Work, an online portal aimed at reducing stress, used by an intervention cohort.	Perspective: From the Dutch health service Time horizon: 12 months Discounting: N/A Data sources Costs: All costs and cost savings calculated directly from cost of intervention to the Dutch health service, and the cost savings to the Dutch health service	Intervention cost per person; €: Total costs per employee is 47.38, which is rounded to 50 per employee (=£44 in 2020 GBP) Currency & cost year: EUR (€); 2014	Productivity losses per 4 weeks; €: ^a Baseline: Comparator 381 (=£338 in 2020 GBP) Intervention 455 (=£404 in 2020 GBP) 6-month follow-up Comparator 780 (=£692 in 2020 GBP) Intervention 520 (=£461 in 2020 GBP) 12-month follow-up Comparator 450 (=£399 in 2020 GBP) Intervention	Return on investment b; €: Roughly 60 per euro invested <u>CALCULATED BY</u> <u>YHEC</u> Exact ROI using given numbers: 2981/47.38= 62.92 per euro invested Net monetary benefit per person; € (95% CI): 2,981 per year (329 to 6291) (=£2,645 (£292 to £5,582) in 2020 GBP) Uncertainty: The probability of statistical significance for NMB was only 0.078 (i.e. the NMB was not statistically significant). This means	Author identified: <ul style="list-style-type: none"> Neither the individual employees nor their teams were randomly allocated their group. High loss to follow up, with regression imputation of missing observations required. No comparison on intervention to standard care. Impact of intervention on staff turnover not considered Reviewer identified: <ul style="list-style-type: none"> There was insufficient one-way sensitivity 	Source of funding: ZonMw (The Netherlands Organisation for Health Research and Development) Further research: None identified

Wijnen (2019)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>The portal contained a search engine that featured a range of interventions within it. Training was provided for the portal. Both organisational and employee level interventions were included. Examples of interventions are guidelines, raising awareness, self-help modules and screening for determinants of stress</p> <p>Comparator(s): Waitlist cohort (no intervention, but given the intervention after the 12 months)</p>			<p>292 (=£259 in 2020 GBP)</p> <p>Cumulative costs per year per employee; €: Comparator 9,893 (=£8,779 in 2020 GBP)</p> <p>Intervention 6,912 (=£6,133 in 2020 GBP)</p>	<p>that the NMB estimate is very uncertain.</p> <p>A probabilistic sensitivity analysis found: A 96.7% likelihood of breaking even after year (NMB≥€50) (>£44 in 2020 GBP) A 92.9% likelihood of NMB≥€500 (>£444 in 2020 GBP). An 88.2% likelihood of NMB≥€1000 (>£887 in 2020 GBP) An 51% likelihood of NMB=€2891 (>£2,565 in 2020 GBP)</p>	analysis on inputs.	
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: CI: confidence interval; ICER: incremental cost-effectiveness ratio; NMB: net monetary benefit; QALY: quality-adjusted life year; ROI: return on investment;</i>						
<p>a. Productivity losses were assessed using the Trimbos and iMTA Cost questionnaire in Psychiatry (TiC-P). This is a self-completed questionnaire identifying days absent from work (absenteeism) and days working while sick (presenteeism). A day of work was valued at €278 (8 hours of work x €34.75), so each absent day = loss of €278. Presenteeism loss was calculated from employees estimate of days they went to work while ill, and lost efficiency while at work (i.e. 2 days while sick, at 50% efficiency = €278 lost).</p> <p>b. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.</p>						

Barbosa (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Study type: A group randomised field experiment with return on investment analysis</p> <p>Country: United States</p> <p>Population: Employees in the information technology division of a large Fortune 500 company</p> <p>Population size: 946 employees</p> <p>Intervention: STAR (support, transform, achieve, results), a network intervention aiming to reduce work-family conflict and encompassing three components: Face to face participatory training sessions delivered by external consultants, computer-based training and</p>	<p>Perspective: Employer's perspective</p> <p>Time horizon: 18 months</p> <p>Discounting: 3% costs 3% effects</p> <p>Data sources All data taken directly from the field experiment.</p>	<p>Total cost per person pre-intervention^b; \$ (SD): Intervention 5,838.93 (3,726.39) (=£4,204 in 2020 GBP)</p> <p>Control 6,005.43 (4,071.46) (=£4,323 in 2020 GBP)</p> <p>Intervention cost per person; \$ (SD): Intervention 707.48 (259.93) (=£509 in 2020 GBP)</p> <p>Control 14.95 (85.46) (=£11 in 2020 GBP)</p> <p>Currency & cost year: USD (\$); 2011</p>	<p>Total cost per person post-intervention^a; \$ (SD): Intervention 29,952.04 (44,884.53) (=£21,562 in 2020 GBP)</p> <p>Control 25,326.43 (37,033.32) (=£18,232 in 2020 GBP)</p>	<p>Return on investment^b (ROI); \$ (95% CI): 1.68 per dollar invested (-8.85 to 9.47)</p> <p>Uncertainty: Eleven different scenarios were evaluated in the sensitivity analysis, including scenarios adjusting the discount rate, the costs of presenteeism, turnover and healthcare utilization. Only one scenario gave a <1 ROI, with the majority being within 0.15 of the base case. When 'hours of paid time off' were included (an instrument for absenteeism), the ROI was 1.24</p>	<p>Author identified:</p> <ul style="list-style-type: none"> • Health care and presenteeism costs, as well as productivity, were self-reported. • Absenteeism was excluded from the main analysis. <p>Reviewer identified:</p> <ul style="list-style-type: none"> • Lack of probabilistic sensitivity analysis. 	<p>Source of funding: This research was conducted as part of the Work, Family, and Health Network, which is funded by a cooperative agreement through the National Institutes of Health and the Centers for Disease Control and Prevention: National Institute of Child Health and Human Development (NICHD) (Grant # U01HD051217, U01HD051218, U01HD051256, U01HD051276), National Institute on Aging (Grant # U01AG027669), Office of Behavioural and Social Sciences Research, and National Institute for Occupational Safety and Health (Grant # U01OH008788).</p> <p>Further research: None specified</p>

Barbosa (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
behavioural self-monitoring. A total of six sessions were delivered over 4 months, four for employees and managers together and two for managers only. The training aimed to reduce work-family conflict, which is linked to higher work stress, turnover intentions, job satisfaction and absenteeism. Comparator(s): No intervention						
Overall applicability: Partially applicable Overall quality: Minor limitations						
<i>Abbreviations: CI: confidence intervals; ROI: return on investment; SD: standard deviation; STAR: support, transform, achieve, results;</i>						
c. Total costs were the cost of interventions, healthcare and presenteeism costs and the costs of voluntary termination.						
d. ROI was calculated as the total cost benefit (from medical costs, presenteeism and turnover) minus intervention costs divided by the intervention cost.						

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: Cohort study with return on investment evaluation Country:	Perspective: Employer's perspective Time horizon:	Intervention cost per person; €: 300 (=£230 in 2020 GBP) Currency & cost year: USD (\$); 2008	Annual cost increase; adjusted^b, %: Medical costs Intervention -3.8 Control group	Return on investment^d (ROI); \$: 1.95 per dollar invested Uncertainty: No sensitivity analysis was undertaken.	Author identified: None identified Reviewer identified: • ROI does not consider savings	Source of funding: Not specified, though authors affiliated with Reformed Church in America and PharmaLex GmbH

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
United States Population: Clergy members of the Reformed Church in America Population size: 487 (144 in intervention group, 343 in control group) Intervention: Stress-reduction program from HeartMath: A 6-week program with 6 30- to 45-minute coaching sessions that provided a series of tools and techniques designed to help people better self-regulate stress, increase resiliency, and improve performance Comparator(s): Unclear ^a	Unclear, reviewer assumes a 12-month time horizon Discounting: Unclear; reviewer assumes there was no discounting Data sources All data came directly from cohort study		9 Pharmacy costs Intervention 7.9 Control 13.3 First year cost savings per participant ^c; \$: 585 (=£449 in 2020 GBP)		from absenteeism/presenteeism or disability programs. <ul style="list-style-type: none"> • There is no sensitivity analysis. • It is not clear what the comparator is. • The effectiveness is difficult to interpret due to a lack of information on outcome measure. • The percentage change in annual costs was provide. However, a breakdown if the underlying costs was not included. 	Further research: None specified

Overall applicability: Limited applicability Overall quality: Major limitations

Abbreviations: ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year

e. The reviewer notes some participants in the control group received 'no intervention' while others had access to a phone-based lifestyle management program.

Bedell (2010)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
f.	2008 cost were adjusted for Regression to the Mean. No further detail was provided.					
g.	Cost savings only considered medical and pharmacy costs. Savings are between pastors that used HM stress reduction techniques and those who did not.					
h.	ROI was calculated as the total cost benefit (from medical and pharmacy costs) divided by the intervention cost.					

Noben (2014)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Study type: Pragmatic cluster randomised controlled trial with cost-utility analysis</p> <p>Country: Netherlands</p> <p>Population: Nurses in a Dutch hospital</p> <p>Population size: 617 Nurses</p> <p>Intervention: Two interventions, aiming to promote work functioning to reduce mental health complaints, used after a positive questionnaire result (negative result led to no further action): Occupational Physician (OP) visit</p>	<p>Perspective: Employer's perspective</p> <p>Time horizon: 6 months</p> <p>Discounting: Since study ran for under 12 months, discounting was not necessary</p> <p>Data sources All data (costs and outcomes) came directly from the randomised controlled trial</p>	<p>Mean intervention cost per person; €: Control group 3.8 (=£3.81 in 2020 GBP)</p> <p>OP 76.91 (=£77.11 in 2020 GBP)</p> <p>e-Mental Health Not reported</p> <p>Total costs per person; €^d: Control group 1,752 (=£1,757 in 2020 GBP)</p> <p>OP 1,266 (=£1,269 in 2020 GBP)</p> <p>e-Mental Health 1,375 (=£1,379 in 2020 GBP)</p> <p>Currency & cost year:</p>	<p>Work functioning effectiveness^e: Control group 0.2</p> <p>OP 0.24</p> <p>e-Mental Health 0.16</p>	<p>Incremental cost effectiveness ratios (ICERs); €: OP vs control Dominant (less costly and more effective for work functioning)</p> <p>e-Mental Health vs control 4,054 (=£4,065 in 2020 GBP)per one-point increase in work functioning</p> <p><u>CALCULATED BY YHEC</u> OP vs. e-Mental Health Dominant (OP was less costly and more effective for work functioning)</p> <p>Uncertainty: 75% of the 5,000 bootstrap replications of the ICER were dominant for the OP</p>	<p>Author identified: None identified</p> <p>Reviewer identified: • A six-month time horizon may not fully capture the effects of the interventions.</p>	<p>Source of funding: The economic evaluation alongside the Mental Vitality @ Work trial was funded by grant # 208010001 from The Netherlands Organization for Health Research and Development (ZonMw) and co-financed by a grant from the Dutch Foundation GAK Institute.</p> <p>Further research: Effect of intervention over a longer time horizon.</p>

Noben (2014)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
^a and e-Mental Health training ^b		EUR (€); 2011		group, and 76% were in the south-west quadrant for the e-Mental Health group (less costly but less effective). The results are similar in both alternative scenarios, which differed the imputation technique.		
Comparator(s): Control group (no intervention after questionnaire) ^c						
Overall applicability: Partly applicable Overall quality: Minor limitations						
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician; QALY: quality-adjusted life year; ROI: return on investment; WHS: Workers' Health Surveillance;</i>						
f. Occupational physician group nurses were screened for work functioning impairments, and 6 types of mental health complaints using an online survey. This was followed by an invitation for screen positives on either work functioning or mental health complaints to attend the occupational physician, where a seven-step protocol was applied.						
g. e-Mental Health group nurses were also screened for work functioning impairments, and 6 types of mental health complaints using an online survey. This was followed by referral to e-mental health interventions such as Psyfit (€30), Strong at Work (€175), Colour your Life (€195), Don't Panic Online (€225) and Drinking Less (€45).						
h. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using an online survey. No further action was taken.						
i. Total costs were direct medical costs like service use and medication, indirect non-medical costs like absenteeism and presenteeism, and direct non-medical costs						
j. The primary outcome was 'work functioning', as measured on the following subscales of the 'Nurses Work Functioning Questionnaire': Cognitive aspects of task execution, Causing incidents at work, Avoidance behaviour, Conflicts and irritations with colleagues, Impaired contact with patients and their family, Lack of energy and Motivation. The difference between the interventions was examined as the percentage of individuals who improved by at least 40% in the follow-up questionnaire. Hence the score of 0.24 for the OP group meant that 24% of nurses improved their work functioning by at least 40% in the OP intervention. There were no results reported for mental health complaints.						

Noben (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Study type: Pragmatic cluster randomised controlled trial with cost-benefit analysis</p> <p>Country: Netherlands</p> <p>Population: Nurses in a Dutch academic medical centre</p> <p>Population size: 413 nurses</p> <p>Intervention: After positive Workers' Health Surveillance (WHS) instrument result, an Occupational Physician visit ^a, after a negative result, no further action. This intervention aimed to reduce mental health complaints.</p> <p>Comparator(s): After screening using Workers' Health Surveillance</p>	<p>Perspective: Employer's perspective</p> <p>Time horizon: 6 months</p> <p>Discounting: Since study ran under a year, discounting was not necessary</p> <p>Data sources All data (costs and outcomes) came directly from the randomised controlled trial</p>	<p>Mean intervention cost per person; €: Control group 25 (=€25.07 in 2020 GBP)</p> <p>OP group 89 (=€89.24 in 2020 GBP)</p> <p><i>Incremental</i> 64 (=€64.17 in 2020 GBP)</p> <p>Currency & cost year: EUR (€); 2011</p>	<p>Costs averted per person; €: Absenteeism Control group 118 (=€118.31 in 2020 GBP)</p> <p>OP group 425 (=€426.13 in 2020 GBP)</p> <p><i>Incremental</i> 308 (=€308.82 in 2020 GBP)</p> <p>Presenteeism Control group -80 (=€80.21 in 2020 GBP)</p> <p>OP group 635 (=€636.68 in 2020 GBP)</p> <p><i>Incremental</i> 407 (=€408.08 in 2020 GBP)</p> <p>Net benefits per person; €: Control group -105 (=€105.28 in 2020 GBP)</p> <p>OP Group</p>	<p>Return on investment ^c (ROI); €: Control group -3 per euro invested</p> <p>OP Group 7 per euro invested</p> <p><i>Incremental</i> 11 per euro invested ^d</p> <p>Uncertainty: The incremental intervention cost difference and incremental total cost savings were both statistically significant (p<0.001 and p=0.004 respectively), as was the incremental net benefit (p=0.008).</p> <p>When the productivity gains were lowered by 30%, the incremental ROI was still €8 per €1 invested.</p> <p>When 'hard to quantify' presenteeism benefits were ignored, the ROI was still €5 per €1 invested.</p>	<p>Author identified:</p> <ul style="list-style-type: none"> There were high drop-out rates in the trial necessitating imputing missing observations under the expectation-maximization algorithm. Impacts on staff turnover and spill-over effects of absenteeism were not included. <p>Reviewer identified:</p> <ul style="list-style-type: none"> A six-month time horizon may not fully capture the effects of the interventions. There was a lack of probabilistic sensitivity analysis, though confidence intervals were reported. 	<p>Source of funding: Funded by the grant No. 208010001 from the Netherlands Organization for Health Research and Development (ZonMw) and co-financed by a grant from the Dutch Foundation Institute Gak. Netherlands Trial Register NTR2786.</p> <p>Further research:</p> <ul style="list-style-type: none"> Effect of the intervention over a longer time horizon.

Noben (2015)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
(WHS) instrument result, no further action ^b			546 (=£547.45 in 2020 GBP) <i>Incremental</i> 651 (=£652.72 in 2020 GBP)			
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: ICER: incremental cost-effectiveness ratio; OP: occupational physician; QALY: quality-adjusted life year; ROI: return on investment; WHS: Workers' Health Surveillance;</i>						
e. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using the WHS. This was followed by personalized feedback and screen-positive nurses receiving an invitation to visit an occupational physician (OP). The consultation with the OP followed a 7-step protocol, focussing on identifying impairments in work functioning and providing advice on how to improve wellbeing and work functioning.						
f. Nurses were screened for work functioning impairments, and 6 types of mental health complaints using the WHS. No feedback was given to the nurses and no further action was taken, though the nurses had unrestricted access to usual care.						
g. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.						
h. For the incremental ROI, the cost of the questionnaire in the control group is considered even though it is not usual care. It must be highlighted that the main result from this study is the ROI of the intervention group, €7 per euro invested (reviewer comment).						

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: An RCT (randomised controlled trial) study with both cost-utility analysis (CUA) and return on investment (ROI) analysis Country:	Perspective: Employer's perspective and a societal perspective Time horizon: 12 months Discounting: NA	Average intervention cost per person; €: <u>Societal perspective</u> 171 (=£171 in 2020 GBP) <u>Employer's perspective</u> 464 (=£465 in 2020 GBP)	Effectiveness; % (95% CI): Work engagement ^c -0.19 (-0.38 to 0.01) General vitality ^d -3 (-6 to 0.1) Job satisfaction ^e -0.02 (-0.22 to 0.18)	Incremental cost effectiveness ratios (ICERs); €: <u>Societal perspective</u> Work engagement -7,321 (= -£7,340 in 2020 GBP) per one-point increase General vitality	Author identified: • Complete data was missing from 32% of participants, and multiple imputation was used to account for this	Source of funding: Not specified, though no conflicts of interest reported Further research: No further research specified

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Netherlands</p> <p>Population: Employees of 2 Dutch governmental research institutes</p> <p>Population size: 257 employees</p> <p>Intervention: Mindful VIP, mindfulness training, aiming to improve mental health and consisting of mindfulness training, e-coaching, and supporting elements like fruit/veg, lunch walking routes and a buddy system</p> <p>Comparator(s): No comparator</p>	<p>Data sources All data (costs and effects) were taken directly from the randomised controlled trial.</p>	<p>Mean total costs per person after 12-month follow-up; €: Societal perspective^a</p> <p>Control 18,960 (=£19,010 in 2020 GBP)</p> <p>Intervention 20,773 (=£20,828 in 2020 GBP)</p> <p><i>Incremental</i> 1,814 (-800 to 4588) (=£1,818 (£802 to £4,600) in 2020 GBP)</p> <p><u>Employer's perspective^b</u></p> <p>Control 17,992 (=£18,039 in 2020 GBP)</p> <p>Intervention 20,029 (=£20,082 in 2020 GBP)</p> <p><i>Incremental</i> 2,038 (-548 to 4,752) (=£2,043 (-£549 to £4,765) in 2020 GBP)</p> <p>Currency & cost year: EUR (€); 2011</p>	<p>Work ability^f -0.32 (-0.81 to 0.16)</p> <p><i>Negative scores indicate a reduction in that area</i></p> <p>Net monetary benefit per employee; €: <u>Employer's perspective</u> -1635</p>	<p>-470 (= -£471 in 2020 GBP) per one-point increase</p> <p><u>Employer's perspective</u> Work engagement -8,593 (= -£8,616 in 2020 GBP) per one-point increase</p> <p>Job satisfaction -81,295 (= -£81,510 in 2020 GBP) per one-point increase</p> <p>Work ability -5,081 (= -£5,094 in 2020 GBP) per one-point increase</p> <p>Return on investment^g; € (95% CI): <u>Employer's perspective</u> -2.51 per euro invested (-8.19 to 3.1), not statistically significant</p> <p>Uncertainty: Six additional analyses that differed from the main analysis were conducted. All gave similar negative results for both perspectives for the ICERs. In every scenario, the most</p>	<p>Reviewer identified: None identified</p>	

van Dongen (2016)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
				probable region of the cost-effectiveness plane was the north-west (less effective and more costly)		
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: CI: confidence interval; CUA: cost-utility analysis; ICER: incremental cost-effectiveness ratio; QALY: quality-adjusted life year; SS: statistically significant; RCT: randomised controlled trial</i>						
h. Total costs were the medical costs, sports costs, occupational health costs, absenteeism and presenteeism costs, and intervention costs						
i. Total costs were the occupational health costs, absenteeism and presenteeism costs, and intervention costs						
j. Assessed using Utrecht Work Engagement Scale, which is made up of 17 items and scored on a scale from 0 to 6						
k. Assessed using the RAND-36 Vitality Scale, which is scored on a 0 to 100 scale with higher scores indicating better general vitality.						
l. Explored using a one-item question of the Netherlands Working Conditions Survey, scored on a 0 to 5 scale.						
m. Explored using the Work Ability Index, which was scored on a 0 to 20 scale.						
n. ROI was calculated as the total cost benefit (from absenteeism, presenteeism and occupational health costs) divided by the intervention cost.						

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: A cluster randomised stepped wedge trial with a cost-benefit analysis ^a	Perspective: Employer's perspective	Intervention cost per person; €: 200 (=£158 in 2020 GBP)	Effectiveness (95% CI): 9 or more absence days 1.4 odds ratio (1.09 to 1.78)	Return on investment^b (ROI); € (95% CI): -3.9 per euro invested (-5.7 to -2.5)	Author identified: • Low response rate in certain plants, and the data analysis was complex.	Source of funding: Funding for this work was obtained from ZonMw, a Dutch funding organization (grant number 208030005).
Country: Netherlands	Time horizon: 12 months	Currency & cost year: EUR (€); possibly 2015 (unclear)	100% productivity 0.71 odds ratio (0.52 to 0.96)	Average total benefits per person; € (95% CI)^a: -775 (-1,077 to -440) (= -£614 (-£853 to -£348) in 2020 GBP)	• The authors commented that program failure may have contributed to the absence of	Further research: None identified
Population:	Discounting: NA		Work ability score 0.63 (0.14 to 1.13)			
	Data sources					

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>Employees of a Dutch meat processing company</p> <p>Population size: 305</p> <p>Intervention: Promotion of Sustained Employability (POSE) program, a comprehensive workers' health surveillance (WHS) program aimed at improving sustainable employability and consisting of elements from occupational medicine (health surveillance and promoting a healthy lifestyle) and rehabilitation medicine (functional capacity evaluation and increasing physical capacity).</p> <p>Comparator(s): No intervention</p>	All data taken directly from trial.		<p>Net benefit per person; € (95% CI): -975 (-1,340 to -691)</p>	<p>Uncertainty: Several additional scenarios were evaluated, and all gave negative ROI.</p>	<p>positive effects. For example, some of the program was not properly implemented and there was a poor follow-up of recommendations.</p> <p>Reviewer identified:</p> <ul style="list-style-type: none"> • There was very limited sensitivity analysis. 	

Van Holland (2018)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Overall applicability: Partly applicable			Overall quality: Minor limitations			
Abbreviations: <i>CI</i> : confidence interval; <i>ICER</i> : incremental cost-effectiveness ratio; <i>POSE</i> : Promotion of Sustained Employability; <i>QALY</i> : quality-adjusted life year; <i>ROI</i> : return on investment						
c. Total costs were the intervention costs, and the costs of presenteeism and absenteeism.						
d. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.						

Wijnen (2019)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
Study type: Matched-cohort study in two parallel groups, with return on investment (ROI) analysis Country: Netherlands Population: Teams of health-care workers (mainly nurses) in the Dutch health service Population size: 473 nurses Intervention: Stress-Prevention@Work, an online portal aimed at reducing stress, used by an intervention cohort.	Perspective: From the Dutch health service Time horizon: 12 months Discounting: N/A Data sources Costs: All costs and cost savings calculated directly from cost of intervention to the Dutch health service, and the cost savings to the Dutch health service	Intervention cost per person; €: Total costs per employee is 47.38, which is rounded to 50 per employee (=£44 in 2020 GBP) Currency & cost year: EUR (€); 2014	Productivity losses per 4 weeks; €: ^a Baseline: Comparator 381 (=£338 in 2020 GBP) Intervention 455 (=£404 in 2020 GBP) 6-month follow-up Comparator 780 (=£692 in 2020 GBP) Intervention 520 (=£461 in 2020 GBP) 12-month follow-up Comparator 450 (=£399 in 2020 GBP) Intervention	Return on investment b; €: Roughly 60 per euro invested <u>CALCULATED BY</u> <u>YHEC</u> Exact ROI using given numbers: 2981/47.38= 62.92 per euro invested Net monetary benefit per person; € (95% CI): 2,981 per year (329 to 6291) (=£2,645 (£292 to £5,582) in 2020 GBP) Uncertainty: The probability of statistical significance for NMB was only 0.078 (i.e. the NMB was not statistically significant). This means	Author identified: <ul style="list-style-type: none"> Neither the individual employees nor their teams were randomly allocated their group. High loss to follow up, with regression imputation of missing observations required. No comparison on intervention to standard care. Impact of intervention on staff turnover not considered Reviewer identified: <ul style="list-style-type: none"> There was insufficient one-way sensitivity 	Source of funding: ZonMw (The Netherlands Organisation for Health Research and Development) Further research: None identified

Wijnen (2019)						
Study	Method of Analysis	Costs	Outcomes	Results	Limitations	Comments
<p>The portal contained a search engine that featured a range of interventions within it. Training was provided for the portal. Both organisational and employee level interventions were included. Examples of interventions are guidelines, raising awareness, self-help modules and screening for determinants of stress</p> <p>Comparator(s): Waitlist cohort (no intervention, but given the intervention after the 12 months)</p>			<p>292 (=€259 in 2020 GBP)</p> <p>Cumulative costs per year per employee; €: Comparator 9,893 (=€8,779 in 2020 GBP)</p> <p>Intervention 6,912 (=€6,133 in 2020 GBP)</p>	<p>that the NMB estimate is very uncertain.</p> <p>A probabilistic sensitivity analysis found: A 96.7% likelihood of breaking even after year (NMB≥€50) (>€44 in 2020 GBP) A 92.9% likelihood of NMB≥€500 (>€444 in 2020 GBP). An 88.2% likelihood of NMB≥€1000 (>€887 in 2020 GBP) An 51% likelihood of NMB=€2891 (>€2,565 in 2020 GBP)</p>	analysis on inputs.	
Overall applicability: Partly applicable		Overall quality: Minor limitations				
<i>Abbreviations: CI: confidence interval; ICER: incremental cost-effectiveness ratio; NMB: net monetary benefit; QALY: quality-adjusted life year; ROI: return on investment;</i>						
c. Productivity losses were assessed using the Trimbos and iMTA Cost questionnaire in Psychiatry (TiC-P). This is a self-completed questionnaire identifying days absent from work (absenteeism) and days working while sick (presenteeism). A day of work was valued at €278 (8 hours of work x €34.75), so each absent day = loss of €278. Presenteeism loss was calculated from employees estimate of days they went to work while ill, and lost efficiency while at work (i.e. 2 days while sick, at 50% efficiency = €278 lost).						
d. ROI was calculated as the total cost benefit (from absenteeism and presenteeism) divided by the intervention cost.						

Appendix I – Health economic model

No health economic model was undertaken for this review.

Appendix J – Excluded studies

J.1 Effectiveness and qualitative evidence

Study	Code [Reason]
Karimi, L, Leggat, SG et al. (2020) The effects of emotional intelligence training on the job performance of Australian aged care workers. <i>Health care management review</i> 45(1): 41-51	- Non-randomised study
Adair, Kathryn C, Rodriguez-Homs, Larissa G, Masoud, Sabran et al. (2020) Gratitude at Work: Prospective Cohort Study of a Web-Based, Single-Exposure Well-Being Intervention for Health Care Workers. <i>Journal of medical Internet research</i> 22(5): e15562	- Study does not have a control group
Akkermans, Jos Brenninkmeijer, Veerle Schaufeli, Wilmar B. Blonk, Roland W. B. (2015) It's All About CareerSKILLS: Effectiveness of a Career Development Intervention for Young Employees. <i>HUMAN RESOURCE MANAGEMENT</i> 54(4): 533-551	- Non-randomised study
Akyurek, Gokcen; Avci, Nergis; Ekici, Gamze (2020) The effects of "Workplace Health Promotion Program" in nurses: A randomized controlled trial and one-year follow-up. <i>Health care for women international</i> : 1-17	- Study does not provide data that is usable
Alford, Wendy K; Malouff, John M; Osland, Kristy S (2005) Written Emotional Expression as a Coping Method in Child Protective Services Officers. <i>International Journal of Stress Management</i> 12(2): 177	- Non-randomised study
Altchiler, L and Motta, R (1994) Effects of aerobic and nonaerobic exercise on anxiety, absenteeism, and job satisfaction. <i>Journal of clinical psychology</i> 50(6): 829-840	- Study does not have a control group
Amutio, Alberto, Martinez-Taboada, Cristina, Delgado, Luis Carlos et al. (2015) Acceptability and Effectiveness of a Long-Term Educational Intervention to Reduce Physicians' Stress-Related Conditions. <i>The Journal of continuing education in the health professions</i> 35(4): 255-60	- Study intervention has no employer involvement
Andaur Rodriguez, Ana Berger Silva, Christian (2018) Implementation and Impact of a Self-Care Training Program Based on Mindfulness in Educational Professionals. <i>ESTUDIOS SOBRE EDUCACION</i> : 239-261	- Full-text is not in English
Angelo, Rui-Pedro and Chambel, Maria-Jose (2013) An intervention with firefighters to promote psychological occupational health according to the Job Demands-Resources Model. <i>Revista de Psicologia Social</i> 28(2): 197-210	- Outcomes not measured by intervention recipients
Angerer, P, Rothermund, E, Limm, H et al. (2011) Stress management intervention at the workplace. Results of a randomized controlled trial. <i>Psychotherapeut</i> 56(1): 34-39	- Full-text is not in English

Study	Code [Reason]
Angotti, R, Meucci, D, Molinaro, F et al. (2015) In the era of "red nose", can clown-therapy reduce the nursing staff's anxiety?. <i>Minerva pediatrica</i> 67(5): 452-454	- Study does not have a control group
Anton, N.E., Mizota, T., Whiteside, J.A. et al. (2019) Mental skills training limits the decay in operative technical skill under stressful conditions: Results of a multisite, randomized controlled study. <i>Surgery (United States)</i> 165(6): 1059-1064	- Primary outcome of the study is not mental wellbeing
Aranda Auseron, G., Elcuaz Viscarret, M.R., Fuertes Goni, C. et al. (2018) Evaluation of the effectiveness of a Mindfulness and Self-Compassion program to reduce stress and prevent burnout in Primary Care health professionals. <i>Atencion Primaria</i> 50(3): 141-150	- Full-text is not in English
Arapovic-Johansson, Bozana, Wahlin, Charlotte, Hagberg, Jan et al. (2020) Experience of Stress Assessed by Text Messages and Its Association with Objective Workload-A Longitudinal Study. <i>International journal of environmental research and public health</i> 17(3)	- Study intervention was organisational in nature
Arnetz, BB (1996) Techno-stress: A prospective psychophysiological study of the impact of a controlled stress-reduction program in advanced telecommunication systems design work. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 38(1): 53-65	- Study conducted before 2007
Arredondo, M, Sabate, M, Valveny, N et al. (2017) A mindfulness training program based on brief practices (M-PBI) to reduce stress in the workplace: a randomised controlled pilot study. <i>International journal of occupational and environmental health</i> 23(1): 40-51	- Study does not provide data that is usable
Ash, M.J., Walker, E.R., DiClemente, R.J. et al. (2020) Compassion Meditation Training for Hospital Chaplain Residents: A Pilot Study. <i>Journal of health care chaplaincy</i> : 1-16	- Non-randomised study
Ashley, Laura; O'Connor, Daryl B; Jones, Fiona (2013) A randomized trial of written emotional disclosure interventions in school teachers: controlling for positive expectancies and effects on health and job satisfaction. <i>Psychology, health & medicine</i> 18(5): 588-600	- Study intervention has no employer involvement
Askey-Jones, Ryan (2018) Mindfulness-based cognitive therapy: An efficacy study for mental health care staff. <i>Journal of psychiatric and mental health nursing</i> 25(7): 380-389	- Study used an active control group
Atlantis, E, Chow, CM, Kirby, A et al. (2004) An effective exercise-based intervention for improving mental health and quality of life measures: a randomized controlled trial. <i>Preventive medicine</i> 39(2): 424-434	- Study conducted before 2007
Au, Doreen W. H. Tsang, Hector W. H. Lee, Janet L. C. Leung, Christie H. T. Lo, Jennie Y. T. Ngai, Shirley P. C. Cheung, W. M. (2016) Psychosomatic and physical responses to a multi-component stress management program among teaching professionals: A randomized study of cognitive behavioral intervention (CB) with complementary and alternative medicine (CAM) approach. <i>BEHAVIOUR RESEARCH AND THERAPY</i> 80: 10-16	- Study used an active control group

Study	Code [Reason]
Aust, Birgit; Peter, Richard; Siegrist, Johannes (1997) Stress Management in Bus Drivers: A Pilot Study Based on the Model of Effort?Reward Imbalance. <i>International Journal of Stress Management</i> 4(4): 297-305	- Non-randomised study
Baccarani, Claudio; Mascherpa, Vittorio; Minozzo, Marco (2013) Zen and well-being at the workplace. <i>The TQM Journal</i> 25	- Study does not provide data that is usable
Bakker, Arnold B and van Wingerden, Jessica (2020) Do personal resources and strengths use increase work engagement? The effects of a training intervention. <i>Journal of occupational health psychology</i>	- Non-randomised study
Balk, Judith L, Chung, Sheng-Chia, Beigi, Richard et al. (2009) Brief relaxation training program for hospital employees. <i>Hospital topics</i> 87(4): 8-13	- Study does not have a control group
Barclay, L.J. and Skarlicki, D.P. (2009) Healing the Wounds of Organizational Injustice: Examining the Benefits of Expressive Writing. <i>Journal of Applied Psychology</i> 94(2): 511-523	- Study does not provide data that is usable
Barcons, C, Garcia, B, Sarri, C et al. (2019) Effectiveness of a multimodal training programme to improve general practitioners' burnout, job satisfaction and psychological well-being. <i>BMC family practice</i> 20(1): 155	- Non-randomised study
Barrett, Kate Stewart, Ian (2021) A preliminary comparison of the efficacy of online Acceptance and Commitment Therapy (ACT) and Cognitive Behavioural Therapy (CBT) stress management interventions for social and healthcare workers. <i>HEALTH & SOCIAL CARE IN THE COMMUNITY</i> 29(1): 113-126	- Study does not have a control group
Bartlett, Larissa, Lovell, Pamela, Otahal, Petr et al. (2017) Acceptability, feasibility, and efficacy of a workplace mindfulness program for public sector employees: A pilot randomized controlled trial with informant reports. <i>Mindfulness</i> 8(3): 639-654	- Study used an active control group
Bay, Paul S; Ivy, Steven S; Terry, Colin L (2010) The effect of spiritual retreat on nurses' spirituality: a randomized controlled study. <i>Holistic nursing practice</i> 24(3): 125-33	- Primary outcome of the study is not mental wellbeing
Behnammoghadam, Mohammad, Kheramine, Shirali, Zoladi, Mohammad et al. (2019) Effect of eye movement desensitization and reprocessing (EMDR) on severity of stress in emergency medical technicians. <i>Psychology research and behavior management</i> 12: 289-296	- Study conducted in a non-OECD / BRICS country
Berger, Rony; Abu-Raiya, Hisham; Benatov, Joy (2016) Reducing primary and secondary traumatic stress symptoms among educators by training them to deliver a resiliency program (ERASE-Stress) following the Christchurch earthquake in New Zealand. <i>The American journal of orthopsychiatry</i> 86(2): 236-51	- Study does not have a control group

Study	Code [Reason]
Bernburg, Monika Groneberg, David Mache, Stefanie (2020) Professional training in mental health self-care for nurses starting work in hospital departments. <i>WORK-A JOURNAL OF PREVENTION ASSESSMENT & REHABILITATION</i> 67(3): 583-590	- Unclear if employers were involved in the intervention
Bernburg, Monika, Baresi, Lisa, Groneberg, David et al. (2016) Does psychosocial competency training for junior physicians working in pediatric medicine improve individual skills and perceived job stress. <i>European journal of pediatrics</i> 175(12): 1905-1912	- Study intervention has no employer involvement
Billings, Douglas W, Cook, Royer F, Hendrickson, April et al. (2008) A web-based approach to managing stress and mood disorders in the workforce. <i>Journal of occupational and environmental medicine</i> 50(8): 960-8	- Study does not provide data that is usable
Bischoff LL, Otto AK, Hold C et al. (2019) The effect of physical activity interventions on occupational stress for health personnel: A systematic review. <i>International journal of nursing studies</i> 97: 94-104	- Systematic review references checked
Bittman, Barry Bruhn, Karl T Stevens, Christine Westengard, James Umbach, Paul O (2003) Recreational music-making: a cost-effective group interdisciplinary strategy for reducing burnout and improving mood states in long-term care workers. <i>Advances in mind-body medicine</i> 19(34): 4-15	- Study conducted before 2007
Black, Peter N (2016) NHS staff members' experiences of participating in an eight-week mindfulness programme: A service evaluation of a pilot programme. <i>Clinical Psychology Forum</i> : 11	- Non-randomised study
Blackwell, Jared, Gregory-Mercado, Karen, Collins, Michael et al. (2019) Health and Wellness Coaching Implemented by Trainees: Impact in Worksite Wellness. <i>Global advances in health and medicine</i> 8: 2164956119831226	- Study used an active control group
Blanco Donoso, L. M. Garcia Rubio, C. Moreno Jimenez, B. de la Pinta, M. L. R. Moraleda Aldea, S. Garrosa, E. (2017) Brief Intervention Based on ACT and Mindfulness: Pilot Study with Nursing Staff in Intensive Care Unit and Emergency Services. <i>INTERNATIONAL JOURNAL OF PSYCHOLOGY AND PSYCHOLOGICAL THERAPY</i> 17(1): 57-73	- Full-text is not in English
Boccia, Anthony (2015) Reducing individual stress in the workplace through yoga and the strength deployment inventory: an experimental study. <i>Diss abstr int humanit soc sci</i> 76(5ae): no-specified	- Publication type excluded
Bohecker, Lynn and Doughty Horn, Elizabeth A (2016) Increasing students' empathy and counseling self-efficacy through a mindfulness experiential small group. <i>Journal for Specialists in Group Work</i> 41(4): 312-333	- Non-randomised study
Bolier, L., Ketelaar, S.M., Nieuwenhuijsen, K. et al. (2014) Workplace mental health promotion online to enhance well-being of nurses and allied health professionals: A cluster-randomized controlled trial. <i>Internet Interventions</i> 1(4): 196-204	- Intervention was targeted

Study	Code [Reason]
Bolier, Linda, Haverman, Merel, Kramer, Jeannet et al. (2012) Internet-Based Intervention to Promote Mental Fitness in Mildly Depressed Adults: Design of a Randomized Controlled Trial. <i>Journal of Medical Internet Research</i> 14(2)	- Study population was selected
Borness, Catherine A; Proudfoot, Judith G; Valenzuela, Michael J (2012) Methodological challenges and solutions when conducting a multicenter, online, randomized controlled trial of brain training within a public service organization. <i>Journal of Workplace Behavioral Health</i> 27(4): 272-288	- Study does not have a control group
Borness, Catherine, Proudfoot, Judith, Crawford, John et al. (2013) Putting brain training to the test in the workplace: a randomized, blinded, multisite, active-controlled trial. <i>PloS one</i> 8(3): e59982	- Study used an active control group
Bouw, N, Huijbregts, S C J, Scholte, E et al. (2019) Mindfulness-Based Stress Reduction in Prison: Experiences of Inmates, Instructors, and Prison Staff. <i>International journal of offender therapy and comparative criminology</i> 63(1516): 2550-2571	- Non-randomised study
Braganza, Shahina, Young, Jessica, Sweeny, Amy et al. (2018) oneED: Embedding a mindfulness-based wellness programme into an emergency department. <i>Emergency medicine Australasia : EMA</i> 30(5): 678-686	- Study does not have a control group
Brassey, Jacqueline, Witteloostuijn, Arjen van, Huszka, Csaba et al. (2020) Emotional flexibility and general self-efficacy: A pilot training intervention study with knowledge workers. <i>PloS one</i> 15(10): e0237821	- Non-randomised study
Braun, Lina, Titzler, Ingrid, Terhorst, Yannik et al. (2021) Effectiveness of guided internet-based interventions in the indicated prevention of depression in green professions (PROD-A): Results of a pragmatic randomized controlled trial. <i>Journal of affective disorders</i> 278: 658-671	- Intervention was targeted - Study intervention has no employer involvement
Braun, Sarah Ellen, Dow, Alan, Loughan, Ashlee et al. (2020) Mindfulness training for healthcare professional students: A waitlist controlled pilot study on psychological and work-relevant outcomes. <i>Complementary therapies in medicine</i> 51: 102405	- Publication type excluded
Braun, Summer S. Cho, Sinhae Colaianne, Blake A. Taylor, Cynthia Cullen, Margaret Roeser, Robert W. (2020) Impacts of a Mindfulness-Based Program on Teachers' Forgiveness. <i>MINDFULNESS</i> 11(8): 1978-1992	- Primary outcome of the study is not mental wellbeing
Bray, J.W., Hinde, J.M., Kaiser, D.J. et al. (2018) Effects of a Flexibility/Support Intervention on Work Performance: Evidence From the Work, Family, and Health Network. <i>American journal of health promotion : AJHP</i> 32(4): 963-970	- Study intervention was organisational in nature
Bretland, Rachel Judith and Thorsteinsson, Einar Baldvin (2015) Reducing workplace burnout: the relative benefits of cardiovascular and resistance exercise. <i>PeerJ</i> 3: e891	- Study intervention has no employer involvement
Brooks, D.M., Bradt, J., Eyre, L. et al. (2010) Creative approaches for reducing burnout in medical personnel. <i>Arts in Psychotherapy</i> 37(3): 255-263	- Study intervention has no employer involvement

Study	Code [Reason]
Bruneau, Benjamin M S Ellison, George T H (2004) Palliative care stress in a UK community hospital: evaluation of a stress-reduction programme. <i>International journal of palliative nursing</i> 10(6): 296-304	- Qualitative data not focused on the intervention
Bunce, David and West, Michael A. (1996) Stress Management and Innovation Interventions at Work. <i>Human Relations</i> 49(2): 209-232	- Non-randomised study
Burger, Kathleen G and Lockhart, Joan Such (2017) Meditation's Effect on Attentional Efficiency, Stress, and Mindfulness Characteristics of Nursing Students. <i>The Journal of nursing education</i> 56(7): 430-434	- Study population were students
Burnett, M. and Pettijohn, C. (2015) Investigating the efficacy of mind-body therapies and emotional intelligence on worker stress in an organizational setting: An experimental approach. <i>Journal of Organizational Culture, Communications and Conflict</i> 19: 146-158	- Study population was selected
Burnett-Zeigler, I., Satyshur, M.D., Hong, S. et al. (2019) Acceptability of a mindfulness intervention for depressive symptoms among African-American women in a community health center: A qualitative study. <i>Complementary Therapies in Medicine</i> 45: 19-24	- Qualitative study outside of UK
Buruck, Gabriele, Dorfel, Denise, Kugler, Joachim et al. (2016) Enhancing well-being at work: The role of emotion regulation skills as personal resources. <i>Journal of occupational health psychology</i> 21(4): 480-493	- Non-randomised study
Butow, Phyllis, Cockburn, Jill, Girgis, Afaf et al. (2008) Increasing oncologists' skills in eliciting and responding to emotional cues: evaluation of a communication skills training program. <i>Psycho-oncology</i> 17(3): 209-18	- Primary outcome of the study is not mental wellbeing
Butterworth, S, Linden, A, McClay, W et al. (2006) Effect of motivational interviewing-based health coaching on employees' physical and mental health status. <i>Journal of occupational health psychology</i> 11(4): 358-365	- Non-randomised study
Carolan, S, Harris, PR, Greenwood, K et al. Increasing engagement with, and effectiveness of, an online CBT-based stress management intervention for employees through the use of an online facilitated bulletin board: study protocol for a pilot randomised controlled trial. <i>Trials</i> 17(1): 598	- Study population was selected
CECIL, MA FORMAN, SG (1990) EFFECTS OF STRESS INOCULATION TRAINING AND COWORKER SUPPORT GROUPS ON TEACHERS STRESS. <i>JOURNAL OF SCHOOL PSYCHOLOGY</i> 28(2): 105-118	- Study conducted before 2007
Chan, David W (2010) Gratitude, gratitude intervention and subjective well-being among Chinese school teachers in Hong Kong. <i>Educational Psychology</i> 30(2): 139-153	- Study does not have a control group
Chancellor, Joseph; Layous, Kristin; Lyubomirsky, Sonja (2015) Recalling positive events at work makes employees feel happier, move more, but interact less: A 6-week randomized controlled	- Study does not provide data that is usable

Study	Code [Reason]
intervention at a Japanese workplace. <i>Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being</i> 16(4): 871-887	
Chapleau, Ann, Seroczynski, A D, Meyers, Susan et al. (2011) Occupational therapy consultation for case managers in community mental health: exploring strategies to improve job satisfaction and self-efficacy. <i>Professional case management</i> 16(2): 71-9	- Study does not have a control group
Chen, Yu, Yang, Xueling, Wang, Liyuan et al. (2013) A randomized controlled trial of the effects of brief mindfulness meditation on anxiety symptoms and systolic blood pressure in Chinese nursing students. <i>Nurse Education Today</i> 33(10): 1166	- Study population were not employed
Cheng, C; Kogan, A; Chio, JH-M (2012) The effectiveness of a new, coping flexibility intervention as compared with a cognitive-behavioural intervention in managing work stress. <i>Work and stress</i> 26(3): 272-288	- Study intervention has no employer involvement
Cheng, Sheung-Tak; Tsui, Pui Ki; Lam, John H M (2015) Improving mental health in health care practitioners: randomized controlled trial of a gratitude intervention. <i>Journal of consulting and clinical psychology</i> 83(1): 177-86	- Study does not provide data that is usable
Chesak, Sherry S, Morin, Karen H, Cutshall, Susanne et al. (2019) Stress Management and Resiliency Training in a Nurse Residency Program: Findings From Participant Focus Groups. <i>Journal for nurses in professional development</i> 35(6): 337-343	- Qualitative study outside of UK
Cheshire, Anna Hughes, John Lewith, George Panagioti, Maria Peters, David Simon, Chantal Ridge, Damien (2017) GPs' perceptions of resilience training: a qualitative study. <i>BRITISH JOURNAL OF GENERAL PRACTICE</i> 67(663): e709-e715	- Study population did not receive an intervention; Study sought views on an intervention more generally
Cheung, Elaine O, Barsuk, Jeffrey H, Mitra, Debi et al. (2020) Preliminary Efficacy of a Brief Mindfulness Intervention for Procedural Stress in Medical Intern Simulated Performance: A Randomized Controlled Pilot Trial. <i>Journal of alternative and complementary medicine (New York, N.Y.)</i> 26(4): 282-290	- Study used an active control group
Chitra, T and Karunanidhi, S (2018) The Impact of Resilience Training on Occupational Stress, Resilience, Job Satisfaction, and Psychological Well-being of Female Police Officers. <i>Journal of Police and Criminal Psychology</i> : 1-16	- Study population was selected
Christensen, Jeanette Refstrup, Overgaard, Kristian, Hansen, Klaus et al. (2013) Effects on presenteeism and absenteeism from a 1-year workplace randomized controlled trial among health care workers. <i>Journal of occupational and environmental medicine</i> 55(10): 1186-90	- Study population was selected
Christopher, Michael S, Hunsinger, Matthew, Goerling, Lt Richard J et al. (2018) Mindfulness-based resilience training to reduce health risk, stress reactivity, and aggression among law enforcement officers: A feasibility and preliminary efficacy trial. <i>Psychiatry research</i> 264: 104-115	- Primary outcome of the study is not mental wellbeing

Study	Code [Reason]
Cieslak, Roman, Benight, Charles C, Rogala, Anna et al. (2016) Effects of Internet-Based Self-Efficacy Intervention on Secondary Traumatic Stress and Secondary Posttraumatic Growth among Health and Human Services Professionals Exposed to Indirect Trauma. <i>Frontiers in psychology</i> 7: 1009	- Study population was selected
Cifre, Eva; Salanova, Marisa; Rodriguez-Sanchez Alma, M (2011) Dancing between theory and practice: enhancing work engagement through work stress intervention. <i>Human factors and ergonomics in manufacturing & service industries</i> 21(3): 269-286	- Non-randomised study
Clark, Matthew M. Soyring, Jason E. Jenkins, Sarah M. Daniels, Denise C. Berkland, Bridget E. Werneburg, Brooke L. Hagen, Philip T. Lopez-Jimenez, Francisco Warren, Beth A. Olsen, Kerry D. (2014) The Integration of Studio Cycling into a Worksite Stress Management Programme. <i>STRESS AND HEALTH</i> 30(2): 166-176	- Study does not have a control group
Coban, Aysel Esen Hamamci, Zeynep (2009) The Comparison of the Effects of a Didactic Stress Management Program and Group Counselling on the Coping Strategies of School Counsellors. <i>AUSTRALIAN JOURNAL OF GUIDANCE AND COUNSELLING</i> 19(1): 71-87	- Primary outcome of the study is not mental wellbeing
Coelhoso, Cassia Canha, Tobo, Patricia Renovato, Lacerda, Shirley Silva et al. (2019) A New Mental Health Mobile App for Well-Being and Stress Reduction in Working Women: Randomized Controlled Trial. <i>Journal of medical Internet research</i> 21(11): e14269	- Study used an active control group
Cohen-Katz, J, Wiley, SD, Capuano, T et al. (2004) The effects of mindfulness-based stress reduction on nurse stress and burnout: a quantitative and qualitative study. <i>Holistic nursing practice</i> 18(6): 302-308	- Qualitative study outside of UK
Cohen-Katz, Joanne Wiley, Susan Capuano, Terry Baker, Debra M Deitrick, Lynn Shapiro, Shauna (2005) The effects of mindfulness-based stress reduction on nurse stress and burnout: a qualitative and quantitative study, part III. <i>Holistic nursing practice</i> 19(2): 78-86	- Study conducted before 2007
Cohen-Katz, Joanne Wiley, Susan D Capuano, Terry Baker, Debra M Kimmel, Sharon Shapiro, Shauna (2005) The effects of mindfulness-based stress reduction on nurse stress and burnout, Part II: A quantitative and qualitative study. <i>Holistic nursing practice</i> 19(1): 26-35	- Study conducted before 2007
Colgan, Dana Dharmakaya, Christopher, Michael, Bowen, Sarah et al. (2019) Mindfulness-based Wellness and Resilience intervention among interdisciplinary primary care teams: a mixed-methods feasibility and acceptability trial. <i>Primary health care research & development</i> 20: e91	- Primary outcome of the study is not mental wellbeing
Conde, NC, Román, JC, Alfonso, JS et al. (2010) Effectiveness of a nurse cognitive behavioral intervention to reduce stress on the health professionals in emergency extra hospital devices of SUMMA 112. <i>Nure investigaci</i> : 29p	- Full-text is not in English

Study	Code [Reason]
Congiusta, S., Ascher, E.M., Ahn, S. et al. (2019) The Use of Online Physician Training Can Improve Patient Experience and Physician Burnout. <i>American journal of medical quality : the official journal of the American College of Medical Quality</i> : 1062860619869833	- Study does not provide data that is usable
Coo, Cristian and Salanova, Marisa (2018) Mindfulness can make you happy-and-productive: A Mindfulness controlled trial and its effects on happiness, work engagement and performance. <i>Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being</i> 19(6): 1691-1711	- Non-randomised study
Cook, Clayton R, Miller, Faith G, Fiat, Aria et al. (2017) Promoting secondary teachers' well-being and intentions to implement evidence-based practices: Randomized evaluation of the achiever resilience curriculum. <i>Psychology in the Schools</i> 54(1): 13-28	- Study used an active control group
Cook, Royer F, Billings, Douglas W, Hersch, Rebekah K et al. (2007) A field test of a web-based workplace health promotion program to improve dietary practices, reduce stress, and increase physical activity: randomized controlled trial. <i>Journal of medical Internet research</i> 9(2): e17	- Study used an active control group
Cook, Royer F, Hersch, Rebekah K, Schlossberg, Dana et al. (2015) A Web-based health promotion program for older workers: randomized controlled trial. <i>Journal of medical Internet research</i> 17(3): e82	- Study population was selected
Craig, Ashley and Hancock, Karen (1996) The influence of a healthy lifestyle program in a work environment: a controlled long term study. <i>Journal of Occupational Health and Safety, Australia and New Zealand</i> 12(2): 193	- Non-randomised study
Crain, Tori L, Hammer, Leslie B, Bodner, Todd et al. (2019) Sustaining sleep: Results from the randomized controlled work, family, and health study. <i>Journal of occupational health psychology</i> 24(1): 180-197	- Study intervention was organisational in nature
Crawford, Gemma, Burns, Sharyn K, Chih, Hui Jun et al. (2015) Mental health first aid training for nursing students: A protocol for a pragmatic randomised controlled trial in a large university. <i>BMC Psychiatry</i> 15	- Study protocol
Cristancho-Lacroix, Victoria, Wrobel, Jeremy, Cantegreil-Kallen, Inge et al. (2015) A web-based psychoeducational program for informal caregivers of patients with Alzheimer's disease: a pilot randomized controlled trial. <i>Journal of medical Internet research</i> 17(5): e117	- Study population were not employed
Da, Shu; He, Yue; Zhang, Xichao (2020) Effectiveness of Psychological Capital Intervention and Its Influence on Work-Related Attitudes: Daily Online Self-Learning Method and Randomized Controlled Trial Design. <i>International journal of environmental research and public health</i> 17(23)	- Study intervention has no employer involvement
Das, Sai Krupa Mason, Shawn T. Vail, Taylor A. Blanchard, Caroline M. Chin, Meghan K. Rogers, Gail T. Livingston, Kara A. Turgiss, Jennifer L. (2020) Sustained Long-Term Effectiveness of an	- Study does not provide data that is usable

Study	Code [Reason]
Energy Management Training Course on Employee Vitality and Purpose in Life. AMERICAN JOURNAL OF HEALTH PROMOTION 34(2): 177-188	
Davidson, RJ Kabat-Zinn, J Schumacher, J Rosenkranz, M Muller, D Santorelli, SF Urbanowski, F Harrington, A Bonus, K Sheridan, JF (2003) Alterations in brain and immune function produced by mindfulness meditation. PSYCHOSOMATIC MEDICINE 65(4): 564-570	- Study conducted before 2007
De Haan, Erik Gray, David E. Bonneywell, Sally (2019) EXECUTIVE COACHING OUTCOME RESEARCH IN A FIELD SETTING: A NEAR-RANDOMIZED CONTROLLED TRIAL STUDY IN A GLOBAL HEALTHCARE CORPORATION. ACADEMY OF MANAGEMENT LEARNING & EDUCATION 18(4): 581-605	- Non-randomised study
de Jong, G M Emmelkamp, P M (2000) Implementing a stress management training: comparative trainer effectiveness. Journal of occupational health psychology 5(2): 309-20	- Study conducted before 2007
de Korte, Elsbeth Marieke, Wiezer, Noortje, Janssen, Joris H et al. (2018) Evaluating an mHealth App for Health and Well-Being at Work: Mixed-Method Qualitative Study. JMIR mHealth and uHealth 6(3): e72	- Qualitative study outside of UK
De Vibe, M, Solhaug, I, Rosenvinge, JH et al. (2018) Six-year positive effects of a mindfulness-based intervention on mindfulness, coping and well-being in medical and psychology students; Results from a randomized controlled trial. Plos one 13(4)(no pagination)	- Study population were not employed
de Vibe, Michael Solhaug, Ida Tyssen, Reidar Friberg, Oddgeir Rosenvinge, Jan H. Sorlie, Tore Bjorndal, Arild (2013) Mindfulness training for stress management: a randomised controlled study of medical and psychology students. BMC MEDICAL EDUCATION 13	- Study population were students
de Zeeuw, Eveline LEJ, Tak, Erwin CPM, Dusseldorp, Elise et al. (2010) Workplace exercise intervention to prevent depression: a pilot randomized controlled trial. Mental Health and Physical Activity 3(2): 72-77	- Intervention was targeted
Deady, Mark, Glozier, Nicholas, Calvo, Rafael et al. (2020) Preventing depression using a smartphone app: a randomized controlled trial. Psychological medicine: 1-10	- Study used an active control group
Deady, Mark, Glozier, Nicholas, Collins, Daniel et al. (2020) The Utility of a Mental Health App in Apprentice Workers: A Pilot Study. Frontiers in public health 8: 389	- Study does not have a control group
Deady, Mark, Johnston, David A, Glozier, Nick et al. (2018) Smartphone application for preventing depression: study protocol for a workplace randomised controlled trial. BMJ open 8(7): e020510	- Study used an active control group
Deforche, Benedicte, Mommen, Jasmine, Hublet, Anne et al. (2018) Evaluation of a Brief Intervention for Promoting Mental Health among Employees in Social Enterprises: A Cluster Randomized Controlled Trial. International journal of environmental research and public health 15(10)	- Study does not provide data that is usable

Study	Code [Reason]
Deitz, Diane, Cook, Royer F, Hersch, Rebekah K et al. (2014) Heart healthy online: an innovative approach to risk reduction in the workplace. <i>Journal of occupational and environmental medicine</i> 56(5): 547-53	- Study does not provide data that is usable
Delaney, Martin C (2018) Caring for the caregivers: Evaluation of the effect of an eight-week pilot mindful self-compassion (MSC) training program on nurses' compassion fatigue and resilience. <i>PLoS one</i> 13(11): e0207261	- Study does not have a control group
Diaz-Rodriguez, Lourdes, Arroyo-Morales, Manuel, Cantarero-Villanueva, Irene et al. (2011) The application of Reiki in nurses diagnosed with Burnout Syndrome has beneficial effects on concentration of salivary IgA and blood pressure. <i>Revista latino-americana de enfermagem</i> 19(5): 1132-8	- Study population had a clinical diagnosis
Diaz-Silveira, Cintia, Alcover, Carlos-Maria, Burgos, Francisco et al. (2020) Mindfulness versus Physical Exercise: Effects of Two Recovery Strategies on Mental Health, Stress and Immunoglobulin A during Lunch Breaks. A Randomized Controlled Trial. <i>International journal of environmental research and public health</i> 17(8)	- Study population was selected
Dincer, B. and Inangil, D. (2020) Emotional freedom techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial. <i>Explore</i>	- Duplicate article
Dobson, Keith S, Markova, Veronika, Wen, Alainna et al. (2020) Effects of the Anti-stigma Workplace Intervention "Working Mind" in a Canadian Health-Care Setting: A Cluster-Randomized Trial of Immediate Versus Delayed Implementation: Effets d'une intervention en milieu de travail anti-stigmatisés, l'Esprit au travail, dans un milieu canadien de soins de santé: un essai randomisé en grappes d'une mise en oeuvre immédiate plutôt que reportée. <i>Canadian journal of psychiatry. Revue canadienne de psychiatrie</i> : 706743720961738	- Primary outcome of the study is not mental wellbeing
Doyle, Michael, Kelly, Des, Clarke, Steve et al. (2007) Burnout: the impact of psychosocial interventions training. <i>Mental Health Practice</i> 10(7)	- Study does not provide data that is usable
Doyle, Sebrina L. Brown, Joshua L. Rasheed, Damira Jones, Damon E. Jennings, Patricia A. (2019) Cost Analysis of Ingredients for Successful Implementation of a Mindfulness-Based Professional Development Program for Teachers. <i>MINDFULNESS</i> 10(1): 122-130	- Study does not provide data that is usable
Duchemin, Anne-Marie, Steinberg, Beth A, Marks, Donald R et al. (2015) A small randomized pilot study of a workplace mindfulness-based intervention for surgical intensive care unit personnel: effects on salivary alpha-amylase levels. <i>Journal of occupational and environmental medicine</i> 57(4): 393-9	- Study does not provide data that is usable
Duggan, Karen and Julliard, Kell (2018) Implementation of a Mindfulness Moment Initiative for Healthcare Professionals: Perceptions of Facilitators. <i>Explore (New York, N.Y.)</i> 14(1): 44-58	- Qualitative study outside of UK

Study	Code [Reason]
Dunne, Padraic J, Lynch, Julie, Prihodova, Lucia et al. (2019) Burnout in the emergency department: Randomized controlled trial of an attention-based training program. <i>Journal of integrative medicine</i> 17(3): 173-180	- Study does not provide data that is usable
Dyer, Natalie L, Borden, Sara, Dusek, Jeffery A et al. (2020) A Pragmatic Controlled Trial of a Brief Yoga and Mindfulness-Based Program for Psychological and Occupational Health in Education Professionals. <i>Complementary therapies in medicine</i> 52: 102470	- Non-randomised study
Dyrbye, Liselotte N, Shanafelt, Tait D, Werner, Ling Sood, Amit Satele, Daniel Wolanskyj, Alexandra P. (2017) The Impact of a Required Longitudinal Stress Management and Resilience Training Course for First-Year Medical Students. <i>JOURNAL OF GENERAL INTERNAL MEDICINE</i> 32(12): 1309-1314	- Non-randomised study
Eisen, Katherine Pollak, Allen, George J., Bollash, Mary et al. (2008) Stress management in the workplace: A comparison of a computer-based and an in-person stress-management intervention. <i>Computers in Human Behavior</i> 24(2): 486-496	- Study does not provide data that is usable
Eklund, C., Elfstrom, M.L., Eriksson, Y. et al. (2019) User experiences from a web-based, self-management programme: struggling with what I need when stress management is about me. <i>European Journal of Physiotherapy</i> 21(1): 39-48	- Qualitative study outside of UK
Eriksson, Terese, Germundsjo, Linnea, Astrom, Elisabeth et al. (2018) Mindful self-compassion training reduces stress and burnout symptoms among practicing psychologists: A randomized controlled trial of a brief web-based intervention. <i>Frontiers in Psychology</i> 9	- Study intervention has no employer involvement
Errazuriz, Antonia, Schmidt, Kristin, Undurraga, Eduardo A et al. (2020) Effects of mindfulness-based stress reduction on psychological distress in health workers: A three-arm parallel randomized controlled trial. <i>Journal of psychiatric research</i>	- Study does not provide data that is usable
Ewers, P, Bradshaw, T, McGovern, J et al. (2002) Does training in psychosocial interventions reduce burnout rates in forensic nurses?. <i>Journal of advanced nursing</i> 37(5): 470-476	- Study does not provide data that is usable
Fabbro, Anastasia Fabbro, Franco Capurso, Viviana D'Antoni, Fabio Crescentini, Cristiano (2020) Effects of Mindfulness Training on School Teachers' Self-Reported Personality Traits As Well As Stress and Burnout Levels. <i>PERCEPTUAL AND MOTOR SKILLS</i> 127(3): 515-532	- Non-randomised study
Fei, Yang (2019) Effects of emotional resilience training on nurses' perceived stress, positive and negative emotions and sleep quality. <i>Revista Argentina de Clinica Psicologica</i> 28(2): 199-209	- Full-text is not in English
Fernandes, Luisa Peixoto, Francisco Gouveia, Maria Joao Silva, Jose Castro Wosnitza, Marold (2019) Fostering teachers' resilience and well-being through professional learning: effects from a training programme. <i>AUSTRALIAN EDUCATIONAL RESEARCHER</i> 46(4): 681-698	- Non-randomised study

Study	Code [Reason]
Fiedler, Silja, Pfaff, Holger, Petrowski, Katja et al. (2019) Effects of a Classroom Training Program for Promoting Health Literacy Among IT Managers in the Workplace: A Randomized Controlled Trial. <i>Journal of occupational and environmental medicine</i> 61(1): 51-60	- Study intervention was concerned with manager training
Field, T, Quintino, O, Henteleff, T et al. (1997) Job stress reduction therapies. <i>Alternative therapies in health and medicine</i> 3(4): 54-56	- Study used an active control group
Figl-Hertlein, A, Horsak, B, Dean, E et al. (2014) A physiotherapy-directed occupational health programme for Austrian school teachers: a cluster randomised pilot study. <i>Physiotherapy</i> 100(1): 20-6	- Study does not provide data that is usable
Fillion, Lise, Duval, Stephane, Dumont, Serge et al. (2009) Impact of a meaning-centered intervention on job satisfaction and on quality of life among palliative care nurses. <i>Psycho-oncology</i> 18(12): 1300-10	- Unclear if employers were involved in the intervention
Finseth, Tor T, Keren, Nir, Dorneich, Michael C et al. (2018) Evaluating the effectiveness of graduated stress exposure in virtual spaceflight hazard training. <i>Journal of Cognitive Engineering and Decision Making</i> 12(4): 248-268	- Study population were not employed
Flarity, Kathleen, Nash, Kim, Jones, Whitney et al. (2016) Intervening to Improve Compassion Fatigue Resiliency in Forensic Nurses. <i>Advanced emergency nursing journal</i> 38(2): 147-56	- Study does not have a control group
Flook, Lisa, Goldberg, Simon B, Pinger, Laura et al. (2013) "Mindfulness for teachers: A pilot study to assess effects on stress, burnout, and teaching efficacy": Corrigendum. <i>Mind, Brain, and Education</i> 7(4): 256	- Publication type excluded
Fontes, Andrea Dello Russo, Silvia (2020) An Experimental Field Study on the Effects of Coaching: The Mediating Role of Psychological Capital. <i>APPLIED PSYCHOLOGY-AN INTERNATIONAL REVIEW-PSYCHOLOGIE APPLIQUEE-REVUE INTERNATIONALE</i>	- Study does not provide data that is usable
Forbes, Malcolm, Byrom, Lisa, van der Steenstraten, Ira et al. (2019) Resilience on the Run - an evaluation of a wellbeing program for medical interns. <i>Internal medicine journal</i>	- Study does not provide data that is usable
Forbes, Malcolm, Byrom, Lisa, van der Steenstraten, Ira et al. (2020) Resilience on the Run: an evaluation of a well-being programme for medical interns. <i>Internal medicine journal</i> 50(1): 92-99	- Study does not provide data that is usable
Fortney, W.D. (2012) Implementing a Successful Senior/Geriatric Health Care Program for Veterinarians, Veterinary Technicians, and Office Managers. <i>Veterinary Clinics of North America - Small Animal Practice</i> 42(4): 823-834	- Study is not focused on employees
Foster, Kim; Cuzzillo, Celeste; Furness, Trentham (2018) Strengthening mental health nurses' resilience through a workplace resilience programme: A qualitative inquiry. <i>Journal of psychiatric and mental health nursing</i> 25(56): 338-348	- Qualitative study outside of UK

Study	Code [Reason]
Francis, M E Pennebaker, J W (1992) Putting stress into words: the impact of writing on physiological, absentee, and self-reported emotional well-being measures. <i>American journal of health promotion : AJHP</i> 6(4): 280-7	- Study conducted before 2007
Franco Justo, Clemente (2010) Reducing stress levels and anxiety in primary-care physicians through training and practice of a mindfulness meditation technique. <i>ATENCION PRIMARIA</i> 42(11): 564-570	- Full-text is not in English
Frank, Jennifer L. Reibel, Diane Broderick, Patricia Cantrell, Todd Metz, Stacie (2015) The Effectiveness of Mindfulness-Based Stress Reduction on Educator Stress and Well-Being: Results from a Pilot Study. <i>MINDFULNESS</i> 6(2): 208-216	- Non-randomised study
Freedenberg, Vicki A, Jiang, JiJi, Cheatham, Carla A et al. (2020) Mindful Mentors: Is a Longitudinal Mind-Body Skills Training Pilot Program Feasible for Pediatric Cardiology Staff?. <i>Global advances in health and medicine</i> 9: 2164956120959272	- Study does not have a control group
Frogeli, E., Rudman, A., Ljotsson, B. et al. (2020) Preventing Stress-Related Ill Health Among New Registered Nurses by Supporting Engagement in Proactive Behaviors-A Randomized Controlled Trial. <i>Worldviews on evidence-based nursing</i> 17(3): 202-212	- Study does not provide data that is usable
Fujita, Junko, Fukui, Sakiko, Ikezaki, Sumie et al. (2019) Evaluation of the elements of interprofessional education for end-of-life care among homecare nurses, care managers, and head care workers: A cluster-randomized controlled trial. <i>Journal of interprofessional care</i> : 1-8	- Primary outcome of the study is not mental wellbeing
Fukui, Sakiko, Fujita, Junko, Ikezaki, Sumie et al. (2019) Effect of a multidisciplinary end-of-life educational intervention on health and social care professionals: A cluster randomized controlled trial. <i>PloS one</i> 14(8): e0219589	- Primary outcome of the study is not mental wellbeing
Garcia de Lucio, L, Garcia Lopez, FJ, Marin Lopez, MT et al. (2000) Training programme in techniques of self-control and communication skills to improve nurses' relationships with relatives of seriously ill patients: a randomized controlled study. <i>Journal of advanced nursing</i> 32(2): 425-431	- Study does not provide data that is usable
Gardner, Brenda, Rose, John, Mason, Oliver et al. (2013) Cognitive Therapy and Behavioural Coping in the Management of Work-Related Stress: An Intervention Study.: 473-88	- Study conducted before 2007
Garner, Pamela W. Bender, Stacy L. Fedor, Megan (2018) Mindfulness-based SEL programming to increase preservice teachers' mindfulness and emotional competence. <i>PSYCHOLOGY IN THE SCHOOLS</i> 55(4): 377-390	- Primary outcome of the study is not mental wellbeing
Gaupp, Rainer, Walter, Marc, Bader, Klaus et al. (2020) A Two-Day Acceptance and Commitment Therapy (ACT) Workshop Increases Presence and Work Functioning in Healthcare Workers. <i>Frontiers in psychiatry</i> 11: 861	- Non-randomised study

Study	Code [Reason]
Gawlik, Kate Guo, Jinghong Tan, Alai Overcash, Janine (2021) Incorporating a Microlearning Wellness Intervention Into Nursing Student Curricula. <i>NURSE EDUCATOR</i> 46(1): 49-53	- Study used an active control group
Geary, C. and Rosenthal, S.L. (2011) Sustained impact of MBSR on stress, well-being, and daily spiritual experiences for 1 Year in academic health care employees. <i>Journal of Alternative and Complementary Medicine</i> 17(10): 939-944	- Non-randomised study
Ghawadra, SF, Lim Abdullah, K, Choo, WY et al. (2020) The effect of mindfulness?based training on stress, anxiety, depression and job satisfaction among ward nurses: a randomized control trial. <i>Journal of nursing management (john wiley & sons, inc.)</i> 28(5): 1088-1097	- Study conducted in a non-OECD / BRICS country
Ghods, AA, Sotodehasl, N, Khalaf, ME et al. (2017) Effects of lavender essential oil inhalation on nurses? job stress. <i>Koomesh</i> 19(2): 421-428	- Full-text is not in English
Girgis, Afaf, Cockburn, Jill, Butow, Phyllis et al. (2009) Improving patient emotional functioning and psychological morbidity: Evaluation of a consultation skills training program for oncologists. <i>Patient Education and Counseling</i> 77(3): 456-462	- Study population were not employed
Glass, Nancy, Hanson, Ginger C, Anger, W Kent et al. (2017) Computer-based training (CBT) intervention reduces workplace violence and harassment for homecare workers. <i>American journal of industrial medicine</i> 60(7): 635-643	- Study does not provide data that is usable
Gouda, Sarah, Luong, Minh T, Schmidt, Stefan et al. (2016) Students and teachers benefit from mindfulness-based stress reduction in a school-embedded pilot study. <i>Frontiers in Psychology</i> 7	- Non-randomised study
Granath, Jens Ingvarsson, Sara von Thiele, Ulrica Lundberg, Ulf (2006) Stress management: A randomized study of cognitive behavioural therapy and yoga. <i>Cognitive Behaviour Therapy</i> 35(1): 3-10	- Study conducted before 2007
Grant, Anthony M.; Curtayne, Linley; Burton, Geraldine (2009) Executive coaching enhances goal attainment, resilience and workplace well-being: a randomised controlled study. <i>The Journal of Positive Psychology</i> 4(5): 396-407	- Study population was selected
Graziano, Federica, Calandri, Emanuela, Borghi, Martina et al. (2014) The effects of a group-based cognitive behavioral therapy on people with multiple sclerosis: a randomized controlled trial. <i>Clinical Rehabilitation</i> 28(3): 264-274	- Study used an active control group
Gregoire, Simon and Lachance, Lise (2015) Evaluation of a brief mindfulness-based intervention to reduce psychological distress in the workplace. <i>Mindfulness</i> 6(4): 836-847	- Non-randomised study
Gregory, Amber (2015) Yoga and mindfulness program: The effects on compassion fatigue and compassion satisfaction in social workers. <i>Journal of Religion & Spirituality in Social Work: Social Thought</i> 34(4): 372-393	- Non-randomised study

Study	Code [Reason]
Gunusen, N.P. and Ustun, B. (2010) An RCT of coping and support groups to reduce burnout among nurses. <i>International Nursing Review</i> 57(4): 485-492	- Study population was selected
Guo, Y.-F., Plummer, V., Cross, W. et al. (2020) Impact of WeChat-based 'three good things' on turnover intention and coping style in burnout nurses. <i>Journal of nursing management</i> 28(7): 1570-1577	- Primary outcome of the study is not mental wellbeing
Gupta, Nidhi, Wahlin-Jacobsen, Christian Dyrlund, Abildgaard, Johan Simonsen et al. (2018) Effectiveness of a participatory physical and psychosocial intervention to balance the demands and resources of industrial workers: A cluster-randomized controlled trial. <i>Scandinavian journal of work, environment & health</i> 44(1): 58-68	- Study intervention was organisational in nature
Gur, Ganime Can Yilmaz, Emine (2020) The effects of mindfulness-based empathy training on empathy and aged discrimination in nursing students: A randomised controlled trial. <i>COMPLEMENTARY THERAPIES IN CLINICAL PRACTICE</i> 39	- Primary outcome of the study is not mental wellbeing
Hamilton-West, Kate; Pellatt-Higgins, Tracy; Pillai, Neil (2018) Does a modified mindfulness-based cognitive therapy (MBCT) course have the potential to reduce stress and burnout in NHS GPs? Feasibility study. <i>Primary health care research & development</i> 19(6): 591-597	- Study does not have a control group
Han, A. and Kim, T.H. (2020) A Quasi-experimental Study Measuring the Effectiveness of Two Empathy Enhancement Programs on Caregivers Working with Older Adults Living Alone. <i>Clinical gerontologist</i> : 1-10	- Non-randomised study
Hartung, D. and Hahlweg, K. (2011) Stress reduction at the work-family interface: Positive parenting and self-efficacy as mechanisms of change in workplace Triple P. <i>Behavior Modification</i> 35(1): 54-77	- Study population was selected
Hayes, SC Bissett, R Roget, N Padilla, M Kohlenberg, BS Fisher, G Masuda, A Pistorello, J Rye, AK Berry, K Niccolls, R (2004) The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors. <i>BEHAVIOR THERAPY</i> 35(4): 821-835	- Study conducted before 2007
HEAMAN, D (1995) THE QUIETING RESPONSE (QR) - A MODALITY FOR REDUCTION OF PSYCHOPHYSIOLOGICAL STRESS IN NURSING-STUDENTS. <i>JOURNAL OF NURSING EDUCATION</i> 34(1): 5-10	- Study conducted before 2007
Hersoug, Anne Grete; Waersted, Morten; Lau, Bjorn (2018) Nondirective meditation used in stress management. <i>Nordic Psychology</i> 70(4): 290-303	- Non-randomised study
Heydari, Abbas; Meshkinyazd, Ali; Soudmand, Parvaneh (2017) The Effect of Spiritual Intelligence Training on Job Satisfaction of Psychiatric Nurses. <i>Iranian journal of psychiatry</i> 12(2): 128-133	- Study used an active control group

Study	Code [Reason]
Hirsch, Abigail, Luellen, Jason, Holder, Jared M et al. (2017) Managing Depressive Symptoms in the Workplace Using a Web-Based Self-Care Tool: A Pilot Randomized Controlled Trial. JMIR research protocols 6(4): e51	- Study used an active control group
Hopkins, Annie and Proeve, Michael (2013) Teaching mindfulness-based cognitive therapy to trainee psychologists: Qualitative and quantitative effects. Counselling Psychology Quarterly 26(2): 115-130	- Study does not have a control group
Hopman, Juliette A. B., van Lier, Pol A. C., van der Ende, Jan et al. (2018) Impact of the Good Behavior Game on special education teachers. Teachers and Teaching 24(4): 350-368	- Study intervention was CPD training
Horan, AP (2002) An effective workplace stress management intervention: Chicken Soup for the Soul at Work Employee Groups. Work (Reading, Mass.) 18(1): 3-13	- Study does not provide data that is usable
Hornik-Lurie, Tzipi, Shalev, Anat, Haknazar, Lior et al. (2018) Implementing recovery-oriented interventions with staff in a psychiatric hospital: A mixed-methods study. Journal of psychiatric and mental health nursing 25(910): 569-581	- Non-randomised study
Hoysted, Claire; Jobson, Laura; Alisic, Eva (2019) A pilot randomized controlled trial evaluating a web-based training program on pediatric medical traumatic stress and trauma-informed care for emergency department staff. Psychological services 16(1): 38-47	- Primary outcome of the study is not mental wellbeing
Huang, Lin and Capdevila, Lluís (2017) Aromatherapy Improves Work Performance Through Balancing the Autonomic Nervous System. Journal of alternative and complementary medicine (New York, N.Y.) 23(3): 214-221	- Experimental study
Huang, Shu-Ling, Li, Ren-Hau, Huang, Feng-Ying et al. (2015) The Potential for Mindfulness-Based Intervention in Workplace Mental Health Promotion: Results of a Randomized Controlled Trial. PloS one 10(9): e0138089	- Study conducted in a non-OECD / BRICS country
Hue, MT Lau, NS (2015) Promoting well-being and preventing burnout in teacher education: a pilot study of a mindfulness-based programme for pre-service teachers in Hong Kong. TEACHER DEVELOPMENT 19(3): 381-401	- Non-randomised study
Hugenholtz, Nathalie I R, Schaafsma, Frederieke G, Nieuwenhuijsen, Karen et al. (2008) Effect of an EBM course in combination with case method learning sessions: an RCT on professional performance, job satisfaction, and self-efficacy of occupational physicians. International archives of occupational and environmental health 82(1): 107-115	- Study intervention was CPD training
Hulsheger, Ute R, Alberts, Hugo J E M, Feinholdt, Alina et al. (2013) Benefits of mindfulness at work: the role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. The Journal of applied psychology 98(2): 310-25	- Study intervention has no employer involvement

Study	Code [Reason]
Hunter, Louise (2016) Making time and space: The impact of mindfulness training on nursing and midwifery practice. A critical interpretative synthesis. <i>Journal of Clinical Nursing</i> 25(78): 918-929	- Systematic review included non-uk qualitative studies
Innstrand, ST Espnes, GA Mykletun, R (2004) Job stress, burnout and job satisfaction: An intervention study for staff working with people with intellectual disabilities. <i>JOURNAL OF APPLIED RESEARCH IN INTELLECTUAL DISABILITIES</i> 17(2): 119-126	- Study conducted before 2007
Irmak, A.; Bumin, G.; Irmak, R. (2012) The effects of exercise reminder software program on office workers' perceived pain level, work performance and quality of life. <i>Work (Reading, Mass.)</i> 41suppl1: 5692-5695	- Primary outcome of the study is not mental wellbeing
Irving, Julie Anne (2011) Mindfulness-based medical practice: a mixed-methods investigation of an adapted mindfulness-based stress reduction program for health care professionals. Department of Educational and Counselling Psychology	- Publication type excluded
Irving, Julie Anne (2013) Mindfulness-based medical practice: A mixed-methods investigation of an adapted mindfulness-based stress reduction program for health care professionals. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> 73(12be): no-specified	- Publication type excluded
Irving, Julie Anne, Park-Saltzman, Jeeseon, Fitzpatrick, Marilyn et al. (2014) Experiences of health care professionals enrolled in mindfulness-based medical practice: A grounded theory model. <i>Mindfulness</i> 5(1): 60-71	- Qualitative study outside of UK
Italia, Simona, Favara-Scacco, Cinzia, Di Cataldo, Andrea et al. (2008) Evaluation and art therapy treatment of the burnout syndrome in oncology units. <i>Psycho-oncology</i> 17(7): 676-80	- Study does not have a control group
Jaworska-Burzynska, Lilianna, Sekulowicz, Malgorzata, Cieslik, Blazej et al. (2017) The role of massage in reducing the risk of burnout in employees of large corporations. <i>Complementary therapies in clinical practice</i> 29: 185-188	- Study does not provide data that is usable
Jellie, Bronwyn, Sweetland, Joanna, Riazi, Afsane et al. (2014) Staying at work and living with MS: a qualitative study of the impact of a vocational rehabilitation intervention. <i>Disability and rehabilitation</i> 36(19): 1594-9	- Study population was selected
Jennings, Patricia A, Frank, Jennifer L, Snowberg, Karin E et al. (2013) Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): results of a randomized controlled trial. <i>School psychology quarterly : the official journal of the Division of School Psychology, American Psychological Association</i> 28(4): 374-390	- Study does not provide data that is usable
Jiang, Shu-Qiang and Zhang, Jian-Ling (2015) Observation of influences of mental health promotion and mental intervention on mental health status of professionals. <i>International journal of clinical and experimental medicine</i> 8(5): 8158-62	- Study intervention has no employer involvement

Study	Code [Reason]
Johansson, N (1991) Effectiveness of a stress management program in reducing anxiety and depression in nursing students. <i>Journal of American college health : J of ACH</i> 40(3): 125-9	- Study conducted before 2007
Johnson, Sharon and Naidoo, Anthony (2017) Can evolutionary insights into the brain's response to threat suggest different group interventions for perceived stress and burnout of teachers in high-risk schools?. <i>South African Journal of Psychology</i> 47(3): 401-415	- Non-randomised study
Jones, Lani V and Warner, Lynn A (2011) Evaluating culturally responsive group work with Black women. <i>Research on Social Work Practice</i> 21(6): 737-746	- Study population were not employed
Josefina Pelaez, Maria Co, Cristian Salanova, Marisa (2020) Facilitating Work Engagement and Performance Through Strengths-Based Micro-coaching: A Controlled Trial Study. <i>JOURNAL OF HAPPINESS STUDIES</i> 21(4): 1265-1284	- Non-randomised study
Junge, M.N., Lehr, D., Bockting, C.L.H. et al. (2015) For whom are internet-based occupational mental health interventions effective? Moderators of internet-based problem-solving training outcome. <i>Internet Interventions</i> 2(1): 39-47	- Study population was selected
Jungert, Tomas, Van den Broeck, Anja, Schreurs, Bert et al. (2018) How colleagues can support each other's needs and motivation: An intervention on employee work motivation. <i>Applied Psychology: An International Review</i> 67(1): 3-29	- Primary outcome of the study is not mental wellbeing
Kaku, Akiko, Nishinoue, Nao, Takano, Tomoki et al. (2012) Randomized controlled trial on the effects of a combined sleep hygiene education and behavioral approach program on sleep quality in workers with insomnia. <i>Industrial health</i> 50(1): 52-9	- Study population was selected
Kalvemark Sporrang, Sofia, Arnetz, Bengt, Hansson, Mats G et al. (2007) Developing ethical competence in health care organizations. <i>Nursing ethics</i> 14(6): 825-37	- Primary outcome of the study is not mental wellbeing
Kaplan, J., Bergman, A.L., Green, K. et al. (2020) Relative Impact of Mindfulness, Self-Compassion, and Psychological Flexibility on Alcohol Use and Burnout among Law Enforcement Officers. <i>Journal of Alternative and Complementary Medicine</i> 26(12): 1190-1194	- Study does not have a control group
Kaplan, Joshua Benjamin, Bergman, Aaron L, Christopher, Michael et al. (2017) Role of resilience in mindfulness training for first responders. <i>Mindfulness</i> 8(5): 1373-1380	- Study does not have a control group
Kaplan, Seth, Bradley-Geist, Jill C, Ahmad, Afra et al. (2014) A test of two positive psychology interventions to increase employee well-being. <i>Journal of Business and Psychology</i> 29(3): 367-380	- Study does not have a control group
Karbakhsh Ravari, Azam, Farokhzadian, Jamileh, Nematollahi, Monirsadat et al. (2020) The Effectiveness of a Time Management Workshop on Job Stress of Nurses Working in Emergency Departments: An Experimental Study. <i>Journal of emergency nursing</i> 46(4): 548e1-548e11	- Study conducted in a non-OECD / BRICS country

Study	Code [Reason]
Karing, Constance Beelmann, Andreas (2016) Implementation and Evaluation of a Stress Prevention Program With Teacher Students. ZEITSCHRIFT FUR GESUNDHEITSPSYCHOLOGIE 24(2): 89-101	- Full-text is not in English
Kawai, Kaoru Yamazaki, Yoshihiko Nakayama, Kazuhiro (2010) Process Evaluation of a Web-based Stress Management Program to Promote Psychological Well-being in a Sample of White-collar Workers in Japan. INDUSTRIAL HEALTH 48(3): 265-274	- Study does not have a control group
Keller, S.R., Engen, D.J., Bauer, B.A. et al. (2012) Feasibility and effectiveness of massage therapy for symptom relief in cardiac catheter laboratory staff: A pilot study. Complementary Therapies in Clinical Practice 18(1): 4-9	- Non-randomised study
Kemeny, ME, Foltz, C, Cavanagh, JF et al. (2012) Contemplative/emotion training reduces negative emotional behavior and promotes prosocial responses. Emotion (Washington, D.C.) 12(2): 338-350	- Study population was selected
Kerr, Sandra L. Lucas, Lisa J. DiDomenico, Grace E. Mishra, Vipanchi Stanton, Brian J. Shivde, Geeta Pero, Alexandra N. Runyen, Madeline E. Terry, Gabriella M. (2017) Is mindfulness training useful for pre-service teachers? An exploratory investigation. TEACHING EDUCATION 28(4): 349-359	- Non-randomised study
Kersten, Maren, Vincent-Hoper, Sylvie, Krampitz, Heidi et al. (2019) Development and evaluation of a training program for dialysis nurses - an intervention study. Journal of occupational medicine and toxicology (London, England) 14: 3	- Non-randomised study
Ketelaar, Sarah M, Nieuwenhuijsen, Karen, Bolier, Linda et al. (2014) Improving work functioning and mental health of health care employees using an e-mental health approach to workers' health surveillance: pretest-posttest study. Safety and health at work 5(4): 216-21	- Non-randomised study
Ketelaar, SM, Nieuwenhuijsen, K, G?rtner, FR et al. (2013) Effect of an E-mental health approach to workers' health surveillance versus control group on work functioning of hospital employees: a cluster-RCT. PloS one 8(9): e72546	- Study intervention was organisational in nature
Khalsa, Sat Bir S, Shorter, Stephanie M, Cope, Stephen et al. (2009) Yoga ameliorates performance anxiety and mood disturbance in young professional musicians. Applied psychophysiology and biofeedback 34(4): 279-89	- Study population were not employed
Kharatzadeh, Hamid, Alavi, Mousa, Mohammadi, Abolfazl et al. (2020) Emotional regulation training for intensive and critical care nurses. Nursing and Health Sciences 22(2): 445-453	- Study conducted in a non-OECD / BRICS country
Kidger, J., Evans, R., Tilling, K. et al. (2016) Protocol for a cluster randomised controlled trial of an intervention to improve the mental health support and training available to secondary school teachers - the WISE (Wellbeing in Secondary Education) study. BMC public health 16(1): 1089	- Study protocol

Study	Code [Reason]
Kim, HJ (2012) Effect of Environmental Intervention on Sleep, Emotions and Job Satisfaction of Rotating Shift Nurses in Intensive Care Unit. <i>The journal of korean academic society of adult nursing</i> 24(1): 11-19	- Full-text is not in English
Kim, Johanna Inyang, Yun, Je-Yeon, Park, Heyeon et al. (2018) A Mobile Videoconference-Based Intervention on Stress Reduction and Resilience Enhancement in Employees: Randomized Controlled Trial. <i>Journal of medical Internet research</i> 20(10): e10760	- Study population was selected
Kinman, Gail and Grant, Louise (2017) Building Resilience in Early-Career Social Workers: Evaluating a Multi-Modal Intervention. <i>British Journal of Social Work</i> 47(7): 1979-1998	- Non-randomised study
Kinnunen, Sanna M, Puolakanaho, Anne, Tolvanen, Asko et al. (2019) Does mindfulness-, acceptance-, and value-based intervention alleviate burnout?-A person-centered approach. <i>International Journal of Stress Management</i> 26(1): 89-101	- Study population was selected
Kinser, Patricia, Braun, Sarah, Deeb, George et al. (2016) "Awareness is the first step": An interprofessional course on mindfulness & mindful-movement for healthcare professionals and students. <i>Complementary therapies in clinical practice</i> 25: 18-25	- Qualitative study outside of UK
Kirk, Beverley A. Schutte, Nicola S. Hine, Donald W. (2011) The Effect of an Expressive-Writing Intervention for Employees on Emotional Self-Efficacy, Emotional Intelligence, Affect, and Workplace Incivility. <i>JOURNAL OF APPLIED SOCIAL PSYCHOLOGY</i> 41(1): 179-195	- Study intervention has no employer involvement
Klatt, M, Steinberg, B, Marks, D et al. (2012) Changes in physiological and psychological markers of stress in hospital personnel after a low-dose mindfulness-based worksite intervention. <i>BMC Complementary and Alternative Medicine</i> 12(suppl1): o16	- Publication type excluded
Klatt, Maryanna D; Buckworth, Janet; Malarkey, William B (2009) Effects of low-dose mindfulness-based stress reduction (MBSR-Id) on working adults. <i>Health education & behavior : the official publication of the Society for Public Health Education</i> 36(3): 601-14	- Study population was selected
Klatt, Maryanna; Steinberg, Beth; Duchemin, Anne-Marie (2015) Mindfulness in Motion (MIM): An Onsite Mindfulness Based Intervention (MBI) for Chronically High Stress Work Environments to Increase Resiliency and Work Engagement. <i>Journal of visualized experiments : JoVE</i> : e52359	- Study protocol
Koncz, Rebecca, Wolfenden, Fiona, Hassed, Craig et al. (2016) Mindfulness-Based Stress Release Program for University Employees: A Pilot, Waitlist-Controlled Trial and Implementation Replication. <i>Journal of occupational and environmental medicine</i> 58(10): 1021-1027	- Non-randomised study
Krageloh, Christian U. Medvedev, Oleg N. Taylor, Tamasin Wrapson, Wendy Rix, Grant Sumich, Alexander Wang, Grace Y. Csako, Rita Anstiss, David Ranta, Jussi T. Patel, Ninad Siegert, Richard J. (2019) A Pilot Randomized Controlled Trial for a Videoconference-Delivered Mindfulness-Based Group Intervention in a Nonclinical Setting. <i>MINDFULNESS</i> 10(4): 700-711	- Study population were students

Study	Code [Reason]
Krajewski, Jarek; Sauerland, Martin; Wieland, Rainer (2011) Relaxation-induced cortisol changes within lunch breaks-An experimental longitudinal worksite field study. <i>Journal of Occupational and Organizational Psychology</i> 84(2): 382-394	- Study used an active control group
Krajewski, Jarek; Wieland, Rainer; Sauerland, Martin (2010) Regulating strain states by using the recovery potential of lunch breaks. <i>Journal of occupational health psychology</i> 15(2): 131-9	- Study used an active control group
Krampen, Gunter (2010) Evaluation of a program on systematic self-monitoring and reflection of health behavior in organisations: Results of two randomised controlled studies on well-being and absenteeism of employees and skilled workers. <i>Applied Psychology: Health and Well-Being</i> 2(1): 105-125	- Primary outcome of the study is not mental wellbeing
Krusche, Adele Jack, Christopher D. Blunt, Cornelia Hsu, Anne (2020) Mindfulness-Based Organisational Education: an Evaluation of a Mindfulness Course Delivered to Employees at the Royal Orthopaedic Hospital. <i>MINDFULNESS</i> 11(2): 362-373	- Non-randomised study
Kubota, Yosuke, Okuyama, Toru, Uchida, Megumi et al. (2016) Effectiveness of a psycho-oncology training program for oncology nurses: a randomized controlled trial. <i>Psycho-oncology</i> 25(6): 712-8	- Primary outcome of the study is not mental wellbeing
Kurebayashi, Leonice Fumiko Sato and da Silva, Maria Julia Paes (2015) Chinese auriculotherapy to improve quality of life of nursing team. <i>Revista brasileira de enfermagem</i> 68(1): 109-23	- Study population was selected
Kurebayashi, Leonice Fumiko Sato, Gnatta, Juliana Rizzo, Borges, Talita Pavarini et al. (2012) Applicability of auriculotherapy in reducing stress and as a coping strategy in nursing professionals. <i>Revista latino-americana de enfermagem</i> 20(5): 980-7	- Study population was selected
Kurebayashi, Leonice Fumiko Sato, Turrini, Ruth Natalia Teresa, Souza, Talita Pavarini Borges de et al. (2017) Auriculotherapy to reduce anxiety and pain in nursing professionals: a randomized clinical trial. <i>Revista latino-americana de enfermagem</i> 25: e2843	- Study population was selected
Kurebayashi, LF, Gnatta, JR, Borges, TP et al. (2012) [The applicability of auriculotherapy with needles or seeds to reduce stress in nursing professionals]. <i>Revista da Escola de Enfermagem da U S P</i> 46(1): 89-95	- Study population was selected
Lahn, Molly J (2015) Indices of heart rate variability and compassion in healthcare professionals following stress resilience training. <i>Dissertation Abstracts International: Section B: The Sciences and Engineering</i> 75(11be): no-specified	- Publication type excluded
Lai, Hui-Ling and Li, Yin-Ming (2011) The effect of music on biochemical markers and self-perceived stress among first-line nurses: A randomized controlled crossover trial. <i>Journal of Advanced Nursing</i> 67(11): 2414-2424	- Study conducted in a non-OECD / BRICS country

Study	Code [Reason]
Lalande, Lloyd, King, Robert, Bambling, Matthew et al. (2016) Guided respiration mindfulness therapy: Development and evaluation of a brief therapist training program. <i>Journal of Contemporary Psychotherapy: On the Cutting Edge of Modern Developments in Psychotherapy</i> 46(2): 107-116	- Non-randomised study
Landolt, K., O'Donnell, E., Hazi, A. et al. (2017) An experimental examination of the effort-reward imbalance model of occupational stress: Increased financial reward is related to reduced stress physiology. <i>Biological Psychology</i> 125: 121-129	- Experimental study
Lases, S S, Lombarts, M J M H, Slootweg, Irene A et al. (2016) Evaluating Mind Fitness Training and Its Potential Effects on Surgical Residents' Well-Being: A Mixed Methods Pilot Study. <i>World journal of surgery</i> 40(1): 29-37	- Non-randomised study
Lawson, Katie M, Davis, Kelly D, McHale, Susan M et al. (2016) Effects of workplace intervention on affective well-being in employees' children. <i>Developmental psychology</i> 52(5): 772-7	- Outcomes not measured by intervention recipients
Leach, Matthew J; Francis, Andrew; Ziaian, Tahereh (2015) Transcendental Meditation for the improvement of health and wellbeing in community-dwelling dementia caregivers [TRANSCENDENT]: a randomised wait-list controlled trial. <i>BMC complementary and alternative medicine</i> 15: 145	- Study intervention has no employer involvement
Leao, ER, Dal Fabbro, DR, Oliveira, RB et al. (2017) Stress, self-esteem and well-being among female health professionals: A randomized clinical trial on the impact of a self-care intervention mediated by the senses. <i>PLoS one</i> 12(2): e0172455	- Unclear if employers were involved in the intervention
Lebares, Carter C, Coaston, Troy N, Delucchi, Kevin L et al. (2020) Enhanced Stress Resilience Training in Surgeons: Iterative Adaptation and Biopsychosocial Effects in 2 Small Randomized Trials. <i>Annals of surgery</i>	- Study used an active control group
Lebares, Carter C, Guvva, Ekaterina V, Olaru, Maria et al. (2019) Efficacy of Mindfulness-Based Cognitive Training in Surgery: Additional Analysis of the Mindful Surgeon Pilot Randomized Clinical Trial. <i>JAMA network open</i> 2(5): e194108	- Study used an active control group
Lebares, Carter C, Hershberger, Amy O, Guvva, Ekaterina V et al. (2018) Feasibility of Formal Mindfulness-Based Stress-Resilience Training Among Surgery Interns: A Randomized Clinical Trial. <i>JAMA surgery</i> 153(10): e182734	- Study used an active control group
Lee, S Crockett, M S (1994) Effect of assertiveness training on levels of stress and assertiveness experienced by nurses in Taiwan, Republic of China. <i>Issues in mental health nursing</i> 15(4): 419-32	- Study conducted before 2007
Leland, Natalie E, Fogelberg, Donald, Sleight, Alix et al. (2016) Napping and Nighttime Sleep: Findings From an Occupation-Based Intervention. <i>The American journal of occupational therapy : official publication of the American Occupational Therapy Association</i> 70(4): 7004270010p1-7	- Primary outcome of the study is not mental wellbeing

Study	Code [Reason]
Leykin, Y; Cucciare, MA; Weingardt, KR (2011) Differential effects of online training on job-related burnout among substance abuse counsellors. <i>Journal of substance use</i> 16(2): 127-135	- Study does not have a control group
Li, J, Riedel, N, Barrech, A et al. (2017) Nine-Year Longitudinal Psychosocial and Mental Outcomes of a Stress Management Intervention at Work Using Psychotherapeutic Principles. <i>Psychotherapy and psychosomatics</i> 86(2): 113-115	- Study used an active control group
Li, J, Riedel, N, Barrech, A et al. (2017) Long-Term Effectiveness of a Stress Management Intervention at Work: A 9-Year Follow-Up Study Based on a Randomized Wait-List Controlled Trial in Male Managers. <i>BioMed research international</i> 2017: 2853813	- Study population was selected
Liakopoulou, Dimitra, Tigani, Xanthi, Varvogli, Liza et al. (2020) Stress management and health promotion intervention program for police forces. <i>International Journal of Police Science & Management</i> 22(2): 148-158	- Study does not provide data that is usable
Lin, Shu-Ling, Huang, Ching-Ya, Shiu, Shau-Ping et al. (2015) Effects of Yoga on Stress, Stress Adaption, and Heart Rate Variability Among Mental Health Professionals--A Randomized Controlled Trial. <i>Worldviews on evidence-based nursing</i> 12(4): 236-45	- Study conducted in a non-OECD / BRICS country
Linnan, Laura A, Vaughn, Amber E, Smith, Falon T et al. (2020) Results of caring and reaching for health (CARE): a cluster-randomized controlled trial assessing a worksite wellness intervention for child care staff. <i>The international journal of behavioral nutrition and physical activity</i> 17(1): 64	- Study used an active control group
Liu, C. and Cha, H. (2018) A randomized controlled trial for solving job stress of financial employees based on Neurofeedback training. <i>NeuroQuantology</i> 16(3): 91-96	- Primary outcome of the study is not mental wellbeing
Logan, Mary S. and Ganster, Daniel C. (2005) An Experimental Evaluation of a Control Intervention to Alleviate Job-Related Stress. <i>Journal of Management</i> 31(1): 90-107	- Study intervention was organisational in nature
Losch, Sabine Traut-Mattausch, Eva Muehlberger, Maximilian D. Jonas, Eva (2016) Comparing the Effectiveness of Individual Coaching, Self-Coaching, and Group Training: How Leadership Makes the Difference. <i>FRONTIERS IN PSYCHOLOGY</i> 7	- Study population were students
Lu, D; Lan, M; Zhang, N (2020) Intervention of Balint group on the emotional labor and job burnout of nurses in cardiology. <i>Zhonghua lao dong wei sheng zhi ye bing za zhi [Chinese journal of industrial hygiene and occupational diseases]</i> 38(3): 203-206	- Full-text is not in English
Lu, R., Xiong, H., Xia, H. et al. (2019) Effects of mindfulness-based stress reduction on negative emotions and sleep quality levels of clinical medical staff members. <i>International Journal of Clinical and Experimental Medicine</i> 12(10): 12277-12281	- Study population was selected
Lucini, D, Riva, S, Pizzinelli, P et al. (2007) Stress management at the worksite: reversal of symptoms profile and cardiovascular dysregulation. <i>Hypertension (Dallas, Tex. : 1979)</i> 49(2): 291-297	- Non-randomised study

Study	Code [Reason]
Luthans, Fred Avey, James B. Avolio, Bruce J. Peterson, Suzanne J. (2010) The Development and Resulting Performance Impact of Positive Psychological Capital. HUMAN RESOURCE DEVELOPMENT QUARTERLY 21(1): 41-67	- Study population were students
Luthans, Fred Avey, James B. Patera, Jaime L. (2008) Experimental analysis of a web-based training intervention to develop positive psychological capital. ACADEMY OF MANAGEMENT LEARNING & EDUCATION 7(2): 209-221	- Study used an active control group
Luzarraga, J., Wichman, C., Shirk, R. et al. (2019) Using a mindfulness-based intervention to support the resiliency of in-patient pediatric respiratory therapists. Respiratory Care 64(5): 550-554	- Study does not have a control group
Ly, K.H.; Asplund, K.; Andersson, G. (2014) Stress management for middle managers via an acceptance and commitment-based smartphone application: A randomized controlled trial. Internet Interventions 1(3): 95-101	- Study population is a convenience sample
Lyddy, Christopher J. Schachter, Yotam Reyer, Amy Julliard, Kell (2016) Transfer of Mindfulness Training to the Work Setting: A Qualitative Study in a Health Care System. JOURNAL OF CONTINUING EDUCATION IN THE HEALTH PROFESSIONS 36(4): 240-248	- Qualitative study outside of UK
Lynn Dobkin, Patricia and Velez, Camila (2020) Physicians' Views on a Wellbeing Course Gifted to Them: A Qualitative Study. The Permanente journal 24: 1-8	- Qualitative study outside of UK
M?ltner, H; Leve, J; Esch, T (2018) Burnout Prevention and Mobile Mindfulness: evaluation of an App-Based Health Training Program for Employees. Gesundheitswesen (bundesverband der arzte des öffentlichen gesundheitsdienstes (germany)) 80(3): 295-300	- Full-text is not in English
Mabry, Linda, Parker, Kelsey N, Thompson, Sharon V et al. (2018) Protecting workers in the home care industry: Workers' experienced job demands, resource gaps, and benefits following a socially supportive intervention. Home Health Care Services Quarterly 37(3): 259-276	- Qualitative study outside of UK
Mackenzie, CS; Poulin, PA; Seidman-Carlson, R (2006) A brief mindfulness-based stress reduction intervention for nurses and nurse aides. Applied nursing research : ANR 19(2): 105-109	- Study conducted before 2007
Maes, S, Verhoeven, C, Kittel, F et al. (1998) Effects of a Dutch work-site wellness-health program: the Brabantia Project. American journal of public health 88(7): 1037-1041	- Non-randomised study
Mahaffey, Brittain L. Mackin, Daniel M. Rosen, Jonathan Schwartz, Rebecca M. Taioliz, Emanuela Gonzalez, Adam (2020) The disaster worker resiliency training program: a randomized clinical trial. INTERNATIONAL ARCHIVES OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH	- Study does not provide data that is usable
Malarkey, William B; Jarjoura, David; Klatt, Maryanna (2013) Workplace based mindfulness practice and inflammation: a randomized trial. Brain, behavior, and immunity 27(1): 145-54	- Study population was selected
Manansingh, S.; Tatum, S.L.; Morote, E.-S. (2019) Effects of Relaxation Techniques on Nursing Students' Academic Stress and Test Anxiety. The Journal of nursing education 58(9): 534-537	- Study does not have a control group

Study	Code [Reason]
Manocha, R (2011) A randomised trial of mental silence orientated meditation for work-related stress, anxiety and depressive feelings. Asian journal of psychiatry [abstracts of the 3rd congress of asian psychiatry, wcap; 31 jul - 4 aug 2011; melbourne, VIC australia]	- Publication type excluded
Manocha, R, Black, D, Sarris, J et al. (2011) A randomized, controlled trial of meditation for work stress, anxiety and depressed mood in full-time workers. Evidence-based complementary and alternative medicine : eCAM 2011: 960583	- Study conducted before 2007
Marino, M, Killerby, M, Lee, S et al. (2016) The Effects of a Cluster Randomized Controlled Workplace Intervention on Sleep and Work-Family Conflict Outcomes in an Extended Care Setting. Sleep health 2(4): 297-308	- Study intervention was organisational in nature
Mathad, M.D.; Pradhan, B.; Sasidharan, R.K. (2017) Effect of yoga on psychological functioning of nursing students: A randomized wait list control trial. Journal of Clinical and Diagnostic Research 11(5): kc01-kc05	- Study population were students
Maunder, Robert G, Lancee, William J, Mae, Reet et al. (2010) Computer-assisted resilience training to prepare healthcare workers for pandemic influenza: a randomized trial of the optimal dose of training. BMC health services research 10: 72	- Study used an active control group
Maza, Yafit, Shechter, Efrat, Pur Eizenberg, Neta et al. (2016) Physician empowerment programme; a unique workshop for physician-managers of community clinics. BMC medical education 16(1): 269	- Study does not have a control group
MCCUE, JD SACHS, CL (1991) A STRESS MANAGEMENT WORKSHOP IMPROVES RESIDENTS COPING SKILLS. ARCHIVES OF INTERNAL MEDICINE 151(11): 2273-2277	- Study conducted before 2007
McElligott, D, Holz, MB, Carollo, L et al. (2003) A pilot feasibility study of the effects of touch therapy on nurses. The Journal of the New York State Nurses' Association 34(1): 16-24	- Study does not provide data that is usable
McGrady, Angele Brennan, Julie Lynch, Denis (2009) Effects of Wellness Programs in Family Medicine. APPLIED PSYCHOPHYSIOLOGY AND BIOFEEDBACK 34(2): 121-126	- Study is not focused on employees
McGrady, Angele Brennan, Julie Lynch, Denis Whearty, Kary (2012) A Wellness Program for First Year Medical Students. APPLIED PSYCHOPHYSIOLOGY AND BIOFEEDBACK 37(4): 253-260	- Study population were students
McGuckin, Teneale; Sealey, Rebecca; Barnett, Fiona (2017) Planning for sedentary behaviour interventions: office workers' survey and focus group responses. Perspectives in Public Health 137(6): 316-321	- Primary outcome of the study is not mental wellbeing
Mealer, Meredith, Conrad, David, Evans, John et al. (2014) Feasibility and acceptability of a resilience training program for intensive care unit nurses. American journal of critical care : an official publication, American Association of Critical-Care Nurses 23(6): e97-105	- Study population was selected

Study	Code [Reason]
Mehrdad, Ramin; Haghghi, Khosro Sadeghniai; Esfahani, Amir Hossein Naseri (2015) Effect of Zolpidem on Sleep Quality of Professional Firefighters; a Double Blind, Randomized, Placebo-Controlled Crossover Clinical Trial. <i>Acta Medica Iranica</i> 53(9): 573-578	- Study conducted in a non-OECD / BRICS country
Meischke H, Lilly M, Beaton R et al. Protocol: a multi-level intervention program to reduce stress in 9-1-1 telecommunicators. <i>BMC public health</i> 18(1): 570	- Study protocol
Mellor, N.J., Ingram, L., Van Huizen, M. et al. (2016) Mindfulness training and employee well-being. <i>International Journal of Workplace Health Management</i> 9(2): 126-145	- Non-randomised study
Melo, Carol Gouveia and Oliver, David (2011) Can addressing death anxiety reduce health care workers' burnout and improve patient care?. <i>Journal of Palliative Care</i> 27(4): 287-295	- Non-randomised study
Melville, Geoffrey W. Chang, Dennis Colagiuri, Ben Marshall, Paul W. Cheema, Birinder S. (2012) Fifteen Minutes of Chair-Based Yoga Postures or Guided Meditation Performed in the Office Can Elicit a Relaxation Response. <i>EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDICINE</i> 2012	- Study does not provide data that is usable
Michishita, Ryoma, Jiang, Ying, Ariyoshi, Daisuke et al. (2017) The Introduction of an Active Rest Program by Workplace Units Improved the Workplace Vigor and Presenteeism Among Workers: A Randomized Controlled Trial. <i>Journal of occupational and environmental medicine</i> 59(12): 1140-1147	- Primary outcome of the study is not mental wellbeing
Michishita, Ryoma, Jiang, Ying, Ariyoshi, Daisuke et al. (2017) The practice of active rest by workplace units improves personal relationships, mental health, and physical activity among workers. <i>Journal of occupational health</i> 59(2): 122-130	- Primary outcome of the study is not mental wellbeing
Mikulas, William (2011) Mindfulness: Significant Common Confusions. <i>Mindfulness</i> 2: 1-7	- Publication type excluded
Millsbaugh, J., Errico, C., Mortimer, S. et al. (2020) Jin Shin Jyutsu Self-Help Reduces Nurse Stress: A Randomized Controlled Study. <i>Journal of holistic nursing : official journal of the American Holistic Nurses' Association</i> : 898010120938922	- Duplicate article - Study does not provide data that is usable
Millsbaugh, Julia, Errico, Catherine, Mortimer, Sunnie et al. (2020) Jin Shin Jyutsu R Self-Help Reduces Nurse Stress: A Randomized Controlled Study. <i>Journal of holistic nursing : official journal of the American Holistic Nurses' Association</i> : 898010120938922	- Study does not provide data that is usable
Minh Tam Luong Gouda, Sarah Bauer, Joachim Schmidt, Stefan (2019) Exploring Mindfulness Benefits for Students and Teachers in Three German High Schools. <i>MINDFULNESS</i> 10(12): 2682-2702	- Non-randomised study
Mistretta, E.G., Davis, M.C., Temkit, M. et al. (2018) Resilience Training for Work-Related Stress among Health Care Workers. <i>Journal of Occupational and Environmental Medicine</i> 60(6): 559-568	- Study used an active control group

Study	Code [Reason]
Mistretta, Erin G, Davis, Mary C, Temkit, M'hamed et al. (2018) Resilience Training for Work-Related Stress Among Health Care Workers: Results of a Randomized Clinical Trial Comparing In-Person and Smartphone-Delivered Interventions. <i>Journal of occupational and environmental medicine</i> 60(6): 559-568	- Study used an active control group
Miyoshi, Yoko (2019) Restorative yoga for occupational stress among Japanese female nurses working night shift: Randomized crossover trial. <i>Journal of occupational health</i> 61(6): 508-516	- Study population was selected
Molek-Winiarska, Dorota and Zolnierczyk-Zreda, Dorota (2018) Application of mindfulness-based stress reduction to a stress management intervention in a study of a mining sector company. <i>International journal of occupational safety and ergonomics : JOSE</i> 24(4): 546-556	- Non-randomised study
Moll, Sandra E, Patten, Scott, Stuart, Heather et al. (2018) Beyond Silence: A Randomized, Parallel-Group Trial Exploring the Impact of Workplace Mental Health Literacy Training with Healthcare Employees. <i>Canadian journal of psychiatry. Revue canadienne de psychiatrie</i> : 706743718766051	- Study does not have a control group
Montero-Marín, J, Asín, S, Estrada-Marcén, N et al. (2013) Effectiveness of a stretching program on anxiety levels of workers in a logistic platform: a randomized controlled study. <i>Atencion primaria / Sociedad Espanola de Medicina de Familia y Comunitaria</i> 45(7): 376-383	- Full-text is not in English
Moody, Karen, Kramer, Deborah, Santizo, Ruth O et al. (2013) Helping the helpers: mindfulness training for burnout in pediatric oncology--a pilot program. <i>Journal of pediatric oncology nursing : official journal of the Association of Pediatric Oncology Nurses</i> 30(5): 275-84	- Study does not provide data that is usable - Qualitative study outside of UK
Morledge, Thomas J. Allexandre, Didier Fox, Emily Fu, Alex Z. Higashi, Mitchell K. Kruzikas, Denise T. Pham, Sissi V. Reese, Pat Ray (2013) Feasibility of an Online Mindfulness Program for Stress Management-A Randomized, Controlled Trial. <i>ANNALS OF BEHAVIORAL MEDICINE</i> 46(2): 137-148	- Unclear if employers were involved in the intervention
Muller, Andreas Angerer, Peter Becker, Annette Gantner, Melanie Gundel, Harald Heiden, Barbara Herbig, Britta Herbst, Kirsten Poppe, Franziska Schmook, Renate Maatouk, Imad (2018) Bringing Successful Aging Theories to Occupational Practice: Is Selective Optimization With Compensation Trainable?. <i>WORK AGING AND RETIREMENT</i> 4(2): 161-174	- Primary outcome of the study is not mental wellbeing
Munafo, M; Patron, E; Palomba, D (2016) Improving Managers' Psychophysical Well-Being: Effectiveness of Respiratory Sinus Arrhythmia Biofeedback. <i>Applied psychophysiology and biofeedback</i> 41(2): 129-139	- Study population is a convenience sample
Munz, David C.; Kohler, Jennifer M.; Greenberg, Carl I. (2001) Effectiveness of a Comprehensive Worksite Stress Management Program: Combining Organizational and Individual Interventions. <i>International Journal of Stress Management</i> 8(1): 49-62	- Non-randomised study

Study	Code [Reason]
Murta, Sheila Giardini (2007) The process evaluation of an occupational stress management program. PSICOLOGIA-REFLEXAO E CRITICA 20(2): 296-302	- Full-text is not in English
Mutsunguma, Patricia and Gwandure, Calvin (2011) The psychological well-being of employees who handle cash in a bank in inner city Johannesburg. Psychology, Health & Medicine 16(4): 430-436	- Non-randomised study
Muuraiskangas, Salla Harjumaa, Marja Kaipainen, Kirsikka Ermes, Miikka (2016) Process and Effects Evaluation of a Digital Mental Health Intervention Targeted at Improving Occupational Well-Being: Lessons From an Intervention Study With Failed Adoption. JMIR MENTAL HEALTH 3(2)	- Non-randomised study
Myers, Nicholas D, Prilleltensky, Isaac, Lee, Seungmin et al. (2019) Effectiveness of the fun for wellness online behavioral intervention to promote well-being and physical activity: protocol for a randomized controlled trial. BMC public health 19(1): 737	- Study protocol
Nakada, Yukari, Sugimoto, Aya, Kadotani, Hiroshi et al. (2018) Verification of effect of sleep health education program in workplace: a quasi-randomized controlled trial. Industrial health 56(1): 20-29	- Non-randomised study
Nedeljkovic, Marko Wepfer, Viviane Ausfeld-Hafter, Brigitte Wirtz, Petra H. Streitberger, Konrad M. (2013) Influence of general self-efficacy as a mediator in Taiji-induced stress reduction - Results from a randomized controlled trial. EUROPEAN JOURNAL OF INTEGRATIVE MEDICINE 5(3): 284-290	- Unclear if employers were involved in the intervention
Neff, K.D., Knox, M.C., Long, P. et al. (2020) Caring for others without losing yourself: An adaptation of the Mindful Self-Compassion Program for Healthcare Communities. Journal of clinical psychology 76(9): 1543-1562	- Non-randomised study
Neumeier, Lena M, Brook, Libby, Ditchburn, Graeme et al. (2017) Delivering your daily dose of well-being to the workplace: A randomized controlled trial of an online well-being programme for employees. European Journal of Work and Organizational Psychology 26(4): 555-573	- Study population is a convenience sample
Noone, S.J. and Hastings, R.P. (2010) Using Acceptance and Mindfulness-Based Workshops with Support Staff Caring for Adults with Intellectual Disabilities. Mindfulness: 1-7	- Non-randomised study
Noone, Stephen J. Hastings, Richard P. (2009) Building psychological resilience in support staff caring for people with intellectual disabilities. JOURNAL OF INTELLECTUAL DISABILITIES 13(1): 43-53	- Non-randomised study
Norman, J and Basu, S (2018) Evaluating an intervention addressing stress in emergency department clerical staff. Occupational medicine (Oxford, England) 68(9): 638-640	- Study does not have a control group
Norouzinia, Roohangiz Ramezani, Zhila Khalili, Arash Dehghani, Maryam Sharifis, Azam (2017) THE EFFECT OF MINDFULNESS-BASED STRESS REDUCTION TRAINING ON STRESS AND	- Study conducted in a non-OECD / BRICS country

Study	Code [Reason]
BURNOUT OF NURSES. INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES 4(5): 1296-1302	
Novoa, Martha P and Cain, Daphne S (2014) The effects of reiki treatment on mental health professionals at risk for secondary traumatic stress: A placebo control study. <i>Best Practices in Mental Health: An International Journal</i> 10(1): 31-46	- Study population was selected
O'brien, W.H., Singh, R.S., Horan, K. et al. (2019) Group-Based Acceptance and Commitment Therapy for Nurses and Nurse Aides Working in Long-Term Care Residential Settings. <i>Journal of Alternative and Complementary Medicine</i> 25(7): 753-761	- Study population is a convenience sample
Ogba, Francisca N, Onyishi, Charity N, Victor-Aigbodion, Vera et al. (2020) Managing job stress in teachers of children with autism: A rational emotive occupational health coaching control trial. <i>Medicine</i> 99(36): e21651	- Study conducted in a non-OECD / BRICS country
Ojala, Birgitta, Nygard, Clas-Hakan, Huhtala, Heini et al. (2018) A Cognitive Behavioural Intervention Programme to Improve Psychological Well-Being. <i>International journal of environmental research and public health</i> 16(1)	- Study population was selected
Ojala, Birgitta, Nygard, Clas-Hakan, Huhtala, Heini et al. (2017) Effects of a nine-month occupational intervention on health-related quality of life. <i>Scandinavian journal of public health</i> 45(4): 452-458	- Study population was selected
Oman, Doug Hedberg, John Thoresen, Carl E. (2006) Passage meditation reduces perceived stress in health professionals: A randomized, controlled trial. <i>JOURNAL OF CONSULTING AND CLINICAL PSYCHOLOGY</i> 74(4): 714-719	- Study conducted before 2007
Oman, Doug, Richards, T Anne, Hedberg, John et al. (2008) Passage meditation improves caregiving self-efficacy among health professionals: a randomized trial and qualitative assessment. <i>Journal of health psychology</i> 13(8): 1119-35	- Primary outcome of the study is not mental wellbeing
Orly, Sarid, Rivka, Berger, Rivka, Eckshtein et al. (2012) Are cognitive-behavioral interventions effective in reducing occupational stress among nurses?. <i>Applied Nursing Research</i> 25(3): 152-157	- Non-randomised study
Osman, I; Singaram, V; Hamid, S (2021) Healing the Healers: A Phenomenological Exploration of a Brief Online Mindfulness Course on Stress, Burnout and Coping Strategies of Health Care Professionals During the COVID-19 Crisis. <i>ResearchSquare</i>	- Study does not have a control group
Ozgundodu, Bugse and Gok Metin, Zehra (2019) Effects of progressive muscle relaxation combined with music on stress, fatigue, and coping styles among intensive care nurses. <i>Intensive & critical care nursing</i> 54: 54-63	- Study used an active control group
Pan, W-Y, Xu, G-X, Zeng, F-L et al. (2010) Effects of Daoistic cognitive therapy and acupoint massotherapy on job burnout in employees. <i>Chinese mental health journal</i> 24(9): 711-715	- Full-text is not in English

Study	Code [Reason]
Pandya, S.P. (2019) Meditation app alleviates burnout and builds resilience for chaplains in hospices for older adults in Asian and African cities. <i>Journal of health care chaplaincy</i> : 1-17	- Study conducted in a non-OECD / BRICS country
Pang, Dandan and Ruch, Willibald (2019) Fusing character strengths and mindfulness interventions: Benefits for job satisfaction and performance. <i>Journal of occupational health psychology</i> 24(1): 150-162	- Study population is a convenience sample
Pappous, A.; Mohammed, W.A.; Sharma, D. (2020) Physiotherapists' experiences with a four-week mindfulness-based stress reduction program. <i>European Journal of Physiotherapy</i>	- Study population were not employed
Patterson, P Daniel, Buysse, Daniel J, Weaver, Matthew D et al. (2015) Real-time fatigue reduction in emergency care clinicians: The SleepTrackTXT randomized trial. <i>American journal of industrial medicine</i> 58(10): 1098-113	- Study population is a convenience sample
Patterson, Susan Librizzi (2016) The effect of emotional freedom technique on stress and anxiety in nursing students: A pilot study. <i>NURSE EDUCATION TODAY</i> 40: 104-110	- Non-randomised study
Pauls, Nina Schlett, Christian Soucek, Roman Ziegler, Michael Frank, Nicole (2016) Enhancing resilience through training of personal resources: Evaluation of a web-based mindfulness intervention. <i>GIO-GRUPPE-INTERAKTION-ORGANISATION-ZEITSCHRIFT FUER ANGEWANDTE ORGANISATIONSPSYCHOLOGIE</i> 47(2): 105-117	- Full-text is not in English
Pehlivan, Tugba and Guner, Perihan (2020) Effect of a compassion fatigue resiliency program on nurses' professional quality of life, perceived stress, resilience: A randomized controlled trial. <i>Journal of advanced nursing</i> 76(12): 3584-3596	- Study does not provide data that is usable
Pelletier, KR Rodenburg, A Vinther, A Chikamoto, Y King, AC Farquhar, JW (1999) Managing job strain: A randomized, controlled trial of an intervention conducted by mail and telephone. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 41(4): 216-223	- Study conducted before 2007
Pelletier, KR Rodenburg, A Vinther, A Chikamoto, Y King, AC Farquhar, JW (1999) Managing job strain: A randomized, controlled trial of an intervention conducted by mail and telephone. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 41(4): 216-223	- Study conducted before 2007
Pelletier, KR, Rodenburg, A, Chikamoto, Y et al. (1998) Managing job strain: a randomized controlled trial of an intervention conducted by mail and telephone. <i>American journal of health promotion : AJHP</i> 12(3): 166-169	- Study population was selected
Peters, Kathleen K. and Carlson, John G. (1999) Worksite Stress Management with High-Risk Maintenance Workers: A Controlled Study. <i>International Journal of Stress Management</i> 6(1): 21-44	- Study population was selected
Petree, Robyn D; Broome, Kirk M; Bennett, Joel B (2012) Exploring and reducing stress in young restaurant workers: results of a randomized field trial. <i>American journal of health promotion : AJHP</i> 26(4): 217-24	- Study population was selected

Study	Code [Reason]
Pfaff, Kathryn A, Freeman-Gibb, Laurie, Patrick, Linda J et al. (2017) Reducing the "cost of caring" in cancer care: Evaluation of a pilot interprofessional compassion fatigue resiliency programme. <i>Journal of interprofessional care</i> 31(4): 512-519	- Non-randomised study
Phillips, C.S., Volker, D.L., Davidson, K.L. et al. (2020) Storytelling through music: A multidimensional expressive arts intervention to improve emotional well-being of oncology nurses. <i>JCO Oncology Practice</i> 16(4): e405-e414	- Non-randomised study
Pipe, Teri Britt, Bortz, Jennifer J, Dueck, Amylou et al. (2009) Nurse leader mindfulness meditation program for stress management: a randomized controlled trial. <i>The Journal of nursing administration</i> 39(3): 130-7	- Study not completed as per study protocol - Study used an active control group
Poulin, P.A., Mackenzie, C.S., Soloway, G. et al. (2008) Mindfulness training as an evidenced-based approach to reducing stress and promoting well-being among human services professionals. <i>International Journal of Health Promotion and Education</i> 46(2): 72-80	- Non-randomised study
Pozo-Rico, Teresa, Gilar-Corbi, Raquel, Izquierdo, Andrea et al. (2020) Teacher Training Can Make a Difference: Tools to Overcome the Impact of COVID-19 on Primary Schools. An Experimental Study. <i>International journal of environmental research and public health</i> 17(22)	- Study does not provide data that is usable
Prasad, K., Wahner-Roedler, D.L., Cha, S.S. et al. (2011) Effect of a single-session meditation training to reduce stress and improve quality of life among health care professionals: a "dose-ranging" feasibility study. <i>Alternative therapies in health and medicine</i> 17(3): 46-49	- Non-randomised study
Prior, Yeliz, Amanna, Evangeline A, Bodell, Sarah J et al. (2015) A qualitative evaluation of occupational therapy-led work rehabilitation for people with inflammatory arthritis: Perspectives of therapists and their line managers. <i>The British journal of occupational therapy</i> 78(8): 467-474	- Study population had a clinical diagnosis
Prochaska, James O. Butterworth, Susan Redding, Colleen A. Burden, Verna Perrin, Nancy Leo, Michael Flaherty-Robb, Mama Prochaska, Janice M. (2008) Initial efficacy of MI, TTM tailoring and HRI's with multiple behaviors for employee health promotion. <i>PREVENTIVE MEDICINE</i> 46(3): 226-231	- Primary outcome of the study is not mental wellbeing
PRUITT, RH (1992) EFFECTIVENESS AND COST EFFICIENCY OF INTERVENTIONS IN HEALTH PROMOTION. <i>JOURNAL OF ADVANCED NURSING</i> 17(8): 926-932	- Study conducted before 2007
Rahe, RH, Taylor, CB, Tolles, RL et al. (2002) A novel stress and coping workplace program reduces illness and healthcare utilization. <i>Psychosomatic medicine</i> 64(2): 278-286	- Study does not provide data that is usable
Rajeswari, H., Sreelekha, B.K., Nappinai, S. et al. (2019) Outcome of accelerated recovery programme on occupational stress among nurses. <i>Indian Journal of Public Health Research and Development</i> 10(12): 127-132	- Intervention was targeted

Study	Code [Reason]
Rees, Clare, Craigie, Mark, Slatyer, Susan et al. (2018) Mindful Self-Care and Resiliency (MSCR): protocol for a pilot trial of a brief mindfulness intervention to promote occupational resilience in rural general practitioners. <i>BMJ open</i> 8(6): e021027	- Study protocol
Reif, Julian Chan, David Jones, Damon Payne, Laura Molitor, David (2020) Effects of a Workplace Wellness Program on Employee Health, Health Beliefs, and Medical Use A Randomized Clinical Trial. <i>JAMA INTERNAL MEDICINE</i> 180(7): 952-960	- Primary outcome of the study is not mental wellbeing
Reiser, Jenson E and McCarthy, Christopher J (2018) Preliminary Investigation of a Stress Prevention and Mindfulness Group for Teachers. <i>Journal for Specialists in Group Work</i> 43(1): 2-34	- Non-randomised study
Resnicoff, Marci and Julliard, Kell (2018) Brief Mindfulness Meditation With Night Nursing Unit Staff: A Qualitative Study. <i>Holistic nursing practice</i> 32(6): 307-315	- Qualitative study outside of UK
Reuther, S., Holle, D., Buscher, I. et al. (2014) Effect evaluation of two types of dementia-specific case conferences in German nursing homes (FallDem) using a stepped-wedge design: Study protocol for a randomized controlled trial. <i>Trials</i> 15(1): 319	- Study protocol
Riley, Kristen E. Park, Crystal L. Wilson, Angela Sabo, Alex N. Antoni, Michael H. Braun, Tosca D. Harrington, John Reiss, Juliana Pasalis, Edi Harris, Adam D. Cope, Stephen (2017) Improving physical and mental health in frontline mental health care providers: Yoga-based stress management versus cognitive behavioral stress management. <i>JOURNAL OF WORKPLACE BEHAVIORAL HEALTH</i> 32(1): 26-48	- Study does not have a control group
Rodrigues, Nikita P, Cohen, Lindsey L, McQuarrie, Susanna Crowell et al. (2018) Burnout in Nurses Working With Youth With Chronic Pain: A Pilot Intervention. <i>Journal of pediatric psychology</i> 43(4): 382-391	- Non-randomised study
Roessler, K K, Rugulies, R, Bilberg, R et al. (2013) Does work-site physical activity improve self-reported psychosocial workplace factors and job satisfaction? A randomized controlled intervention study. <i>International archives of occupational and environmental health</i> 86(8): 861-4	- Primary outcome of the study is not mental wellbeing
Rogala, Anna Smoktunowicz, Ewelina Zukowska, Katarzyna Kowalska, Martyna Cieslak, Roman (2016) THE HELPERS' STRESS: EFFECTIVENESS OF A WEB-BASED INTERVENTION FOR PROFESSIONALS WORKING WITH TRAUMA SURVIVORS IN REDUCING JOB BURNOUT AND IMPROVING WORK ENGAGEMENT. <i>MEDYCYNA PRACY</i> 67(2): 223-237	- Full-text is not in English
Rogerson, Shane Meir, Rudi Crowley-McHattan, Zac McEwen, Kathryn Pastoors, Rachel (2016) A Randomized Controlled Pilot Trial Investigating the Impact of a Workplace Resilience Program During a Time of Significant Organizational Change. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 58(4): 329-334	- Primary outcome of the study is not mental wellbeing

Study	Code [Reason]
Romosiou, Vasiliki Brouzos, Andreas Vassilopoulos, Stephanos P. (2019) An integrative group intervention for the enhancement of emotional intelligence, empathy, resilience and stress management among police officers. <i>POLICE PRACTICE AND RESEARCH</i> 20(5): 460-478	- Non-randomised study
Rose, J Jones, F Fletcher, B (1998) The impact of a stress management programme on staff well-being and performance at work. <i>WORK AND STRESS</i> 12(2): 112-124	- Study conducted before 2007
Ross, John Bruce, Catherine (2007) Professional development effects on teacher efficacy. Results of randomized field trial. <i>JOURNAL OF EDUCATIONAL RESEARCH</i> 101(1): 50-60	- Primary outcome of the study is not mental wellbeing
Rostami, Khatereh and Ghodsbin, Fariba (2019) Effect of Yoga on the Quality of Life of Nurses Working in Intensive Care Units. Randomized Controlled Clinical Trial. <i>Investigacion y educacion en enfermeria</i> 37(3)	- Study conducted in a non-OECD / BRICS country
Ruotsalainen, Jani H, Verbeek, Jos H, Marine, Albert et al. (2015) Preventing occupational stress in healthcare workers. <i>The Cochrane database of systematic reviews</i> : cd002892	- Pre-2019 systematic review
Russler, M F (1991) Multidimensional stress management in nursing education. <i>The Journal of nursing education</i> 30(8): 341-6	- Study conducted before 2007
Sabanciogullari, Selma and Dogan, Selma (2015) Effects of the professional identity development programme on the professional identity, job satisfaction and burnout levels of nurses: A pilot study. <i>International journal of nursing practice</i> 21(6): 847-57	- Non-randomised study
Saelid, Gry Anette, Czajkowski, Nikolai Olavi, Holte, Arne et al. (2016) Positive mental health effects of the Coping With Strain (CWS) course on employees: A four-year longitudinal randomized controlled trial. <i>International Journal of Mental Health Promotion</i> 18(3): 158-175	- Study used an active control group
Sajadi, M., Goudarzi, K., Khosravi, S. et al. (2017) Benson's relaxation effect in comparing to systematic desensitization on anxiety of female nurses: A randomized clinical trial. <i>Indian Journal of Medical and Paediatric Oncology</i> 38(2): 111-115	- Study conducted in a non-OECD / BRICS country
Sakuma, Yumiko, Sasaki-Otomaru, Akiyo, Ishida, Sadayo et al. (2012) Effect of a home-based simple yoga program in child-care workers: a randomized controlled trial. <i>Journal of alternative and complementary medicine (New York, N.Y.)</i> 18(8): 769-76	- Study does not provide data that is usable
Salles, Arghavan; Mueller, Claudia M; Cohen, Geoffrey L (2016) A Values Affirmation Intervention to Improve Female Residents' Surgical Performance. <i>Journal of graduate medical education</i> 8(3): 378-83	- Primary outcome of the study is not mental wellbeing
Salmela-Aro, Katariina Mutanen, Pertti Vuori, Jukka (2012) Promoting career preparedness and intrinsic work-goal motivation: RCT intervention. <i>JOURNAL OF VOCATIONAL BEHAVIOR</i> 80(1): 67-75	- Primary outcome of the study is not mental wellbeing

Study	Code [Reason]
Salyers, M.P., Garabrant, J.M., Luther, L. et al. (2019) A Comparative Effectiveness Trial to Reduce Burnout and Improve Quality of Care. <i>Administration and policy in mental health</i> 46(2): 238-254	- Study used an active control group
Sampson, Marlene; Melnyk, Bernadette M; Hoying, Jacqueline (2019) Intervention Effects of the MINDBODYSTRONG Cognitive Behavioral Skills Building Program on Newly Licensed Registered Nurses' Mental Health, Healthy Lifestyle Behaviors, and Job Satisfaction. <i>The Journal of nursing administration</i> 49(10): 487-495	- Study does not provide data that is usable
Sanders, Matthew R; Stallman, Helen M; McHale, Mala (2011) Workplace Triple P: A controlled evaluation of a parenting intervention for working parents. <i>Journal of Family Psychology</i> 25(4): 581-590	- Study population is a convenience sample
Sanso, Noemi Galiana, Laura Gonzalez, Belen Sarmentero, Juan Reynes, Magdalena Oliver, Amparo Garcia-Toro, Mauro (2019) Differential Effects of Two Contemplative Practice-based Programs for Health Care Professionals. <i>PSYCHOSOCIAL INTERVENTION</i> 28(3): 131-138	- Non-randomised study
Sanso, Noemi Galiana, Laura Oliver, Amparo Cuesta, Paz Sanchez, Cilia Benito, Enric (2018) Evaluation of a mindfulness intervention in palliative care teams. <i>PSYCHOSOCIAL INTERVENTION</i> 27(2): 81-88	- Full-text is not in English
Sasaki, Norio Somemura, Hironori Nakamura, Saki Yamamoto, Megumi Isojima, Manabu Shinmei, Issei Horikoshi, Masaru Tanaka, Katsutoshi (2017) Effects of Brief Communication Skills Training for Workers Based on the Principles of Cognitive Behavioral Therapy A Randomized Controlled Trial. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 59(1): 61-66	- Primary outcome of the study is not mental wellbeing
Schneider-Levi, Lia, Mitnik, Inbal, Zafrani, Keren et al. (2017) Inquiry-based stress reduction meditation technique for teacher burnout: A qualitative study. <i>Mind, Brain, and Education</i> 11(2): 75-84	- Qualitative study outside of UK
Schussler, Deborah L; Harris, Alexis R; Greenberg, Mark T (2020) A qualitative investigation of a mindfulness-based yoga program for educators: How program attendance relates to outcomes. <i>Psychology in the Schools</i> 57(7): 1077-1096	- Qualitative study outside of UK
Schwartz, Rachel, Shanafelt, Tait D, Gimmler, Christophe et al. (2020) Developing institutional infrastructure for physician wellness: qualitative Insights from VA physicians. <i>BMC health services research</i> 20(1): 7	- Qualitative study outside of UK
Searle, BJ (2008) Does personal initiative training work as a stress management intervention?. <i>Journal of occupational health psychology</i> 13(3): 259-270	- Study population were not employed
Sekiya, D and Yukawa, S (2009) Writing about emotional dissonance in client experiences benefits human service professionals. <i>Shinrigaku kenkyu [Japanese journal of psychology]</i> 80(4): 295-303	- Full-text is not in English

Study	Code [Reason]
Seo, I, Yong, J, Park, J et al. (2014) Spiritual and psychosocial effects of the spirituality promotion program on clinical nurses. <i>Journal of Korean Academy of Nursing</i> 44(6): 726-734	- Full-text is not in English
Sforzo, Gary A. Kaye, Miranda P. Simunovich, Sarah Micale, Frank G. (2016) The effects of health coaching when added to a wellness program. <i>JOURNAL OF WORKPLACE BEHAVIORAL HEALTH</i> 31(4): 242-257	- Primary outcome of the study is not mental wellbeing
Shankarapillai, Rajesh Nair, Manju Anathakrishnan George, Roy (2012) The effect of yoga in stress reduction for dental students performing their first periodontal surgery: A randomized controlled study. <i>International journal of yoga</i> 5(1): 48-51	- Study used an active control group
Shapiro, Shauna, Astin, John, Bishop, Scott et al. (2005) Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial. <i>International Journal of Stress Management - INT J STRESS MANAGEMENT</i> 12: 164-176	- Study does not provide data that is usable
Shapiro, SL Schwartz, GE Bonner, G (1998) Effects of mindfulness-based stress reduction on medical and premedical students. <i>JOURNAL OF BEHAVIORAL MEDICINE</i> 21(6): 581-599	- Study conducted before 2007
Sharp, Jennifer E and Jennings, Patricia A (2016) Strengthening teacher presence through mindfulness: What educators say about the Cultivating Awareness and Resilience in Education (CARE) program. <i>Mindfulness</i> 7(1): 209-218	- Qualitative study outside of UK
Sharp, Molly, Gulati, Anu, Barker, Chris et al. (2018) Developing an emotional coping skills workbook for inpatient psychiatric settings: a focus group investigation. <i>BMC psychiatry</i> 18(1): 208	- Study is not focused on employees
Sheppard, William D.; Staggers, Frank J.; John, Lucille (1997) The effects of a stress management program in a high security government agency. <i>Anxiety, Stress, & Coping</i> 10(4): 341-350	- Study used an active control group
Shimazu, A, Okada, Y, Sakamoto, M et al. (2003) Effects of stress management program for teachers in Japan: a pilot study. <i>Journal of occupational health</i> 45(4): 202-208	- Non-randomised study
Shimazu, A; Umanodan, R; Schaufeli, WB (2006) Effects of a brief worksite stress management program on coping skills, psychological distress and physical complaints: a controlled trial. <i>International archives of occupational and environmental health</i> 80(1): 60-69	- Non-randomised study
Shimizu, T, Mizoue, T, Kubota, S et al. (2003) Relationship between burnout and communication skill training among Japanese hospital nurses: a pilot study. <i>Journal of occupational health</i> 45(3): 185-190	- Non-randomised study
Shonin, Edo Van Gordon, William Griffiths, Mark D. (2014) Meditation Awareness Training (MAT) for Improved Psychological Well-being: A Qualitative Examination of Participant Experiences. <i>JOURNAL OF RELIGION & HEALTH</i> 53(3): 849-863	- Unclear if employers were involved in the intervention
Shonin, Edo and Van Gordon, William (2015) Managers' experiences of meditation awareness training. <i>Mindfulness</i> 6(4): 899-909	- Unclear if employers were involved in the intervention

Study	Code [Reason]
Shonin, Edo, Van Gordon, William, Dunn Thomas, J et al. (2014) Meditation Awareness Training (MAT) for work-related wellbeing and job performance: a randomised controlled trial. <i>International journal of mental health and addiction</i> 12(6): 806-823	- Study used an active control group
Siedsma, Matthew and Emllet, Lillian (2015) Physician burnout: can we make a difference together?. <i>Critical care (London, England)</i> 19: 273	- Publication type excluded
Sijaric-Voloder, Sibila Capin, Dzejna (2008) Application of cognitive behavior therapeutic techniques for prevention of psychological disorders in police officers. <i>HEALTHMED</i> 2(4): 288-292	- Study does not provide data that is usable
Singh, NN, Lancioni, GE, Karazsia, BT et al. (2016) Effectiveness of Caregiver Training in Mindfulness-Based Positive Behavior Support (MBPBS) vs. Training-as-Usual (TAU): A Randomized Controlled Trial. <i>Frontiers in psychology</i> 7: 1549	- Study does not provide data that is usable
Singleton, Jennifer; Shue, Pamela; Smith, JaneDiane (2012) Effects of collaborative problem solving on stress, burnout, and coping resources in early childhood special educators. <i>International perspectives on teacher stress.</i> : 219-242	- Publication type excluded
Slatyer, Susan, Craigie, Mark, Heritage, Brody et al. (2018) Evaluating the effectiveness of a brief mindful self-care and resiliency (MSCR) intervention for nurses: A controlled trial. <i>Mindfulness</i> 9(2): 534-546	- Non-randomised study
Slutsky, Jeremiah, Chin, Brian, Raye, Julianna et al. (2019) Mindfulness training improves employee well-being: A randomized controlled trial. <i>Journal of occupational health psychology</i> 24(1): 139-149	- Study used an active control group
Smith, James (1987) The Effectiveness of a Computerized Self-Help Stress Coping Program with Adult Males. <i>Computers in Human Services</i> 2	- Study conducted before 2007
Smith, Jeremy L, Allen, Jason W, Haack, Carla et al. (2020) The Impact of App-Delivered Mindfulness Meditation on Functional Connectivity and Self-Reported Mindfulness Among Health Profession Trainees. <i>Mindfulness</i> : 1-15	- Primary outcome of the study is not mental wellbeing
Smith, Matthew Lee, Wilson, Mark G, Robertson, Melissa M et al. (2018) Impact of a Translated Disease Self-Management Program on Employee Health and Productivity: Six-Month Findings from a Randomized Controlled Trial. <i>International journal of environmental research and public health</i> 15(5)	- Study population had a clinical diagnosis
Smith, Melissa (2008) The effects of a single music relaxation session on state anxiety levels of adults in a workplace environment. <i>Australian Journal of Music Therapy</i> 19: 45-66	- Study used an active control group
Smith, Shauna Lee Kelloway, E. Kevin (2016) Respect in the workplace: an evaluation of a short online intervention program. <i>JOURNAL OF ORGANIZATIONAL EFFECTIVENESS-PEOPLE AND PERFORMANCE</i> 3(4): 395-410	- Non-randomised study

Study	Code [Reason]
Smoktunowicz, Ewelina, Lesnierowska, Magdalena, Carlbring, Per et al. (2021) Resource-Based Internet Intervention (Med-Stress) to Improve Well-Being Among Medical Professionals: Randomized Controlled Trial. <i>Journal of medical Internet research</i> 23(1): e21445	- Study intervention has no employer involvement
Solhaug, Ida de Vibe, Michael Friberg, Oddgeir Sorlie, Tore Tyssen, Reidar Bjørndal, Arild Rosenvinge, Jan H. (2019) Long-term Mental Health Effects of Mindfulness Training: a 4-Year Follow-up Study. <i>MINDFULNESS</i> 10(8): 1661-1672	- Study population were students
Speck, B J (1990) The effect of guided imagery upon first semester nursing students performing their first injections. <i>The Journal of nursing education</i> 29(8): 346-50	- Study conducted before 2007
Speckens, A, Verweij, H, van Ravesteijn, H et al. (2019) Mindfulness for medical, surgical and psychiatric residents. <i>Tijdschrift voor psychiatrie</i> 61(3): 188-193	- Full-text is not in English
Spence, Gordon B and Cavanagh, Michael J (2019) The impact of three forms of mindfulness training on mindfulness, wellbeing and goal attainment: Findings from a randomised controlled trial and implications for coaching. <i>International Coaching Psychology Review</i> 14(2): 24	- Study population is a convenience sample
Stafford-Brown, Johanna and Pakenham, Kenneth I (2012) The effectiveness of an ACT informed intervention for managing stress and improving therapist qualities in clinical psychology trainees. <i>Journal of clinical psychology</i> 68(6): 592-13	- Non-randomised study
Stauder, Adrienne Cserhati, Zoltan Thege, Barna Konkoly (2018) DECREASING THE NEGATIVE EFFECTS OF WORK-RELATED STRESS IN UNCHANGED WORKING ENVIRONMENTS. <i>EUROPEAN JOURNAL OF MENTAL HEALTH</i> 13(2): 163-183	- Study does not have a control group
Stephens, R L (1992) Imagery: a treatment for nursing student anxiety. <i>The Journal of nursing education</i> 31(7): 314-20	- Study conducted before 2007
Stewart-Brown, Sarah, Cader, Mizaya, Walker, Thomas et al. (2018) Experiences with a universal mindfulness and well-being programme at a UK medical school. <i>Health Education</i> 118(4): 304-319	- Non-randomised study
Strijk, J.E., Proper, K.I., van der Beek, A.J. et al. (2011) A process evaluation of a worksite vitality intervention among ageing hospital workers. <i>International Journal of Behavioral Nutrition and Physical Activity</i> 8: 58	- Non-randomised study
Strijk, Jorien E, Proper, Karin I, van der Beek, Allard J et al. (2009) The Vital@Work Study. The systematic development of a lifestyle intervention to improve older workers' vitality and the design of a randomised controlled trial evaluating this intervention. <i>BMC public health</i> 9: 408	- Study protocol
Strijk, Jorien E, Proper, Karin I, van Mechelen, Willem et al. (2013) Effectiveness of a worksite lifestyle intervention on vitality, work engagement, productivity, and sick leave: results of a randomized controlled trial. <i>Scandinavian journal of work, environment & health</i> 39(1): 66-75	- Study population was selected

Study	Code [Reason]
Strub, L and Tarquinio, C (2013) Mindfulness-Based Cognitive Therapy (MBCT) program with workers in an industrial setting: a pilot study. <i>Sante mentale au Quebec</i> 38(1): 207-225	- Full-text is not in English
Sun, Ping, Qu, Yunxia, Wu, Jun et al. (2018) Improving Chinese teachers' stress coping ability through group sandplay. <i>The Spanish Journal of Psychology</i> 21	- Primary outcome of the study is not mental wellbeing
Sutarto, Auditya Purwandini; Wahab, Muhammad Nubli Abdul; Zin, Nora Mat (2012) Resonant breathing biofeedback training for stress reduction among manufacturing operators. <i>International journal of occupational safety and ergonomics : JOSE</i> 18(4): 549-61	- Study used an active control group
Suzuki, Etsuji, Tsuchiya, Masao, Hirokawa, Kumi et al. (2008) Evaluation of an internet-based self-help program for better quality of sleep among Japanese workers: a randomized controlled trial. <i>Journal of occupational health</i> 50(5): 387-99	- Study conducted before 2007
Szechenyi, I.; Antal, Z.; Hegyi, G. (2015) Tracking and evaluating the immediate stress-reducing effect of ear acupuncture through prolactin levels and meridian diagnostics: A randomized, double-blinded, controlled study. <i>Medical Acupuncture</i> 27(1): 23-32	- Study population were not employed
Taniguchi, Toshiyo, Hirokawa, Kumi, Tsuchiya, Masao et al. (2007) The immediate effects of 10-minute relaxation training on salivary immunoglobulin A (s-IgA) and mood state for Japanese female medical co-workers. <i>Acta medica Okayama</i> 61(3): 139-45	- Non-randomised study
Tarantino, Bonnie, Earley, Michael, Audia, Donna et al. (2013) Qualitative and quantitative evaluation of a pilot integrative coping and resiliency program for healthcare professionals. <i>Explore (New York, N.Y.)</i> 9(1): 44-7	- Non-randomised study
Taylor, Cynthia Harrison, Jessica Haimovitz, Kyla Oberle, Eva Thomson, Kimberly Schonert-Reichl, Kimberly Roeser, Robert W. (2016) Examining Ways That a Mindfulness-Based Intervention Reduces Stress in Public School Teachers: a Mixed-Methods Study (vol 7, pg 115, 2016). <i>MINDFULNESS</i> 7(6): 1449-1449	- Duplicate article
Taylor, Jennifer, McLean, Loyola, Richards, Bethan et al. (2020) Personalised yoga for burnout and traumatic stress in junior doctors. <i>Postgraduate medical journal</i> 96(1136): 349-357	- Study used an active control group
Thogersen-Ntoumani, C., Loughren, E.A., Duda, J.L. et al. (2010) "Step by Step". A feasibility study of a lunchtime walking intervention designed to increase walking, improve mental well-being and work performance in sedentary employees: Rationale and study design. <i>BMC public health</i> 10: 578	- Study population was selected
Thogersen-Ntoumani, C, Loughren, E A, Kinnafick, F-E et al. (2015) Changes in work affect in response to lunchtime walking in previously physically inactive employees: A randomized trial. <i>Scandinavian journal of medicine & science in sports</i> 25(6): 778-87	- Study does not have a control group

Study	Code [Reason]
Thompson, Isabel A, Wolf, Cheryl Pence, Mott, Elisa et al. (2018) Luna Yoga: A wellness program for female counselors and counselors-in-training to foster self-awareness and connection. <i>Journal of Creativity in Mental Health</i> 13(2): 169-184	- Study population is a convenience sample
TOIVANEN, H HELIN, P HANNINEN, O (1993) IMPACT OF REGULAR RELAXATION TRAINING AND PSYCHOSOCIAL WORKING FACTORS ON NECK SHOULDER TENSION AND ABSENTEEISM IN-HOSPITAL CLEANERS. <i>JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE</i> 35(11): 1123-1130	- Study conducted before 2007
Tonarelli, Annalisa, Cosentino, Chiara, Artioli, Diletta et al. (2017) Expressive writing. A tool to help health workers. Research project on the benefits of expressive writing. <i>Acta bio-medica : Atenei Parmensis</i> 88(5s): 13-21	- Study does not provide data that is usable
Tonarelli, Annalisa, Cosentino, Chiara, Tomasoni, Cristina et al. (2018) Expressive writing. A tool to help health workers of palliative care. <i>Acta bio-medica : Atenei Parmensis</i> 89(6s): 35-42	- Study does not provide data that is usable
Tonkin, Karen, Malinen, Sanna, Naswall, Katharina et al. (2018) Building employee resilience through wellbeing in organizations. <i>Human Resource Development Quarterly</i> 29(2): 107-124	- Non-randomised study
Traeger, Lara, Park, Elyse R, Sporn, Nora et al. (2013) Development and evaluation of targeted psychological skills training for oncology nurses in managing stressful patient and family encounters. <i>Oncology nursing forum</i> 40(4): e327-36	- Study does not have a control group
Trent, Natalie L, Borden, Sara, Miraglia, Mindy et al. (2019) Improvements in Psychological and Occupational Well-Being in a Pragmatic Controlled Trial of a Yoga-Based Program for Professionals. <i>Journal of alternative and complementary medicine (New York, N.Y.)</i> 25(6): 593-605	- Study population is a convenience sample
Tuckey, MR and Scott, JE (2014) Group critical incident stress debriefing with emergency services personnel: a randomized controlled trial. <i>Anxiety, stress, and coping</i> 27(1): 38-54	- Study used an active control group
Ugwoke, SC, Eseadi, C, Onuigbo, LN et al. (2018) A rational-emotive stress management intervention for reducing job burnout and dysfunctional distress among special education teachers: An effect study. <i>Medicine</i> 97(17): e0475	- Study conducted in a non-OECD / BRICS country
Umadevi, P., Ramachandra, S., Varambally, S. et al. (2013) Effect of yoga therapy on anxiety and depressive symptoms and quality-of-life among caregivers of in-patients with neurological disorders at a tertiary care center in India: A randomized controlled trial. <i>Indian Journal of Psychiatry</i> 55(7): 385-s389	- Study intervention has no employer involvement
Umanodan, Rino, Kobayashi, Yuka, Nakamura, Mai et al. (2009) Effects of a worksite stress management training program with six short-hour sessions: a controlled trial among Japanese employees. <i>Journal of occupational health</i> 51(4): 294-302	- Non-randomised study

Study	Code [Reason]
Valley, Morgan Anne and Stallones, Lorann (2017) Effect of Mindfulness-Based Stress Reduction Training on Health Care Worker Safety: A Randomized Waitlist Controlled Trial. <i>Journal of occupational and environmental medicine</i> 59(10): 935-941	- Primary outcome of the study is not mental wellbeing
van der Horst, Anna C and Klehe, Ute-Christine (2019) Enhancing career adaptive responses among experienced employees: A mid-career intervention. <i>Journal of Vocational Behavior</i> 111: 91-106	- Primary outcome of the study is not mental wellbeing
van der Meulen, Erik Bosmans, Mark W. G. Lens, Kim M. E. Lahlah, Esmah van der Velden, Peter G. (2018) Effects of Mental Strength Training for Police Officers: a Three-Wave Quasi-experimental Study. <i>JOURNAL OF POLICE AND CRIMINAL PSYCHOLOGY</i> 33(4): 385-397	- Non-randomised study
van Dierendonck, D Schaufeli, WB Buunk, BP (1998) The evaluation of an individual burnout intervention program: The role of inequity and social support. <i>JOURNAL OF APPLIED PSYCHOLOGY</i> 83(3): 392-407	- Study conducted before 2007
van Dijk, Inge Lucassen, Peter L. B. J. Akkermans, Reinier P. van Engelen, Baziel G. M. van Weel, Chris Speckens, Anne E. M. (2017) Effects of Mindfulness-Based Stress Reduction on the Mental Health of Clinical Clerkship Students: A Cluster-Randomized Controlled Trial. <i>ACADEMIC MEDICINE</i> 92(7): 1012-1021	- Study population were students
van Woerkom, Marianne and Meyers, Maria Christina (2019) Strengthening personal growth: The effects of a strengths intervention on personal growth initiative. <i>Journal of Occupational and Organizational Psychology</i> 92(1): 98-121	- Study does not provide data that is usable
Varekamp, Inge, de Vries, Gabe, Heutink, Annelies et al. (2008) Empowering employees with chronic diseases; development of an intervention aimed at job retention and design of a randomised controlled trial. <i>BMC health services research</i> 8: 224	- Study population was selected
Vega, Beatriz Rodriguez, Melero-Llorente, Javier, Perez, Carmen Bayon et al. (2014) Impact of mindfulness training on attentional control and anger regulation processes for psychotherapists in training. <i>Psychotherapy Research</i> 24(2): 202-213	- Non-randomised study
Veiga, Guida Rodrigues, Andreia Dias Lamy, Elsa Guiose, Marc Pereira, Catarina Marmeleira, Jose (2019) The effects of a relaxation intervention on nurses' psychological and physiological stress indicators: A pilot study. <i>COMPLEMENTARY THERAPIES IN CLINICAL PRACTICE</i> 35: 265-271	- Non-randomised study
Verweij, Hanne, Waumans, Ruth C, Smeijers, Danique et al. (2016) Mindfulness-based stress reduction for GPs: results of a controlled mixed methods pilot study in Dutch primary care. <i>The British journal of general practice : the journal of the Royal College of General Practitioners</i> 66(643): e99-105	- Non-randomised study
Viester, Laura Verhagen, Evert A. L. M. Bongers, Paulien M. van der Beek, Allard J. (2015) The effect of a health promotion intervention for construction workers on work-related outcomes: results	- Primary outcome of the study is not mental wellbeing

Study	Code [Reason]
from a randomized controlled trial. INTERNATIONAL ARCHIVES OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH 88(6): 789-798	
Virtanen, Anniina de Bloom, Jessica Reins, Jo Annika Syrek, Christine Lehr, Dirk Kinnunen, Ulla (2019) Promoting and prolonging the beneficial effects of a vacation with the help of a smartphone-based intervention. GEDRAG & ORGANISATIE 32(4): 250-278	- Study does not have a control group
W.J, N., Sekar, L., Manikandan, A. et al. (2020) Mahamantra chanting as an effective intervention for stress reduction among nursing professionals-A randomized controlled study. Advances in Integrative Medicine	- Primary outcome of the study is not mental wellbeing
Waite, Phillip J Richardson, Glenn E (2004) Determining the efficacy of resiliency training in the work site. Journal of allied health 33(3): 178-83	- Study conducted before 2007
Walach, H, Nord, E, Zier, C et al. (2007) Mindfulness-based stress reduction as a method for personnel development: a pilot evaluation. International journal of stress management 14(2): 188-198	- Non-randomised study
Wan Mohd Yunus, Wan Mohd Azam Musiat, Peter Brown, June S. L. (2020) Innovative Self-Confidence Webinar Intervention for Depression in the Workplace: A Focus Group Study and Systematic Development. BEHAVIORAL SCIENCES 10(12)	- Unclear if employers were involved in the intervention
Watanabe, Norio Horikoshi, Masaru Shinmei, Issei Oe, Yuki Narisawa, Tomomi Kumachi, Mie Matsuoka, Yutaka Hamazaki, Kei Furukawa, Toshi A. (2019) Brief mindfulness-based stress management program for a better mental state in working populations - Happy Nurse Project: A randomized controlled trial. JOURNAL OF AFFECTIVE DISORDERS 251: 186-194	- Study used an active control group
Waters CS, Frude N, Flaxman PE et al. (2018) Acceptance and commitment therapy (ACT) for clinically distressed health care workers: Waitlist-controlled evaluation of an ACT workshop in a routine practice setting. The British journal of clinical psychology 57(1): 82-98	- Non-randomised study
Webb, MS; Smyth, KA; Yarandi, H (2000) A progressive relaxation intervention at the worksite for African-American women. Journal of National Black Nurses' Association : JNBNA 11(2): 1-6	- Non-randomised study
Werneburg, B.L., Herman, L.L., Preston, H.R. et al. (2011) Effectiveness of a multidisciplinary worksite stress reduction programme for women. Stress and Health 27(5): 356-364	- Study does not have a control group
West, Colin P, Dyrbye, Liselotte N, Rabatin, Jeff T et al. (2014) Intervention to promote physician well-being, job satisfaction, and professionalism: a randomized clinical trial. JAMA internal medicine 174(4): 527-33	- Study does not provide data that is usable
White, Edward and Winstanley, Julie (2010) A randomised controlled trial of clinical supervision: selected findings from a novel Australian attempt to establish the evidence base for causal	- Study does not provide data that is usable

Study	Code [Reason]
relationships with quality of care and patient outcomes, as an informed contribution to mental health nursing practice development. <i>Journal of Research in Nursing</i> 15(2): 151-167	
Whitesman, Simon and Mash, Robert (2016) Examining the effects of a mindfulness-based distance learning professional training module on personal and professional functioning: a qualitative study. <i>BMC medical education</i> 16(1): 287	- Qualitative study outside of UK
Wild, Jennifer El-Salahi, Shama Degli Esposti, Michelle Thew, Graham R. (2020) Evaluating the effectiveness of a group-based resilience intervention versus psychoeducation for emergency responders in England: A randomised controlled trial. <i>PLOS ONE</i> 15(11)	- Study used an active control group
Willert, Morten V. Thulstrup, Ane Made Hertz, Janne Bonde, Jens Peter (2010) Sleep and Cognitive Failures Improved by a Three-Month Stress Management Intervention. <i>INTERNATIONAL JOURNAL OF STRESS MANAGEMENT</i> 17(3): 193-213	- Study intervention has no employer involvement
Willert, Morten Vejs; Thulstrup, Ane Marie; Bonde, Jens Peter (2011) Effects of a stress management intervention on absenteeism and return to work--results from a randomized wait-list controlled trial. <i>Scandinavian journal of work, environment & health</i> 37(3): 186-95	- Study intervention has no employer involvement
Willert, Morten Vejs; Thulstrup, Ane Marie; Hertz, Janne (2009) Changes in stress and coping from a randomized controlled trial of a three-month stress management intervention. <i>Scandinavian journal of work, environment & health</i> 35(2): 145-52	- Study population was selected
Wilson, Sandra A., Tinker, Robert H., Becker, Lee A. et al. (2001) Stress Management with Law Enforcement Personnel: A Controlled Outcome Study of EMDR Versus a Traditional Stress Management Program. <i>International Journal of Stress Management</i> 8(3): 179-200	- Study used an active control group
Wimmer, Lena von Stockhausen, Lisa Bellingrath, Silo (2019) Improving emotion regulation and mood in teacher trainees: Effectiveness of two mindfulness trainings. <i>BRAIN AND BEHAVIOR</i> 9(9)	- Study population were students
Wlodarczyk, N. (2013) The effect of a group music intervention for grief resolution on disenfranchised grief of hospice workers. <i>Progress in Palliative Care</i> 21(2): 97-106	- Study population was selected
Wolever Ruth, Q, Bobinet Kyra, J, McCabe, Kelley et al. (2012) Effective and viable mind-body stress reduction in the workplace: a randomized controlled trial. <i>Journal of occupational health psychology</i> 17(2): 246-258	- Study population was selected
Wolf, Sharon and Peele, Morgan E (2019) Examining sustained impacts of two teacher professional development programs on professional well-being and classroom practices. <i>Teaching and Teacher Education</i> 86	- Study conducted in a non-OECD / BRICS country
Wongtongkam, Nualnong Krivokapic-Skoko, Branka Duncan, Roderick Bellio, Mariagrazia (2017) The influence of a mindfulness-based intervention on job satisfaction and work-related stress and anxiety. <i>INTERNATIONAL JOURNAL OF MENTAL HEALTH PROMOTION</i> 19(3): 134-143	- Non-randomised study

Study	Code [Reason]
Wu, Bonnie Wai Yan Gao, Junling Leung, Hang Kin Sik, Hin Hung (2019) A Randomized Controlled Trial of Awareness Training Program (ATP), a Group-Based Mahayana Buddhist Intervention. <i>MINDFULNESS</i> 10(7): 1280-1293	- Study intervention has no employer involvement
Wu, Siying, Li, Jian, Wang, Mianzhen et al. (2006) Intervention on occupational stress among teachers in the middle schools in China. <i>Stress and Health</i> 22(5): 329-336	- Study conducted before 2007
Wylde, Chelsey Morrison Mahrer, Nicole E. Meyer, Rika M. L. Gold, Jeffrey I. (2017) Mindfulness for Novice Pediatric Nurses: Smartphone Application Versus Traditional Intervention. <i>JOURNAL OF PEDIATRIC NURSING-NURSING CARE OF CHILDREN & FAMILIES</i> 36: 205-212	- Study does not have a control group
Xue, H; Meng, A F; Xu, D J (2016) Clinical study of skin scraping for reducing nursing staff's fatigue. <i>Shanghai journal of acupuncture and moxibustion [shang hai zhen jiu za zhi]</i> 35(5): 549-551	- Full-text is not in English
Yang, FEI (2019) EFFECTS OF EMOTIONAL RESILIENCE TRAINING ON NURSES' PERCEIVED STRESS, POSITIVE AND NEGATIVE EMOTIONS AND SLEEP QUALITY / EFECTOS DEL ENTRENAMIENTO DE ENFERMEROS EN RESILIENCIA EMOCIONAL SOBRE EL ESTRÉS PERCIBIDO, LAS EMOCIONES POSITIVAS Y NEGATIVAS Y LA CALIDAD DEL SUEÑO. <i>Revista Argentina de Clínica Psicológica</i> xxviii(ii): 199	- Full-text is not in English
Yang, Jiao; Tang, Siyuan; Zhou, Wen (2018) Effect of Mindfulness-Based Stress Reduction Therapy on Work Stress and Mental Health of Psychiatric Nurses. <i>Psychiatria Danubina</i> 30(2): 189-196	- Study population was selected
Yong, Jinsun, Kim, Juhu, Park, Junyang et al. (2011) Effects of a spirituality training program on the spiritual and psychosocial well-being of hospital middle manager nurses in Korea. <i>Journal of continuing education in nursing</i> 42(6): 280-8	- Non-randomised study
Yung, Paul M. B. Fung, Man Yi Chan, Tony M. F. Lau, Bernard W. K. (2004) Relaxation training methods for nurse managers in Hong Kong: a controlled study. <i>INTERNATIONAL JOURNAL OF MENTAL HEALTH NURSING</i> 13(4): 255-261	- Study conducted before 2007
Zeller, Janice M. Johnson, Angela M. Hoffman, Arthur Hoyem, Ruby L. Alexander, Michelle B. Yudkowsky, Rachel Hicks, Frank D. (2020) Mindfulness Training to Improve Nurse Clinical Performance: A Pilot Study. <i>WESTERN JOURNAL OF NURSING RESEARCH</i>	- Primary outcome of the study is not mental wellbeing
Zetterqvist, Kristofer Maanmies, Juha Strom, Lars Andersson, Gerhard (2003) Randomized controlled trial of internet-based stress management. <i>Cognitive Behaviour Therapy</i> 32(3): 151-160	- Study conducted before 2007
Zolnierczyk-Zreda, Dorota (2005) An intervention to reduce work-related burnout in teachers. <i>International journal of occupational safety and ergonomics</i> : JOSE 11(4): 423-30	- Study conducted before 2007

J.2 Cost effectiveness

Reference	Reason for exclusion
Adams A, Hollingsworth A, Osman A. The Implementation of a Cultural Change Toolkit to Reduce Nursing Burnout and Mitigate Nurse Turnover in the Emergency Department. <i>Journal of emergency nursing: JEN : official publication of the Emergency Department Nurses Association</i> . 2019;45(4):452-6.	No economic evaluation
Allen D, Carlson D, Ham C. Well-being: new paradigms of wellness--inspiring positive health outcomes and renewing hope. <i>American journal of health promotion : AJHP</i> . 2007;21(3):1-iii.	No economic evaluation
Anderson P, Jane-Llopis E. Mental health and global well-being. <i>Health promotion international</i> . 2011;26 Suppl 1:i147-55.	No economic evaluation
Anger WK, Elliot DL, Bodner T, Olson R, Rohlman DS, Truxillo DM, et al. Effectiveness of total worker health interventions. <i>Journal of occupational health psychology</i> . 2015;20(2):226-47.	Review
Anonymous. Care managers affect worker productivity. <i>Disease management advisor</i> . 2007;13(12):133-7.	No economic evaluation
Battams S, Roche AM, Fischer JA, Lee NK, Cameron J, Kostadinov V. Workplace risk factors for anxiety and depression in male-dominated industries: a systematic review. <i>Health psychology and behavioral medicine</i> . 2014;2(1):983-1008.	Review
Beekman ATF, van der Feltz-Cornelis C, van Marwijk HWJ. Enhanced care for depression. <i>Current opinion in psychiatry</i> . 2013;26(1):7-12.	Ineligible setting
Bender A, Farvolden P. Depression and the workplace: a progress report. <i>Current psychiatry reports</i> . 2008;10(1):73-9.	No economic evaluation
Bergerman L CPHC. Effectiveness of organizational interventions for the prevention of stress in the workplace. Edmonton: Institute of Health Economics (IHE). 2009.	Review
Brand SL, Thompson Coon J, Fleming LE, Carroll L, Bethel A, Wyatt K. Whole-system approaches to improving the health and wellbeing of healthcare workers: A systematic review. <i>PloS one</i> . 2017;12(12):e0188418.	Review
Brinkert R. A literature review of conflict communication causes, costs, benefits and interventions in nursing. <i>Journal of nursing management</i> . 2010;18(2):145-56.	Review
Burke RJ, Richardsen AMe. Corporate Wellness Programs: Linking Employee and Organizational Health. 2014:380.	Review
Caloyeras JP, Liu H, Exum E, Broderick M, Mattke S. Managing manifest diseases, but not health risks, saved PepsiCo money over seven years. <i>Health affairs (Project Hope)</i> . 2014;33(1):124-31.	Ineligible intervention
Casad BJ, Bryant WJ. Addressing Stereotype Threat is Critical to Diversity and Inclusion in Organizational Psychology. <i>Frontiers in psychology</i> . 2016;7:8.	Review
Cherniack M, Lahiri S. Barriers to implementation of workplace health interventions: An economic perspective. <i>Journal of Occupational and Environmental Medicine</i> . 2010;52(9):934-42.	Ineligible study design

Reference	Reason for exclusion
Cherniack M. Integrated health programs, health outcomes, and return on investment: measuring workplace health promotion and integrated program effectiveness. <i>Journal of occupational and environmental medicine</i> . 2013;55(12 Suppl):S38-45.	Review
Dewa CS, Hoch JS. When could a stigma program to address mental illness in the workplace break even? <i>Canadian journal of psychiatry Revue canadienne de psychiatrie</i> . 2014;59(10 Suppl 1):S34-9.	Ineligible outcomes
Donohue JM, Pincus HA. Reducing the societal burden of depression: a review of economic costs, quality of care and effects of treatment. <i>PharmacoEconomics</i> . 2007;25(1):7-24.	Review
Dwivedi UC, Kumari S, Nagendra HR. Model of yoga intervention in industrial organizational psychology for counterproductive work behavior. <i>Industrial psychiatry journal</i> . 2015;24(2):119-24.	No economic evaluation
Ebert DD, Heber E, Berking M, Riper H, Cuijpers P, Funk B, et al. Self-guided internet-based and mobile-based stress management for employees: results of a randomised controlled trial. <i>Occupational and environmental medicine</i> . 2016;73(5):315-23.	No economic evaluation
Embree JL, Swenty CF, Schaar G. A Balanced Scorecard With Strategy Map: Measuring the Value of a Nursing Sabbatical. <i>Journal of nursing care quality</i> . 2015;30(4):352-8.	No economic evaluation
Furlan AD, Gnam WH, Carnide N, Irvin E, Amick BC, 3rd, DeRango K, et al. Systematic review of intervention practices for depression in the workplace. <i>Journal of occupational rehabilitation</i> . 2012;22(3):312-21.	Review
Geraedts AS, Fokkema M, Kleiboer AM, Smit F, Wiezer NW, Majo MC, et al. The longitudinal prediction of costs due to health care uptake and productivity losses in a cohort of employees with and without depression or anxiety. <i>Journal of occupational and environmental medicine</i> . 2014;56(8):794-801.	No economic evaluation
Goetzel RZ, Ozminkowski RJ. The health and cost benefits of work site health-promotion programs. <i>Annual review of public health</i> . 2008;29:303-23.	Review
Goetzel RZ, Tabrizi M, Henke RM, Benevent R, Brockbank CVS, Stinson K, et al. Estimating the return on investment from a health risk management program offered to small Colorado-based employers. <i>Journal of occupational and environmental medicine</i> . 2014;56(5):554-60.	Ineligible intervention
Grossmeier J, Terry PE, Anderson DR, Wright S. Financial impact of population health management programs: reevaluating the literature. <i>Population health management</i> . 2012;15(3):129-34.	Review
Guimaraes LBdM, Ribeiro JLD, Renner JS. Cost-benefit analysis of a socio-technical intervention in a Brazilian footwear company. <i>Applied ergonomics</i> . 2012;43(5):948-57.	Ineligible intervention
Hamberg-van Reenen HH, Proper KI, van den Berg M. Worksite mental health interventions: a systematic review of economic evaluations. <i>Occupational and environmental medicine</i> . 2012;69(11):837-45.	Review
Horwitz JR, Kelly BD, DiNardo JE. Wellness incentives in the workplace: Cost savings through cost shifting to unhealthy workers. <i>Health Affairs</i> . 2013;32(3):468-76.	Review
Husk K, Blockley K, Lovell R, Bethel A, Lang I, Byng R, et al. What approaches to social prescribing work, for whom, and in what circumstances? A realist review. <i>Health & social care in the community</i> . 2019.	Review
Jacob V, Chattopadhyay SK, Sipe TA, Thota AB, Byard GJ, Chapman DP. Economics of collaborative care for management of depressive disorders: A community guide systematic review. <i>American Journal of Preventive Medicine</i> . 2012;42(5):539-49.	Review
Jayewardene WP, Lohrmann DK, Erbe RG, Torabi MR. Effects of preventive online mindfulness interventions on stress and mindfulness: A meta-analysis of randomized controlled trials. <i>Preventive medicine reports</i> . 2017;5:150-9.	No economic evaluation

Reference	Reason for exclusion
Kaspin LC, Gorman KM, Miller RM. Systematic review of employer-sponsored wellness strategies and their economic and health-related outcomes. <i>Population health management</i> . 2013;16(1):14-21.	Review
Krol M, Papenburg J, Koopmanschap M, Brouwer W. Do productivity costs matter?: the impact of including productivity costs on the incremental costs of interventions targeted at depressive disorders. <i>Pharmacoeconomics</i> . 2011;29(7):601-19.	Review
Lavenberg Jg WK. Interventions to reduce stress among nurses caring for patients with sickle cell disease. Philadelphia: Center for Evidence-based Practice (CEP). 2014.	No economic evaluation
Lavenberg JGHSGD. Mindfulness-based stress reduction interventions for nurses. Philadelphia: Center for Evidence-based Practice (CEP). 2016.	No economic evaluation
Lee S, Blake H, Lloyd S. The price is right: Making workplace wellness financially sustainable. <i>International Journal of Workplace Health Management</i> . 2010;3(1):58-69.	Ineligible study design
Lerner D, Adler D, Hermann RC, Chang H, Ludman EJ, Greenhill A, et al. Impact of a work-focused intervention on the productivity and symptoms of employees with depression. <i>Journal of occupational and environmental medicine</i> . 2012;54(2):128-35.	Ineligible outcomes
Lutz N, Taeymans J, Ballmer C, Verhaeghe N, Clarys P, Deliëns T. Cost-effectiveness and cost-benefit of worksite health promotion programs in Europe: a systematic review. <i>European journal of public health</i> . 2019;29(3):540-6.	Review
Magnavita N. Medical Surveillance, Continuous Health Promotion and a Participatory Intervention in a Small Company. <i>International journal of environmental research and public health</i> . 2018;15(4).	No economic evaluation
McDaid D, Park AL. Investing in mental health and well-being: findings from the DataPrev project. <i>Health promotion international</i> . 2011;26 Suppl 1:i108-39.	Review
Merrill RM, LeCheminant JD. Medical cost analysis of a school district worksite wellness program. <i>Preventive Medicine Reports</i> . 2016;3:159-65.	Ineligible outcomes
Munoz-Murillo A, Esteban E, Avila CC, Fheodoroff K, Haro JM, Leonardi M, et al. Furthering the evidence of the effectiveness of employment strategies for people with mental disorders in europe: A systematic review. <i>International Journal of Environmental Research and Public Health</i> . 2018;15(5):838.	Review
Musich S, McCalister T, Wang S, Hawkins K. An evaluation of the Well at Dell health management program: health risk change and financial return on investment. <i>American journal of health promotion : AJHP</i> . 2015;29(3):147-57.	Ineligible intervention
Naidu VV, Giblin E, Burke KM, Madan I. Delivery of cognitive behavioural therapy to workers: a systematic review. <i>Occupational medicine (Oxford, England)</i> . 2016;66(2):112-7.	Review
Osilla KC, Van Busum K, Schnyer C, Larkin JW, Eibner C, Mattke S. Systematic review of the impact of worksite wellness programs. <i>The American journal of managed care</i> . 2012;18(2):e68-81.	Review
Palumbo MV, Wu G, Shaner-McRae H, Rambur B, McIntosh B. Tai Chi for older nurses: a workplace wellness pilot study. <i>Applied nursing research : ANR</i> . 2012;25(1):54-9.	No economic evaluation
Pelletier KR. A review and analysis of the clinical and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: Update VII 2004-2008. <i>Journal of Occupational and Environmental Medicine</i> . 2009;51(7):822-37.	Review
Pieper C, Schroer S, Eilerts A-L. Evidence of Workplace Interventions-A Systematic Review of Systematic Reviews. <i>International journal of environmental research and public health</i> . 2019;16(19).	Review

Reference	Reason for exclusion
Ploukou S, Panagopoulou E. Playing music improves well-being of oncology nurses. <i>Applied nursing research : ANR</i> . 2018;39:77-80.	No economic evaluation
Pomaki G, Franche R-L, Murray E, Khushrushahi N, Lampinen TM. Workplace-based work disability prevention interventions for workers with common mental health conditions: a review of the literature. <i>Journal of occupational rehabilitation</i> . 2012;22(2):182-95.	Review
Poscia A, Moscato U, La Milia DI, Milovanovic S, Stojanovic J, Borghini A, et al. Workplace health promotion for older workers: a systematic literature review. <i>BMC health services research</i> . 2016;16 Suppl 5:329.	Review
Raglio A, Oddone E, Morotti L, Khreiwesh Y, Zuddas C, Brusinelli J, et al. Music in the workplace: A narrative literature review of intervention studies. <i>Journal of Complementary and Integrative Medicine</i> . 2019:20170046.	Review
Rodgers M, Asaria M, Walker S, McMillan D, Lucock M, Harden M, et al. The clinical effectiveness and cost-effectiveness of low-intensity psychological interventions for the secondary prevention of relapse after depression: A systematic review. <i>Health Technology Assessment</i> . 2012;16(28):1-129.	Review
Serxner S, Alberti A, Weinberger S. Medical cost savings for participants and nonparticipants in health risk assessments, lifestyle management, disease management, depression management, and nurseline in a large financial services corporation. <i>American journal of health promotion : AJHP</i> . 2012;26(4):245-52.	Ineligible outcomes
Sjobom V, Marnetoft SU. A new model for vocational rehabilitation at an organizational level -- a pilot study with promising results. <i>Work (Reading, Mass)</i> . 2008;30(2):99-105.	Ineligible outcomes
Steel J, Godderis L, Luyten J. Productivity estimation in economic evaluations of occupational health and safety interventions: a systematic review. <i>Scandinavian journal of work, environment & health</i> . 2018;44(5):458-74.	Review
The Swedish Council on Health Technology A. [Occupational exposures and symptoms of depression and burnout]. Stockholm: The Swedish Council on Health Technology Assessment (SBU). 2014.	No economic evaluation
van Dongen JM, Coffeng JK, van Wier MF, Boot CRL, Hendriksen IJM, van Mechelen W, et al. The cost-effectiveness and return-on-investment of a combined social and physical environmental intervention in office employees. <i>Health education research</i> . 2017;32(5):384-98.	Ineligible intervention
van Dongen JM, Strijk JE, Proper KI, van Wier MF, van Mechelen W, van Tulder MW, et al. A cost-effectiveness and return-on-investment analysis of a worksite vitality intervention among older hospital workers: results of a randomized controlled trial. <i>Journal of occupational and environmental medicine</i> . 2013;55(3):337-46.	Review
Verbeek J, Pulliainen M, Kankaanpaa E. A systematic review of occupational safety and health business cases. <i>Scandinavian journal of work, environment & health</i> . 2009;35(6):403-12.	Ineligible outcomes
von Thiele Schwarz U, Hasson H. Effects of worksite health interventions involving reduced work hours and physical exercise on sickness absence costs. <i>Journal of occupational and environmental medicine</i> . 2012;54(5):538-44.	No economic evaluation
Wang PS, Simon GE, Avorn J, Azocar F, Ludman EJ, McCulloch J, et al. Telephone screening, outreach, and care management for depressed workers and impact on clinical and work productivity outcomes: a randomized controlled trial. <i>JAMA</i> . 2007;298(12):1401-11.	Review
Wang PS, Simon GE, Kessler RC. Making the business case for enhanced depression care: the National Institute of Mental Health-harvard Work Outcomes Research and Cost-effectiveness Study. <i>Journal of occupational and environmental medicine</i> . 2008;50(4):468-75.	No economic evaluation

Appendix K – Research recommendations – full details

K.1.1 Research recommendation

What is the long-term effectiveness and cost-effectiveness of universal individual-level interventions on mental wellbeing in different types of organisations?

K.1.1.1 Why this is important.

The committee saw evidence on a range of interventions that aimed to improve mental wellbeing in an unselected population. From the evidence, the committee agreed that mindfulness, meditation and yoga were most effective overall in reducing job stress and mental health symptoms and having a positive effect on employee mental wellbeing. The evidence showed that these interventions were effective either when delivered in a group or online. The committee decided that employees should be able to choose how the interventions are delivered. The committee noted a lack of evidence about the long-term effectiveness of universal individual-level interventions in all organisations.

K.1.1.2 Rationale for research recommendation

Importance to 'patients' or the population	Poor mental wellbeing at work is a significant public and political concern. The committee noted the lack of evidence about the long-term effectiveness of universal individual-level interventions in all organisations.
Relevance to NICE guidance	Universal individual-level interventions have been considered in this guideline and there is a lack of evidence about the long-term effectiveness of universal individual-level interventions in all organisations.
Relevance to the NHS	The outcome would increase understanding of long-term effectiveness of universal individual-level interventions in all organisations including the NHS.
National priorities	High – outlined in the NHS long term plan
Current evidence base	There is a lack of evidence about the long-term effectiveness of universal individual-level interventions in all organisations.

Equality considerations	None known
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K.1.1.3 Modified PICO table

Population	<ul style="list-style-type: none"> • Everyone aged 16 years or older in full or part time employment. • Employers from micro, small, medium and/or large organisation across private and public sector
Intervention	Universal individual-level interventions
Comparator	Usual care or no intervention
Outcome	<p>Long-term effectiveness for micro, small, medium and/or large organisation for outcomes including:</p> <p>Employee outcomes:</p> <ul style="list-style-type: none"> • Any measure of mental wellbeing • Job stress, burnout or fatigue • Symptoms of mental health conditions such as depression, anxiety, insomnia • Absenteeism • Presenteeism • Productivity • Job satisfaction, engagement or motivation • Quality of life • Uptake of support services <p>Employer outcomes</p> <ul style="list-style-type: none"> • Productivity • Absenteeism • Presenteeism
Study design	<ul style="list-style-type: none"> • Quantitative • Mixed methods
Timeframe	Long term
Additional information	None

K.1.2 Research recommendation

What is the long-term effectiveness of universal individual-level interventions in different kinds of SMEs?

K.1.2.1 Why this is important.

The committee saw evidence on a range of interventions that aimed to improve mental wellbeing in an unselected population. From the evidence, the committee agreed that mindfulness, meditation and yoga were most effective overall in reducing job stress and mental health symptoms and having a positive effect on employee mental wellbeing. The evidence showed that these interventions were effective either when delivered in a group or online. The committee decided that employees should be able to choose how the interventions are delivered. The committee noted that there was a lack evidence around the long-term effectiveness of these universal individual-level interventions when delivered in SMEs. This is particularly important considering that SMEs employ [61%](#) of all private sector employees in the UK, and these organisations are likely to have fewer resources compared with larger organisations.

K.1.2.2 Rationale for research recommendation

Importance to 'patients' or the population	Poor mental wellbeing at work is a significant public and political concern. The committee noted the lack of evidence about the long-term effectiveness of universal individual-level interventions in SMEs.
Relevance to NICE guidance	Universal individual-level interventions have been considered in this guideline and there is a lack of evidence about the long-term effectiveness of universal individual-level interventions in SMEs.
Relevance to the NHS	The outcome would increase understanding of long-term effectiveness of universal individual-level interventions in SMEs, which may inform practices that improve mental wellbeing in a large proportion of the population and reduce the burden of mental ill health on the NHS.
National priorities	High – outlined in the NHS long term plan
Current evidence base	There is a lack of evidence about the long-term effectiveness of universal individual-level interventions in SMEs.

Equality considerations	None known
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K.1.2.3 Modified PICO table

Population	<ul style="list-style-type: none"> • Everyone aged 16 years or older in full or part time employment. • Employers from micro, small, and medium organisations across private and public sector
Intervention	Universal individual-level interventions
Comparator	Usual care or no intervention
Outcome	<p>Long-term effectiveness for micro, small, and medium organisation for outcomes including: Employee outcomes:</p> <ul style="list-style-type: none"> • Any measure of mental wellbeing • Job stress, burnout or fatigue • Symptoms of mental health conditions such as depression, anxiety, insomnia • Absenteeism • Presenteeism • Productivity • Job satisfaction, engagement or motivation • Quality of life • Uptake of support services <p>Employer outcomes</p> <ul style="list-style-type: none"> • Productivity • Absenteeism • Presenteeism
Study design	<ul style="list-style-type: none"> • Quantitative • Mixed methods
Timeframe	Long term
Additional information	None

K.1.3 Research recommendation

What are the specific needs of employees from different groups (such as income levels, ethnic groups, male/female groups, and age groups) to facilitate access to individual-level interventions, and how effective are individual-level interventions across these groups?

K.1.3.1 Why this is important.

The committee saw evidence on a range of interventions that aimed to improve mental wellbeing in an unselected population. From the evidence, the committee agreed that mindfulness, meditation and yoga were most effective overall in reducing job stress and mental health symptoms and having a positive effect on employee mental wellbeing. The committee discussed that employees from some groups may face difficulties in accessing or participating in interventions. The committee discussed that access to online interventions would be affected by digital exclusion, and that this would disproportionately affect individuals from lower socioeconomic groups. The committee discussed the additional needs of employees who may face language barriers, such as migrants; or employees who would need other forms of adaptation, for example, individuals who are hard of hearing. The committee discussed that there may be a gender divide related to yoga participation and that this should be considered as a barrier to wider participation. In addition, the committee noted that some interventions may be less suitable for certain communities or cultures, and that interventions should be developed that work for these groups.

K.1.3.2 Rationale for research recommendation

Importance to 'patients' or the population	Poor mental wellbeing at work is a significant public and political concern. The committee noted the lack of evidence around the effectiveness of universal individual-level interventions across different groups of employees. It is important for interventions to be accessible and effective for all groups to ensure that inequalities are not widened
Relevance to NICE guidance	Universal individual-level interventions have been considered in this guideline and there is a lack of evidence around how effective these are in different groups.
Relevance to the NHS	The outcome would increase understanding of long-term effectiveness of universal individual-level interventions for all groups of employees in organisations including the NHS.
National priorities	High – outlined in the NHS long term plan

Current evidence base	There is a lack of evidence about the effectiveness of universal individual-level interventions across different groups, as well as the specific needs of different groups.
Equality considerations	<p>This research recommendations seeks to understand factors that might impact equality of access this may include:</p> <ul style="list-style-type: none"> • access to online interventions and digital exclusion which may disproportionately affect individuals from lower socioeconomic groups. • the needs of employees who may face language barriers, such as migrants. • the needs of employees who would need other forms of adaptation, for example, individuals who are hard of hearing. • the appeal of certain interventions to certain groups for example there may be a gender divide related to yoga participation which may be a barrier to wider participation. • the suitability of interventions for certain communities or cultures. • population groups sharing the 'protected characteristics' defined in the Equality Act. <p>Any research in this area must ensure that current inequalities of access are not increased. A clear rationale underpinning the focus of the research and consideration of these through an equality impact assessment should be undertaken.</p>

K.1.3.3 Modified PICO table

Population	<ul style="list-style-type: none"> • Employees over 16 sub-grouped by age, gender, family ancestry and other population groups sharing the 'protected characteristics' defined in the Equality Act.
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Intervention	Universal individual-level interventions
Comparator	Usual care or no intervention
Outcome	<p>Effectiveness for outcomes including:</p> <p>Employee outcomes:</p> <ul style="list-style-type: none"> • Any measure of mental wellbeing • Job stress, burnout or fatigue • Symptoms of mental health conditions such as depression, anxiety, insomnia • Absenteeism • Presenteeism • Productivity • Job satisfaction, engagement or motivation • Quality of life • Uptake of support services <p>Employer outcomes</p> <ul style="list-style-type: none"> • Productivity • Absenteeism • Presenteeism
Study design	<ul style="list-style-type: none"> • Quantitative • Mixed methods
Timeframe	Any
Additional information	None

K.1.3.4 Modified SPIDER table

Sample	<ul style="list-style-type: none"> • Employees aged 16 years or older in full or part time employment. • Employees from different <ul style="list-style-type: none"> ○ income levels ○ ethnic groups ○ male/female groups ○ age groups
Phenomenon of Interest	What are the specific needs of employees from different groups

Study Design	<ul style="list-style-type: none">• Studies with a qualitative component including focus groups and interview-based studies.• Mixed-methods studies containing relevant qualitative data
Evaluation	Views and experiences of employers and employees regarding: <ul style="list-style-type: none">• Their specific needs around mental wellbeing• Barriers and facilitators to participating in interventions
Research type	Qualitative or mixed methods