

## **APPENDIX 14E:**

### **CLINICAL EVIDENCE -STUDY CHARACTERISTICS TABLES: PSYCHOSOCIAL INTERVENTIONS**

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## 1.1 CHARACTERISTICS OF INCLUDED STUDIES

<b>Study ID</b>	<b>BATHAEE2001</b>
<i>Bibliographic reference</i>	Bat-haee, M. A. (2001) A longitudinal study of active treatment of adaptive skills of individuals with profound mental retardation. <i>Psychological Reports</i> , 89, 345-354.
<i>Methods</i>	<b>Allocation:</b> N/A - no control group. <b>Matching:</b> N/A - no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> residential. <b>Raters:</b> psychologists. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> intellectual disability (DSM-IV). <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> Slosson Intelligence Test N = 59 for first 5-year comparison, N = 51 for next 5-year comparison <b>Age:</b> 32 to 75 years (mean 44.4 years). <b>Sex:</b> for first 5-year comparison: male 14, female 45; for second 5-year comparison: male 12, female 39. <b>Ethnicity:</b> not reported. <b>IQ:</b> mental age of 2 to 17 months. <b>Inclusion criteria:</b> adults with 'intellectual disabilities' living in group homes.
<i>Interventions</i>	1. Active treatment (N = 59 or N = 51). <b>Duration:</b> <b>Intervention:</b> 10 years. <b>Follow-up:</b> 10 years.
<i>Outcomes</i>	Data on participants' adaptive skills were taken from their records and were done using the Behavior Maturity Checklist II-1978 (Soule <i>et al.</i> , 1978), which examines six general areas of adaptive skills (dressing, grooming, eating, toileting, language and social interaction). Data were extracted for the Toileting Subscale.
<i>Study design</i>	Observational (before-and-after study)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. No control group. 2. Little detail given about nature of intervention. 3. Efficacy data cannot be extracted.
<i>Notes</i>	This was a longitudinal 10-year study examining changes in a number of adaptive skills over consecutive 5-year periods. Data were extracted for toileting over both periods as this adaptive skill continued to improve.

<b>Study ID</b>	<b>BENSON1986</b>
<i>Bibliographic references</i>	Benson, B. A., Rice, C. J. & Miranti, S. V. (1986) Effects of anger management training with mentally retarded adults in group treatment. <i>Journal of Consulting and Clinical Psychology</i> , 54, 728–729.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self-report: two students were trained to rate role-play responses, and there were two supervisors from subject’s vocational training centre. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not given. <b>Qualifying diagnostic assessment:</b> level of intellectual functioning taken from training centre records and based on the AAMD system. N = 54. <b>Age:</b> 17 to 57 years (mean 32 years). <b>Sex:</b> male 37, female 17. <b>Ethnicity:</b> black N = 28, white N = 23, Hispanic N = 3. <b>IQ:</b> not reported, mild or moderate learning disability. <b>Inclusion criteria:</b> participants were from vocational training centres for the developmentally disabled and acknowledged that losing their temper at work was a problem.
<i>Interventions</i>	1. CBT anger management training, including a relaxation group, self-instruction group, problem solving condition, and a combined condition beginning with relaxation training followed by self-instruction and then by problem solving (N = 54). <b>Duration:</b> <b>Intervention:</b> 12 weekly 90-minute sessions. <b>Follow-up:</b> 19 weeks.
<i>Outcomes</i>	The primary outcome was anger management. Outcome measures were a self-report anger inventory, a conflict situations test which provides mean aggression scores for think-and-do responses separately, ratings of videotaped role-plays of anger-arousing situations, and supervisor ratings on an aggressive behaviour rating scale. Data were extracted for aggressive gestures on the videotaped role-play test.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. No control group. 2. Sample sizes in the different CBT groups do not allow for comparison. 3. Efficacy data could not be extracted.
<i>Notes</i>	Data extracted for the gestures dimension of the videotaped role-play test. Results suggestive of significant pre-to-post-test difference, but difference not maintained at follow-up 4 to 5 weeks later.

<b>Study ID</b>	<b>BOTSFORD2004</b>
<i>Bibliographic reference</i>	Botsford, A. L. & Rule, D. (2004) Evaluation of a group intervention to assist aging parents with permanency planning for an adult offspring with special needs. <i>Social Work</i> , 49, 423–431.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> matched on age and marital status. <b>Blindness:</b> non-blind. <b>Setting:</b> not reported. <b>Raters:</b> graduate student. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 27. <b>Age:</b> mothers 49 to 82 years (mean 64.2 years); children 23 to 49 years (mean 33.7 years). <b>Sex:</b> male 0, female 27. <b>Ethnicity:</b> white N = 26. <b>IQ:</b> not reported. <b>Inclusion criteria:</b> to participate in the study, mothers had to have a son or daughter of at least 23 years old with a learning disability, and living with the mother, and the mother needed not to have made appreciable permanency plans for the offspring.
<i>Interventions</i>	1. Psychoeducational permanency planning group intervention (N = 13) which provided opportunities for parents to express concerns about future of their offspring, increase participants' awareness and knowledge about options and resources, identify obstacles to planning, strengthen relationships with professionals, and problem solve on specific planning issues and concerns. Group sessions included both parent discussion and interaction, and speakers on residential, financial and legal resources followed by group discussion. 2. Control group (N = 14). <b>Duration:</b> <b>Intervention:</b> 6 weeks. <b>Follow-up:</b> 6 weeks.
<i>Outcomes</i>	Primary outcome was mothers' awareness and knowledge of planning issues including knowledge and awareness about planning, competence and confidence to plan, appraisals of the planning process, intermediate planning behaviours, and residential and legal planning. Interviews with mothers were coded using standardised (including Heller & Factor's [1991] Community Resources Scale) and original scales and variables were clustered into the five categories listed previously.
<i>Study design</i>	RCT
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Non-blind allocation, administration and assessment. 2. Randomisation methods unclear. 3. Small sample size. 4. Group numbers were not clear; it was assumed that N = 13 in

	<p>experimental and N = 14 in control but not clear whether this is correct.</p> <p>5. Not clear whether control group received care apart from intervention.</p> <p>6. Indirect because extrapolating from adults with a learning disability.</p> <p>7. Relatively short duration of follow-up.</p>
Notes	One mother terminated participation because of her daughter's medical crisis.

<b>Study ID</b>	<b>ELLIOTT1991</b>
<i>Bibliographic reference</i>	Elliott, R. O. Jr., Hall, K. L. & Soper, H. V. (1991) Analog language teaching versus natural language teaching: generalization and retention of language learning for adults with autism and mental retardation. <i>Journal of Autism and Developmental Disorders</i> , 21, 433–447.
<i>Methods</i>	<p><b>Allocation:</b> non-randomised.</p> <p><b>Matching:</b> matched according to vocabulary scores. Groups did not significantly differ in mental age equivalents, chronological ages or total duration of stays in residential treatment facilities.</p> <p><b>Blindness:</b> blind observers for 40 out of 120 assessments to score rater reliability.</p> <p><b>Setting:</b> residential.</p> <p><b>Raters:</b> trained evaluators.</p> <p><b>Country:</b> US.</p>
<i>Participants</i>	<p><b>Diagnosis:</b> ASD.</p> <p><b>Coexisting conditions:</b> not reported.</p> <p><b>Qualifying diagnostic assessment:</b> DSM-III-R.</p> <p>N = 23.</p> <p><b>Age:</b> 17 to 37 years (mean 26 years).</p> <p><b>Sex:</b> male 19, female 4.</p> <p><b>Ethnicity:</b> not reported.</p> <p><b>IQ:</b> not reported – severe to profound cognitive delays, average estimated mental age equivalent 3.3 years (range 1.7 to 5.1 years)</p> <p><b>Inclusion criteria:</b> clients of residential treatment programme with autism and severe to profound cognitive delays. All participants were in good health. None had significant sensory or motor disabilities or displayed behaviours likely to preclude regular attendance at scheduled training sessions.</p>
<i>Interventions</i>	<p>1. Analogue language teaching, which attempts to evoke imitative responses through use of successive trials (N = 23, but halved for data analysis because this was a crossover study).</p> <p>2. Natural language teaching, which allows participant to select items that determine the order of presentation (N = 23, but halved for data analysis because this was a crossover study).</p> <p><b>Duration:</b></p> <p><b>Intervention:</b> 1 month for each intervention.</p> <p><b>Follow-up:</b> 3 months.</p>
<i>Outcomes</i>	Number of nouns generalised.
<i>Study design</i>	Quasi-experimental (crossover)



Source of funding	Not reported
Limitations	1. Small sample size. 2. No waiting-list or attention-placebo control group. 3. Study designed to compare two applied behavioural analysis techniques and not to examine the overall efficacy of applied behavioural analysis training for language acquisition.
Notes	-

<b>Study ID</b>	<b>ERGUNERTEKINALP2004</b>
Bibliographic reference	Ergüner-Tekinalp, B. & Akkök, F. (2004) The effects of a coping skills training programme on the coping skills, hopelessness, and stress levels of mothers of children with autism. <i>International Journal for the Advancement of Counselling</i> , 26, 257-269.
Methods	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> education. <b>Raters:</b> self-completed questionnaires. <b>Country:</b> Turkey.
Participants	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. <b>N = 20.</b> <b>Age:</b> mothers 29 to 52 years (experimental group mean 42.4 years, control group mean 39.1 years); children 11 to 19 years (experimental group mean 15.2 years, control group mean 14 years). <b>Sex:</b> male 0, female 20. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported. <b>Inclusion criteria:</b> not reported.
Interventions	1. Coping skills training programme (N = 10) consisting of eight group sessions that used techniques of instruction, discussion, sharing and application of techniques, and covered understanding stress and coping, general coping strategies, problem solving, relaxation training, positive thinking and social support. 2. Control group (N = 10). After completion of experimental training programme the control group were provided with written information about skills and techniques used in the programme. <b>Duration:</b> <b>Intervention:</b> 4 weeks (twice-weekly 1.5 hour sessions). <b>Follow-up:</b> 4 weeks.
Outcomes	Primary outcomes were parental stress, as measured by the Questionnaire on Resources and Stress (Holroyd, 1987), parental coping skills, as measured by the Coping Skills Strategy Indicator (Amirkhan, 1990), and parental depression, as measured by the Beck Hopelessness Scale (Beck <i>et al.</i> , 1974).
Study design	Quasi-experimental (parallel groups)
Source of funding	Not reported
Limitations	1. Group allocation not randomised.

	2. Efficacy data cannot be extracted. 3. Small sample size. 4. Short duration of follow-up.
Notes	-

<b>Study ID</b>	<b>FELDMAN1999</b>
<i>Bibliographic reference</i>	Feldman, M. A., Ducharme, J. M. & Case, L. (1999) Using self-instructional pictorial manuals to teach child-care skills to mothers with intellectual disabilities. <i>Behavior Modification</i> , 23, 480–497.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> not reported. <b>Country:</b> Canada.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> WAIS-R. N = 10. <b>Age:</b> 19 to 39 years (mean 28 years). <b>Sex:</b> male 0, female 10. <b>Ethnicity:</b> not reported. <b>IQ:</b> 71 to 76 (mean 73.8). <b>Inclusion criteria:</b> not reported.
<i>Interventions</i>	1. Self-instructional pictorial manuals to teach child-care skills (N = 10). <b>Duration:</b> <b>Intervention:</b> Until mothers reached training criterion of 80% or higher for two sessions. <b>Follow-up:</b> 3 years.
<i>Outcomes</i>	Target childcare behaviour checklist.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Ontario Mental Health Foundation and the Ontario Ministry of Community and Social Services Research Grants Program
<i>Limitations</i>	1. Small sample size. 2. No control group. 3. Duration of intervention not reported. 4. Efficacy data cannot be extracted.
Notes	-

<b>Study ID</b>	<b>GARCIAVILLAMISAR2000</b>
<i>Bibliographic reference</i>	García-Villamisar, D., Ross, D. & Wehman, P. (2000) Clinical differential analysis of persons with autism in a work setting: a follow-up study. <i>Journal of Vocational Rehabilitation</i> , 14, 183-185.
<i>Methods</i>	<p><b>Allocation:</b> non-randomised.</p> <p><b>Matching:</b> matched on age, total score on CARS, and degree of intelligence.</p> <p><b>Blindness:</b> non-blind.</p> <p><b>Setting:</b> community for supported work group.</p> <p><b>Raters:</b> first author conducted interviews with caretakers, therapists and families.</p> <p><b>Country:</b> Spain and Germany.</p>
<i>Participants</i>	<p><b>Diagnosis:</b> DSM-IV ASD.</p> <p><b>Coexisting conditions:</b> N = 22 epilepsy.</p> <p><b>Qualifying diagnostic assessment:</b> not reported.</p> <p>N = 51.</p> <p><b>Age:</b> range not reported (sheltered workshop group mean 21.07 years, supported work group mean 21.64 years).</p> <p><b>Sex:</b> male 39, female 12.</p> <p><b>Ethnicity:</b> not reported.</p> <p><b>IQ:</b> range not reported (sheltered workshop group mean 55.52, supported work group mean 57.41, as assessed with the IQ Leiter).</p> <p><b>Inclusion criteria:</b> supported employment subjects selected on the following criteria: sheltered workshops enrolment prior to participation in supported work programme; diagnosis of autism; no severe behaviour problems; acceptable professional and vocational abilities; informed consent.</p>
<i>Interventions</i>	<p>1. Sheltered workshop group (N = 25).</p> <p>2. Supported work group (all jobs in the community, predominantly in service sector and included food services, waiters, recycling and delivery, retail, gardening, industrial laundry, agriculture and cattle-raising; all subjects worked 15 to 30 hours per week; job coach assigned to each worker) (N = 26).</p> <p><b>Duration:</b></p> <p><b>Intervention:</b> average length of community employment was 30 months.</p> <p><b>Follow-up:</b> 3 years (1996 to 1999).</p>
<i>Outcomes</i>	Primary outcome was autistic behaviours as measured by the CARS.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	<p>1. Figures in text and tables do not add up with regard to sample size of the group. The sample sizes reported in the demographic table are extracted as these are corroborated by follow-up study.</p> <p>2. No inclusion criteria reported for sheltered workshop group.</p>
<i>Notes</i>	-

<b>Study ID</b>	<b>GARCIAVILLAMISAR2002</b>
<i>Bibliographic reference</i>	García-Villamisar, D., Wehman, P. & Diaz Navarro, M. (2002) Changes in the quality of autistic people's life that work in supported and sheltered employment. A 5-year follow-up study. <i>Journal of Vocational Rehabilitation</i> , 17, 309–312.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> matched on age, total score on CARS and degree of intelligence. <b>Blindness:</b> non-blind. <b>Setting:</b> community for supported work group. <b>Raters:</b> first author conducted interviews with caretakers, therapists and families. <b>Country:</b> Spain and Germany.
<i>Participants</i>	<b>Diagnosis:</b> DSM-IV ASD. <b>Coexisting conditions:</b> N = 22 epilepsy. <b>Qualifying diagnostic assessment:</b> not reported. N = 51. <b>Age:</b> range not reported (sheltered workshop group mean 21.07 years, supported work group mean 21.64 years). <b>Sex:</b> male 39, female 12. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (sheltered workshop group mean 55.52, supported work group mean 57.41, as assessed with the IQ Leiter). <b>Inclusion criteria:</b> supported employment subjects selected on the following criteria: sheltered workshops enrolment prior to participation in supported work programme; diagnosis of autism; no severe behaviour problems; acceptable professional and vocational abilities; informed consent.
<i>Interventions</i>	1. Sheltered workshop group (N = 25). 2. Supported work group (all jobs in the community, predominantly in service sector and included food services, waiters, recycling and delivery, retail, gardening, industrial laundry, agriculture and cattle-raising; all subjects worked 15 to 30 hours per week; job coach assigned to each worker) (N = 26). <b>Duration:</b> <b>Intervention:</b> average length of community employment was 30 months. <b>Follow-up:</b> 3 years (1996 to 1999).
<i>Outcomes</i>	Primary outcome was quality of life as measured by the Quality of Life Survey (Sinnot-Oswald <i>et al.</i> , 1991).
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Horizon Program of European Union and Cosejer ía de Asuntos Sociales de la Comunidad Autónoma de Madrid (Spain)
<i>Limitations</i>	Figures in text and tables do not add up with regard to sample size of the group. The sample sizes reported in the demographic table are extracted.
<i>Notes</i>	Follow-up from GARCIAVILLAMISAR2000, but different outcome data reported and extracted.

<b>Study ID</b>	<b>GARCIAVILLAMISAR2007</b>
<i>Bibliographic reference</i>	García-Villamisar, D. & Hughes, C. (2007) Supported employment improves cognitive performance in adults with autism. <i>Journal of Intellectual Disability Research</i> , 51, 142–150.
<i>Methods</i>	<b>Allocation:</b> random selection but not allocation. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> supported work was in the community. <b>Raters:</b> computer-administered testing. <b>Country:</b> Spain.
<i>Participants</i>	<b>Diagnosis:</b> DSM-IV ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> CARS >30. N = 44. <b>Age:</b> range not reported (supported work group mean 25.52 years, no supported work group mean 24.32 years). <b>Sex:</b> male 32, female 12. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (supported work group mean 80.81, no supported work mean 82.42, as assessed by the British Picture Vocabulary Scale). <b>Inclusion criteria:</b> supported employment participants selected according to the following criteria: sheltered workshops enrolment prior to the participation in the supported work programme (minimum 2 years); no previous participation in other supported employment programmes; diagnosis of autism; no severe behavioural problems; acceptable professional and vocational abilities; informed consent; and all participants required to score above the 35th percentile point on the Standard Progressive Matrices.
<i>Interventions</i>	1. Supported work group (all jobs were in the community and predominantly in the service sector including food services, waiters, recycling and delivery, retail, gardening, industrial laundry, agriculture and cattle raising; participants worked an average of 20 hours per week; job coach assigned to each worker) (N = 22; sample size assumption, see notes section below). 2. Waiting list control group (N = 22; sample size assumption, see notes section below). <b>Duration:</b> <b>Intervention:</b> mean length of supported employment was 30 months. <b>Follow-up:</b> mean length of supported employment was 30 months.
<i>Outcomes</i>	Primary outcome was executive functioning and memory performance as assessed by a battery of neuropsychological tests from CANTAB. Data for a measure of executive functioning, the SOC Planning Task, were selected for analysis. This task is a computerised version of the Tower of London Planning Task.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Fondo Social Europeo and Consejería de Asuntos Sociales de la Comunidad Autónoma de Madrid
<i>Limitations</i>	1. Sample sizes for each group not reported. Data were extracted on the basis of an equal sample size in each group but obviously this assumption may be invalid.

	2. No inclusion criteria reported for the waiting list controls.
Notes	Data for SOC Planning Task, average planning time extracted.

<b>Study ID</b>	<b>GARCIAVILLAMISAR2010</b>
<i>Bibliographic reference</i>	García-Villamsiar, D. A. & Dattilo, J. (2010) Effects of a leisure programme on quality of life and stress of individuals with ASD. <i>Journal of Intellectual Disability Research, 54</i> , 611–619.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> no matching. <b>Blindness:</b> blind outcome assessment. <b>Setting:</b> residential and community. <b>Raters:</b> team of therapists blind to objectives of research. <b>Country:</b> Spain.
<i>Participants</i>	<b>Diagnosis:</b> ASD (N = 2 Asperger’s syndrome). <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> clinically diagnosed by a psychiatrist or clinical psychologist with several years of experience in assessment of autism and related conditions. <b>N = 71.</b> <b>Age:</b> 17 to 39 years (experimental mean 31.49 years, control mean 30.06 years). <b>Sex:</b> male 41, female 30. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported. <b>Inclusion/exclusion criteria:</b> all participants were screened to exclude comorbid psychiatric illness (for example schizophrenia, major depression) and neurological disorders that might influence brain function (for example epilepsy).
<i>Interventions</i>	1. Leisure programme (N = 37), consisted of a group recreation context from 5.00–7.00 p.m. (2 hours) each day (5 days per week) for participants to interact with media, engage in exercise, play games and do crafts, attend events and participate in other recreation activities. The criteria for activity selection included those activities that were understandable, reactive, comfortable and active. 2. Waiting list control group (N = 34). <b>Duration:</b> <b>Intervention:</b> 1 year. <b>Follow-up:</b> 1 year.
<i>Outcomes</i>	The primary outcome was quality of life as measured by the QoLQ – Spanish version (Schalock & Keith, 1993; Caballo <i>et al.</i> , 2005).
<i>Study design</i>	RCT
<i>Source of funding</i>	Not reported
<i>Limitations</i>	No attention-placebo condition.
<i>Notes</i>	–

<b>Study ID</b>	<b>GARCIAVILLAMISAR2011</b>
<i>Bibliographic reference</i>	García-Villamisar, D. & Dattilo, J. (2011) Social and clinical effects of a leisure program on adults with autism spectrum disorder. <i>Research in Autism Spectrum Disorders</i> , 5, 246–253.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> participants were matched according to age and gender. <b>Blindness:</b> blind outcome assessment. <b>Setting:</b> residential. <b>Raters:</b> team of therapists blind to objectives of research. <b>Country:</b> Spain.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> clinically diagnosed by a psychiatrist or clinical psychologist with several years of experience in assessment of autism and related conditions. <b>N = 40.</b> <b>Age:</b> 24 to 38 years (experimental group mean 32.05 years, control group mean 31.75 years). <b>Sex:</b> male 24, female 16. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported. <b>Inclusion criteria:</b> all participants were screened to exclude comorbid psychiatric illness (for example schizophrenia, major depression) and neurological disorders that might influence brain function (for example epilepsy).
<i>Interventions</i>	1. Leisure programme (N = 20), consisted of a group recreation context from 5.00 to 7.00 p.m. (2 hours) each day (5 days per week) for participants to interact with media, engage in exercise, play games and do crafts, attend events and participate in other recreation activities. The criteria for activity selection included those activities that were understandable, reactive, comfortable and active. 2. Waiting list control group (N = 20). <b>Duration:</b> <b>Intervention:</b> 1 year. <b>Follow-up:</b> 1 year.
<i>Outcomes</i>	The primary outcome of interest was recognition of emotion as assessed by The Facial Discrimination Battery – Spanish version (García-Villamisar <i>et al.</i> , 2010).
<i>Study design</i>	RCT
<i>Source of funding</i>	Grant from the Real Patronato para la Discapacidad, Ministerior de Sanidad y Cosumo, Government of Spain; and Asociación Nuevo Horizonte, Madrid, Spain
<i>Limitations</i>	No attention-placebo control group.
<i>Notes</i>	–

<b>Study ID</b>	<b>GOLAN2006</b>
<i>Bibliographic reference</i>	Golan, O. & Baron-Cohen, S. (2006) Systemizing empathy: teaching adults with Asperger's syndrome or high-functioning autism to recognize complex emotions using interactive multimedia. <i>Development and Psychopathology, 18</i> , 591-617.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> matched on age, verbal and performance IQ, handedness, and gender. <b>Blindness:</b> assistants and participants blind to group, but not investigator. <b>Setting:</b> community. <b>Raters:</b> Computer-based assessments, which the first author and three trained assistants helped participants through. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> ASD (Asperger's syndrome and high-functioning autism). <b>Coexisting conditions:</b> five participants in each group had another psychiatric diagnosis, such as depression or ADHD. <b>Qualifying diagnostic assessment:</b> AQ. N = 41 (data were also reported for a typical control group, N = 28, but are not extracted here). <b>Age:</b> 17 to 52 years (experimental group mean 30.5 years, control group mean 30.9 years). <b>Sex:</b> male 31, female 10. <b>Ethnicity:</b> not reported. <b>IQ:</b> 80 to 140 (experimental group mean VIQ 108.3 and mean PIQ 112, control group mean VIQ 109.7 and mean PIQ 115.3). <b>Inclusion criteria:</b> participants had not participated in any related intervention during the least 3 months and had no plans for engaging in another intervention while the study was ongoing. Participants were also required to complete a minimum of 10 hours intervention training.
<i>Interventions</i>	1. Software home users group (N = 19), training with Mind Reading, which is an interactive guide to emotions and mental states. 2. Control group (N = 22), completed pre- and post-assessments, but with no intervention. <b>Duration:</b> <b>Intervention:</b> 2 hours per week over a period of 10 weeks (and a minimum of 10 hours). <b>Follow-up:</b> 15 weeks.
<i>Outcomes</i>	Primary outcome was emotion recognition as assessed by the recognition of complex emotions in faces and voices measured using The CAM Face-Voice Battery, the Reading of the Mind in the Eyes task (revised, adult version) and Reading the Mind in Film task, which tests for holistic distant generalisation. Data were extracted for the CAM face task.
<i>Study design</i>	RCT
<i>Source of funding</i>	National Alliance for Autism Research, Corob Charitable Trust, Cambridge Overseas Trust, B'nai and B'rith Leo Baeck scholarships, Shirley Foundation, MRC and Three Guineas Trust
<i>Limitations</i>	Generalisation to real-life social situations needs to be examined.



Notes	The randomised trial comparing adults with autism in experimental and no-treatment control groups (Experiment 1) was followed by a non-randomised trial that compared adults with autism in the experimental group with an alternative-treatment control group (Experiment 2). However, data were not extracted for Experiment 2.
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<b>Study ID</b>	<b>HARRIS1984</b>
<i>Bibliographic reference</i>	Harris, M. B. & Bloom, S. R. (1984) A pilot investigation of a behavioral weight control program with mentally retarded adolescents and adults: effects on weight, fitness, and knowledge of nutritional and behavioral principles. <i>Rehabilitation Psychology</i> , 29, 177-182.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> not reported. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 21. <b>Age:</b> range not reported (mean 25.3 years). <b>Sex:</b> male 4, female 17. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (mean 52.5). <b>Inclusion criteria:</b> not reported.
<i>Interventions</i>	1. Behavioural weight control programme (N = 10). 2. Dropouts from the programme after attending zero to four meetings (N = 11). <b>Duration:</b> <b>Intervention:</b> 7 weekly meetings. <b>Follow-up:</b> 26 weeks.
<i>Outcomes</i>	Primary outcome was weight loss.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Potential bias in group allocation. 2. Small sample sizes.
<i>Notes</i>	-

<b>Study ID</b>	<b>HERBRECHT2009</b>
<i>Bibliographic reference</i>	Herbrecht, E., Poustka, F., Birnkammer, S., <i>et al.</i> (2009) Pilot evaluation of the Frankfurt Social Skills Training for children and adolescents with autism spectrum disorder. <i>European Child and Adolescent Psychiatry</i> , 18, 327–335.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> non-blind experts; blind experts; parent ratings (teachers also rated, but missing data). <b>Country:</b> Germany.
<i>Participants</i>	<b>Diagnosis:</b> ICD-10 ASD. <b>Coexisting conditions:</b> three participants were medicated for obsessive compulsive symptoms, two for impulsive and aggressive behaviour and one for hyperactivity. <b>Qualifying diagnostic assessment:</b> ADOS and ADI-R. <b>N = 17.</b> <b>Age:</b> 9 to 20 years (mean 14.7 years). <b>Sex:</b> male 15, female 2. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (mean 93.4). <b>Inclusion criteria:</b> referred outpatients of department of child and adolescent psychiatry; clinical diagnosis of ASD; no functional language and severe comorbid organic health problems (for example Fragile X, tuberous sclerosis, intractable epilepsy); IQ >70.
<i>Interventions</i>	1. Frankfurt Social Skills Training (KONTAKT) (N = 17), social skills groups focused on learning to initiate social overtures, conversation skills, understanding social rules and relationships, identification and interpretation of verbal and non-verbal social signals, problem-solving, coping strategies and improvement of self-confidence. Techniques included teaching of rules, social interaction games, role-play and group discussion. <b>Duration:</b> <b>Intervention:</b> weekly 1-hour social skills training sessions for children and 1.5 hour bi-weekly sessions for adolescents for a period of 5 months. <b>Follow-up:</b> 11 months.
<i>Outcomes</i>	Primary outcome was social interaction as measured using a battery of assessments as follows: expert ratings on the Diagnostic Checklist for Pervasive Developmental Disorders, the Checklist for Group Behaviours, and the Global Assessment of Functioning Scale; a blind-expert video rating; parent ratings collected with a modified version of the Parent Interview for Autism, Social Competence Scale and the Family Burden Questionnaire. Data were extracted for the blind-expert video rating as this was the only blinded outcome assessment.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample. 2. No control group. 3. Efficacy data could not be extracted.

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<b>Study ID</b>	<b>HILLIER2007</b>
<i>Bibliographic reference</i>	Hillier, A., Fish, T., Cloppert, P., <i>et al.</i> (2007) Outcomes of a social and vocational skills support group for adolescents and young adults on the autism spectrum. <i>Focus on Autism and Other Developmental Disabilities</i> , 22, 107-115.
<i>Methods</i>	<b>Allocation:</b> N/A - no control group. <b>Matching:</b> N/A - no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self-report and two trained observers. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> Gilliam Asperger's Disorder Scale N = 13. <b>Age:</b> 18 to 23 years (mean 19 years). <b>Sex:</b> male 11, female 2. <b>Ethnicity:</b> not reported. <b>IQ:</b> N = 2 did not complete due to low verbal skills; N = 11 had IQ 81 to 141 (mean 108.08). <b>Inclusion criteria:</b> prior diagnosis of ASD, aged between 18 and 30 years, and commitment to attend sessions.
<i>Interventions</i>	1. Aspirations social skills group (N = 13), overall aims of the programme were to foster understanding of a range of social and vocational issues, to enhance insight and awareness, and to provide social opportunities for group members. <b>Duration:</b> <b>Intervention:</b> weekly 1 hour meetings for 8 weeks. <b>Follow-up:</b> 8 weeks (after completing the programme group members attended monthly reunions but no data for these).
<i>Outcomes</i>	Primary outcome was social skills as assessed by self-report measures, as follows: modified version of the Index of Peer Relations, which questioned how participants viewed and evaluated others in their peer group and whether they were accepted and liked by their peer group; AQ; the EQ; and structured observations by trained observers to determine whether frequency of participants' contributions to the group increased. Data extracted for the EQ.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample size. 2. No control group. 3. No data from monthly reunion meetings.
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<b>Study ID</b>	<b>HOWLIN1999</b>
<i>Bibliographic reference</i>	Howlin, P. & Yates, P. (1999) The potential effectiveness of social skills groups for adults with autism. <i>Autism</i> , 3, 299–307.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> family and participants themselves (checklist); unknown raters (video of conversation). <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. <b>N = 10.</b> <b>Age:</b> 19 to 44 years (mean 28.4 years). <b>Sex:</b> male 10, female 0. <b>Ethnicity:</b> not reported. <b>IQ:</b> non-verbal IQ 86 to 138 (mean 109). <b>Inclusion criteria:</b> diagnosis of autism or Asperger’s syndrome; previously attended Maudsley Hospital for diagnosis or treatment; attended an initial 2-day course on social problems and skills; registered interest in attending a social skills group on a regular basis.
<i>Interventions</i>	1. Social skills group (N = 10) focused on major issues raised by group members and core features of conversational ability. Techniques included role-play, team activities, structured games, and feedback based on behavioural observations. <b>Duration:</b> <b>Intervention:</b> monthly 2.5 hour sessions over the course of a year. <b>Follow-up:</b> 1 year.
<i>Outcomes</i>	Primary outcome was social interaction as measured by: checklist of social skills problem areas sent to families and participants themselves; changes in personal life/living situation of participants over the course of the year of intervention; and changes in conversational ability assessed through before and after ratings of video recording of simulated social activities: a party scenario and a job enquiry scenario. Data extracted for the changes in conversational style during the ‘party’ scenario.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. No control group. 2. Small sample size. 3. Question of generalisation of improvements to naturalistic settings. 4. Assessment methods for improvements in social functioning lack any formal assessment of reliability or validity.
<i>Notes</i>	–

<b>Study ID</b>	<b>HOWLIN2005</b>
<i>Bibliographic reference</i>	Howlin, P., Alcock, J. & Burkin, C. (2005) An 8 year follow-up of a specialist supported employment service for high-ability adults with autism or Asperger syndrome. <i>Autism</i> , 9, 533–549.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> N/A – no control group. <b>Setting:</b> not reported. <b>Raters:</b> N/A – objective measure of number of job placements. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> ASD (diagnosis made by either a psychiatrist or psychologist). <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> approximately 20% had diagnosis confirmed by ADI. <b>N = 89.</b> <b>Age:</b> 18 to 56 years (mean 31.4 years). <b>Sex:</b> male 72, female 17. <b>Ethnicity:</b> not reported. <b>IQ:</b> 60 to 139 (mean 110.7) as measured by Raven non-verbal IQ <b>Inclusion criteria:</b> clients registered with the scheme between 2002 and 2003 who completed assessments used in original study.
<i>Interventions</i>	1. Supported employment group (N = 89). <b>Duration:</b> <b>Intervention:</b> 1 year. <b>Follow-up:</b> 1 year.
<i>Outcomes</i>	Primary outcome was job placements.
<i>Study design</i>	Observational (before-and-after study)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. No control group. 2. Efficacy data cannot be extracted.
<i>Notes</i>	Narrative 7 to 8 year follow-up data reported for MAWHOOD1999, but this is not extracted here. See notes section of MAWHOOD1999.

<b>Study ID</b>	<b>KHEMKA2000</b>
<i>Bibliographic reference</i>	Khemka, I. (2000) Increasing independent decision-making skills of women with mental retardation in simulated interpersonal situations of abuse. <i>American Journal on Mental Retardation</i> , 105, 387–401.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> not reported. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 45. <b>Age:</b> range not reported (mean 35.8 years). <b>Sex:</b> male 0, female 45. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (mean 60.89). <b>Inclusion criteria:</b> women with a mild and moderate learning disability from a large non-profit agency for adults with developmental disabilities and a learning disability. Participant IQ, as provided by agency records, was used as a screening to select participants who had adequate communication and language skills required for the decision-making tasks.
<i>Interventions</i>	1. Self-directed decision-making training (N = 12), which combined instruction on cognitive and motivational aspects of decision-making. 2. Control (N = 12). Study also reports data for a decision-making training condition (N = 12); however, those data were not extracted. <b>Duration:</b> <b>Intervention:</b> ten training sessions spread over several weeks. <b>Follow-up:</b> ten training sessions.
<i>Outcomes</i>	Decision-making in response to hypothetical situations of abuse was evaluated using a Social Interpersonal Decision-Making Video Scale where participants watched video vignettes and were assessed on their ability to recommend a decision for the key decision maker. The Self Social Interpersonal Decision Making Scale was also used where participants were presented with vignettes representing situations of interpersonal conflicts and sexual, physical or verbal abuse and asked what they would do in that situation. Finally, the Nowicki-Strickland Internal-External Scale was used to assess participants' perception of their locus of control. Data were extracted for the Self Social Interpersonal Decision Making Scale.
<i>Study design</i>	RCT
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample sizes. 2. No follow-up to examine long-term retention of treatment effects. 3. Assessment methods lack any formal assessment of reliability or validity.
<i>Notes</i>	N = 9 dropouts, N = 8 due prior to randomisation due to scheduling

	difficulties and/or unwillingness to continue participation and N = 1 randomly excluded to balance sample sizes across groups.
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<b>Study ID</b>	<b>KHEMKA2005</b>
<i>Bibliographic reference</i>	Khemka, I., Hickson, L. & Reynolds, G. (2005) Evaluation of a decision-making curriculum designed to empower women with mental retardation to resist abuse. <i>American Journal of Mental Retardation</i> , 110, 193–204.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> matched on decision making screening measure. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> two independent raters. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> WAIS or Stanford-Binet. N = 36. <b>Age:</b> range not reported (mean 34 years). <b>Sex:</b> male 0, female 36. <b>Ethnicity:</b> 33.3% white, 50% African-American, 16.7% Hispanic. <b>IQ:</b> range not reported (mean 55.92). <b>Inclusion criteria:</b> female, have an IQ of 35 to 75, be aged 22 to 55 years and live with natural/foster family or on own.
<i>Interoventions</i>	1. Effective Strategy-Based Curriculum for Abuse Prevention and Empowerment (ESCAPE) group (N = 18). 2. Treatment as usual group (N = 18). <b>Duration:</b> <b>Intervention:</b> 40- to 50-minute sessions once or twice per week over a 6- to 12-week period. <b>Follow-up:</b> 12 weeks.
<i>Outcomes</i>	The primary outcome was anti-victimisation skills as assessed by the following measures: the Decision-Making Video Scale was used to measure decision-making skills in response to 12 hypothetical social interpersonal decision-making vignettes; Knowledge of Abuse Concepts Scale was used as a cognitive measure of knowledge of abuse concepts, the Empowerment Scale was used to assess perceptions of control and self-efficacy; the Stress Management Survey measured self-reported stress; and the Self Decision-Making Scale measured participants' ability to suggest self-protective decisions in response to simulated interpersonal situations involving different scenarios of sexual, physical, and verbal abuse. Data for the Decision-Making Video Scale were extracted.
<i>Study design</i>	RCT
<i>Source of funding</i>	Grant from the Joseph P. Kennedy, Jr., Foundation
<i>Limitations</i>	1. Small sample size. 2. High risk of attrition bias.
<i>Notes</i>	Data extracted for ITT sample.

<b>Study ID</b>	<b>KING1999</b>
<i>Bibliographic reference</i>	King, N., Lancaster, N., Wynne, G., <i>et al.</i> (1999) Cognitive-behavioural anger management training for adults with mild intellectual disability. <i>Scandinavian Journal of Behaviour Therapy</i> , 28, 19-22.
<i>Methods</i>	<b>Allocation:</b> N/A - no control group. <b>Matching:</b> N/A - no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self-report and caregiver report. <b>Country:</b> Australia.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> N = 3 cerebral palsy. <b>Qualifying diagnostic assessment:</b> not reported. N = 11. <b>Age:</b> 17 to 48 years (mean 29.5 years). <b>Sex:</b> male 7, female 4. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported - mild learning disability. <b>Inclusion criteria:</b> participants were referred because of anger problems, all participants confirmed that they had an anger control problem and expressed a desire to change their behaviour. Participants demonstrating psychotic behaviour were excluded.
<i>Interoentions</i>	1. Cognitive-behavioural anger management training programme (N = 11). <b>Duration:</b> <b>Intervention:</b> 15 90-minute weekly sessions. <b>Follow-up:</b> 27 weeks.
<i>Outcomes</i>	The primary outcome was anger management, as assessed using self-report measures including the Anger Inventory for Mentally Retarded Adults, and the Coopersmith Self-esteem Inventory; and caregiver reports including Anger Inventory-Caregiver Report and Developmental Behaviour Checklist. Data were extracted for the Anger Inventory.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample size. 2. No control group. 3. No correction applied for multiple statistical comparisons.
<i>Notes</i>	-



<b>Study ID</b>	<b>LAUGESON2009</b>
<i>Bibliographic reference</i>	Laugeson, E. A., Frankel, F., Mogil, C., <i>et al.</i> (2009) Parent-assisted social skills training to improve friendships in teens with autism spectrum disorders. <i>Journal of Autism &amp; Developmental Disorders</i> , 39, 596–606.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self- and parent-report. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 33. <b>Age:</b> 13 to 17 years (mean 14.6 years). <b>Sex:</b> male 28, female 5. <b>Ethnicity:</b> Caucasian N = 14, Hispanic/Latino N = 6, African-American N = 3, Asian N = 4, Middle-Eastern N = 3, mixed ethnicities N = 3 <b>IQ:</b> range not reported (treatment group mean VIQ 96, delayed treatment control mean VIQ 88.3 [Kaufman Brief Intelligence Test – Second Edition). <b>Inclusion criteria:</b> participants were aged between 13 and 17 years, had social problems as reported by their parents, had a diagnosis of ASD, were fluent in English, had a parent or family member who was fluent in English, had a VIQ >70, had no history of major mental illness and had no hearing, visual, or physical impairments that precluded participation in outdoor sports activities.
<i>Interventions</i>	1. Programme for the Education and Enrichment of Relationship Skills (PEERS) intervention group (N = 17), with parents and teens attending separate concurrent sessions that instructed them on key elements about making and keeping friends. 2. Delayed treatment group (N = 16). <b>Duration:</b> <b>Intervention:</b> 12 90-minute sessions delivered once a week over a course of 12 weeks. <b>Follow-up:</b> 24 weeks.
<i>Outcomes</i>	The primary outcome was social interaction as measured by the parent-rated Social Skills Rating Scale, and the self-report scales Quality of Play Questionnaire, TASSK and Friendship Quality Scale. This study also collected data for teacher-report Social Skills Rating Scale; however, sample sizes were not sufficient for analysis. Data were extracted for the TASSK.
<i>Study design</i>	RCT
<i>Source of funding</i>	National Institute of Health Training Grant T32-MH17140 and NIMH Grant 1U54MH068172
<i>Limitations</i>	1. Small sample size. 2. Generalisability to real social situations needs to be examined.
<i>Notes</i>	–

<b>Study ID</b>	<b>LEE1977</b>
<i>Bibliographic reference</i>	Lee, D. Y. (1977) Evaluation of a group counseling program designed to enhance social adjustment of mentally retarded adults. <i>Journal of Counseling Psychology</i> , 24, 318–323.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> residential. <b>Raters:</b> key worker and fellow residents. <b>Country:</b> Canada.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> Peabody Picture Vocabulary Test. N = 48. <b>Age:</b> 20 to 64 years (median 37 years). <b>Sex:</b> male 22, female 26. <b>Ethnicity:</b> not reported. <b>IQ:</b> 12 to 87 (mean 47). <b>Inclusion criteria:</b> learning disabled residents of an institution. Those residents under heavy medication during the time of this study and those severely impaired in speech and hearing were excluded.
<i>Interventions</i>	1. Social adjustment training (N = 20). 2. Treatment as usual (N = 24). <b>Duration:</b> <b>Intervention:</b> 1-hour session three times per week for 10 weeks. Upon completion of the programme, the entire 15 sessions were repeated. <b>Follow-up:</b> 10 weeks.
<i>Outcomes</i>	Challenging behaviour as assessed by Part 2 of the AAMD ABS (Nihira <i>et al.</i> , 1974). The study also reported on the effects of social learning on social interaction. However, because this is a learning disabilities population it has only been extrapolated for challenging behaviour outcomes.
<i>Study design</i>	RCT
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample size. 2. High risk for attrition bias.
<i>Notes</i>	N = 4 dropped out of experimental group because of medical reasons or transfer to other institution.

<b>Study ID</b>	<b>LINDSAY2004</b>
<i>Bibliographic reference</i>	Lindsay, W. R., Allan, R., Parry, C., <i>et al.</i> (2004) Anger and aggression in people with intellectual disabilities: treatment and follow-up of consecutive referrals and a waiting list comparison. <i>Clinical Psychology and Psychotherapy</i> , 11, 255–264.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> outpatient. <b>Raters:</b> self-report and blind raters for role-play videotapes. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> WAIS-III. N = 47. <b>Age:</b> range not reported (treatment group mean 28.4 years, control group mean 23.9 years). <b>Sex:</b> male 33, female 14. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (treatment group mean 65.4, control group mean 66.2). <b>Inclusion criteria:</b> individuals who were known to the service and were now living in the community were referred back for reasons of aggression and destructive behaviour.
<i>Interventions</i>	1. CBT for anger management (N = 33). 2. Control group (N = 14). <b>Duration:</b> <b>Intervention:</b> 9 months (around 40 sessions). <b>Follow-up:</b> 9 months.
<i>Outcomes</i>	Primary outcome was anger management as measured by the DPI, which measures anger related to frustration, disappointment, jealousy, embarrassment, anger towards self and direct assault; ratings of role-plays, which included two situations that were considered to be generally anger provoking and one that was specific to the participant involved; and self-reports of anger where participants completed an anger inventory on how they felt during each day. Data for the DPI were extracted.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Significant differences between control and experimental groups in age and gender. 2. Significant baseline differences between groups. 3. Discrepancy between sample sizes in experimental and control groups.
<i>Notes</i>	The treatment group was followed up to 30 months, but with diminishing sample size and no data for control group. Data not extracted here for follow-ups.

<b>Study ID</b>	<b>MATSON1981</b>
<i>Bibliographic reference</i>	Matson, J. L., DiLorenzo, T. M. & Esveldt-Dawson, K. (1981) Independence training as a method of enhancing self-help skills acquisition of the mentally retarded. <i>Behaviour Research and Therapy</i> , 19, 399–405.
<i>Methods</i>	<b>Allocation:</b> randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> residential. <b>Raters:</b> two psychiatric aides pre-trained to a criterion of >90% reliability on rating showering skills. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> Stanford-Binet Intelligence Test and the AAMD ABS. <b>N = 72.</b> <b>Age:</b> 21 to 55 years (mean 32.2 years). <b>Sex:</b> male 46, female 26. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported – moderate to severe learning disability. <b>Inclusion criteria:</b> residents at a state institution for the ‘mentally retarded’. All residents in both groups were ambulatory and possessed the necessary motor skills and manual dexterity to participate in independent personal showering. Also, the residents had acquired a number of appropriate self-help skills prior to the beginning of the study, including self-toileting and independent dressing and feeding.
<i>Interventions</i>	1. Independence training (N = 36). 2. No-treatment control group (N = 36). <b>Duration:</b> <b>Intervention:</b> 4 months. <b>Follow-up:</b> 7 months.
<i>Outcomes</i>	The primary outcome was activities of daily living, in this case showering. The target behaviour, showering, was broken down into 27 task-analysed steps and rated using a task-specific checklist.
<i>Study design</i>	RCT
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Drug dosages were changed periodically throughout the study. 2. Generalisability of findings. 3. The task-specific checklist lacks formal assessments of reliability and validity.
<i>Notes</i>	–

<b>Study ID</b>	<b>MAWHOOD1999</b>
<i>Bibliographic reference</i>	Mawhood, L. & Howlin, P. (1999) The outcome of a supported employment scheme for high-functioning adults with autism or Asperger syndrome. <i>Autism</i> , 3, 229-254.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> not reported. <b>Raters:</b> self-report. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> ASD (formal diagnosis made by psychiatrist or psychologist; N = 41 Asperger's syndrome, N = 6 autism, N = 3 ASD). <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 50. <b>Age:</b> 18 to 55 years (supported work group mean 31.1 years, control group mean 28 years). <b>Sex:</b> male 47, female 3. <b>Ethnicity:</b> not reported. <b>IQ:</b> 66 to 128 (supported work mean 98.8, control group mean 97.7, as assessed by WAIS). <b>Inclusion criteria:</b> supported work group: a formal diagnosis of autism or Asperger's syndrome; IQ of 70 or above on either the performance or the verbal scale of the WAIS; actively seeking work (that is, not registered simply because of parents' wishes or other pressures); able to travel independently and prepared to work within the Greater London area; capable of eventually managing employment with minimal support; and no additional psychiatric or physical problems that would adversely affect employability. Control group: lived in metropolitan areas outside Greater London but otherwise met all eligibility criteria; all were actively seeking employment and none was receiving treatment for psychiatric or other problems that might have affected their ability to work; none of the cities in which the control group lived were in areas of high unemployment.
<i>Interventions</i>	1. Supported group (support workers responsible for job finding and job preparation and guidance provided on full-time basis for first 2 to 4 weeks of employment) (N = 30). 2. Control group (N = 20). <b>Duration:</b> <b>Intervention:</b> 5 to 24 months (mean 17 months). <b>Follow-up:</b> 24 months.
<i>Outcomes</i>	Outcomes of interest were job placements, participant satisfaction (measured with a questionnaire based on that developed by Bass & Drewett, 1996) and self-esteem (measured with the Rosenberg Self-Esteem Inventory). Data could only be extracted for the number of job placements.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Nuffield Foundation; Department of Employment; and the NAS
<i>Limitations</i>	-

Notes	Psychometric data are based on N = 29 because one individual did not complete all assessments. By the end of the evaluation period, N = 5 were no longer registered with the scheme: N = 1 had moved out of the London area; N = 1 failed to respond to letters and telephone calls; N = 1 decided that they no longer wished to look for work; N = 1 enrolled on a full-time course; and N = 1, who had obtained a permanent work contract, suddenly left their job and declined further involvement. Follow-up 7 to 8 years later (HOWLIN2005) found that N = 13 out of N = 19 who had found employment during the pilot project remained in permanent jobs.
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<b>Study ID</b>	<b>MAZZUCHELLI2001</b>
Bibliographic reference	Mazzucchelli, T. G. (2001) Feel Safe: a pilot study of a protective behaviours programme for people with intellectual disability. <i>Journal of Intellectual and Developmental Disability</i> , 26, 115-126.
Methods	<p><b>Allocation:</b> non-randomised.</p> <p><b>Matching:</b> no matching.</p> <p><b>Blindness:</b> non-blind.</p> <p><b>Setting:</b> community.</p> <p><b>Raters:</b> self-report and carer-report scales.</p> <p><b>Country:</b> Australia.</p>
Participants	<p><b>Diagnosis:</b> learning disability.</p> <p><b>Coexisting conditions:</b> not reported.</p> <p><b>Qualifying diagnostic assessment:</b> not reported.</p> <p>N = 20.</p> <p><b>Age:</b> range not reported (experimental group mean 31 years, control group mean 37 years).</p> <p><b>Sex:</b> male 5, female 15.</p> <p><b>Ethnicity:</b> not reported.</p> <p><b>IQ:</b> range not reported (experimental group mean 56.3, control group mean 60.3).</p> <p><b>Inclusion criteria:</b> clients that staff and carers felt would benefit from the programme were nominated and offered a time to attend a group, those who said they would be able to attend made up the experiential group and those who could not make that time made up the waitlist control group.</p>
Interventions	<p>1. Feel Safe programme, to increase personal safety skills (N = 10)</p> <p>2. Waitlist control group (N = 10) – participants who could not make the allocated time slots for treatment.</p> <p><b>Duration:</b></p> <p><b>Intervention:</b> One 3-hour session a week over 4 weeks.</p> <p><b>Follow-up:</b> 9 weeks.</p>
Outcomes	The primary outcome was anti-victimisation skills. The Feel Safe Questionnaire was used to assess knowledge of the Feel Safe sessions, including: early warning signs (body feelings), empowerment and relaxation, the right to feel safe, emergencies, linking safety with adventurousness, networking, persistence expectation and problem solving. The Protective Behaviour Skills Evaluation was used to obtain a measure of the degree to which participants actually applied protective behaviour strategies and concepts. Finally, Comprehensive

	Quality of Life Scale Intellectual Disability – Fourth Edition was used. Data were extracted for the Protective Behaviour Skills Evaluation.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Potential bias in group allocation. 2. Small sample size.
<i>Notes</i>	–

<b>Study ID</b>	<b>MCGRATH2010</b>
<i>Bibliographic reference</i>	McGrath, L., Jones, R. S. P. & Hastings, R. P. (2010) Outcomes of anti-bullying intervention for adults with intellectual disabilities. <i>Research in Developmental Disabilities, 31</i> , 376–380.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self-report. <b>Country:</b> Ireland.
<i>Participants</i>	<b>Diagnosis:</b> learning disabled. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 60 (N = 38 for data extracted). <b>Age:</b> 17 to 60 years (CBT group mean 36 years, additional stakeholder involvement group mean 35 years, waitlist control mean 33 years). <b>Sex:</b> male 30, female 30. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported – borderline, mild or moderate learning disability. <b>Inclusion criteria:</b> participants were from three work centres run by the same organisation; all participants were recorded on clinical files as having borderline, mild or moderate learning disability.
<i>Interventions</i>	1. Psychoeducational anti-bullying intervention with a cognitive behavioural orientation (N = 20). 2. Waiting list control group (N = 18). Data were also reported for an additional group (N = 22), which involved the same intervention but with the additional involvement of community stakeholders. However, the data for this group are not extracted here. <b>Duration:</b> <b>Intervention:</b> ten sessions. <b>Follow-up:</b> 3 months.
<i>Outcomes</i>	The primary outcome was anti-victimisation skills as measured by self-reports of bullying behaviour and victimisation, obtained using a modified version of the Bullying Questionnaire designed and produced by Mencap (1999), participants were asked to report whether they had experienced bullying in the past 3 months. A second question using the same format was devised to obtain self-report information on bullying behaviour. Dichotomous data for bullying victimisation rates were extracted.

<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample sizes. 2. More directly measured outcomes (that is, in addition to self-reports of bullying) are needed, including independent observation of incidents of bullying. 3. Generalisation of effects outside of the work centre environment needs to be explored.
<i>Notes</i>	-

<b>Study ID</b>	<b>MYLES1996A</b>
<i>Bibliographic reference</i>	Myles, B. S., Simpson, R. L. & Smith, S. M. (1996) Collateral behavioral and social effects of using facilitated communication with individuals with autism. <i>Focus on Autism and Other Developmental Disabilities</i> , 11, 163-169.
<i>Methods</i>	<b>Allocation:</b> N/A - no control group. <b>Matching:</b> N/A - no control group. <b>Blindness:</b> N/A - no control group. <b>Setting:</b> educational. <b>Raters:</b> graduate research assistants. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> DSM-IV ASD. <b>Coexisting conditions:</b> moderate to severe learning disability. <b>Qualifying diagnostic assessment:</b> not reported. N = 12. <b>Age:</b> 12 to 28 years (mean 19.4 years). <b>Sex:</b> male 9, female 3. <b>Ethnicity:</b> white N = 9; African-American N = 3. <b>IQ:</b> not reported but learning disability. <b>Inclusion/exclusion criteria:</b> not reported.
<i>Interventions</i>	1. Facilitated communication (N = 12) in the classroom with the teacher acting as facilitator. <b>Duration:</b> <b>Intervention:</b> 4 days per week for 14 weeks. <b>Follow-up:</b> 17 weeks (including 3-week baseline observation period).
<i>Outcomes</i>	The primary outcome was the frequency of seven behaviours and social interaction outcomes as measured at baseline, during the intervention, and in the final few weeks of the intervention. These targeted behaviours included requesting, getting attention, protesting, giving information, expressing feelings, interacting socially, and non-focused response.
<i>Study design</i>	Observational (before-and-after study)
<i>Source of funding</i>	Grant No. H023A20093 from the US Department of Education, Office of Special Education Research, Division of Innovation and Development.
<i>Limitations</i>	1. No control group. 2. Efficacy data could not be extracted. 3. Small sample size.



Notes	Participants were on concurrent medications during the study, including: flurazepam (N = 1); thiorazine (N = 1); carbamazepine (N = 2); klonopin (N = 1); lithium (N = 2); cingetol (N = 1); haldo (N = 1); tegretol (N = 1); lorazepam (N = 1); depakote (N = 2); benadryl (N = 1); lamicta (N = 1); dilantin (N = 2); namictal (N = 1); and zoloff (N = 1).
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<b>Study ID</b>	<b>POLIRSTOK2003</b>
<i>Bibliographic reference</i>	Polirstok, S. R., Dana, L., Buono, S., <i>et al.</i> (2003) Improving functional communication skills in adolescents and young adults with severe autism using gentle teaching and positive approaches. <i>Topics in Language Disorders</i> , 23, 146-153.
<i>Methods</i>	<b>Allocation:</b> N/A - no control group. <b>Matching:</b> N/A - no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> residential. <b>Raters:</b> psychologist. <b>Country:</b> Italy.
<i>Participants</i>	<b>Diagnosis:</b> learning disability and >50% of group had diagnoses of autism or related autistic features. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> WAIS. N = 18. <b>Age:</b> 16 to 38 years (mean not reported). <b>Sex:</b> male 0, female 18. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported (mental age 12 to 25 months). <b>Inclusion criteria:</b> not reported.
<i>Interventions</i>	1. Intensive Habilitation Program (N = 18) targeting four main areas of preoccupational skills, occupational skills, psychomotor skills and functional communication skills. <b>Duration:</b> <b>Intervention:</b> 1 year of training. <b>Follow-up:</b> 18 months.
<i>Outcomes</i>	The primary measure was communication as measured by the VABS with subscale of communication. Data extracted for expressive language.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Grant provided by the Italian Ministry of Education
<i>Limitations</i>	1. Small sample size. 2. No control group. 3. Limited description of methodology.
<i>Notes</i>	-

<b>Study ID</b>	<b>ROSE2005</b>
<i>Bibliographic reference</i>	Rose, J., Loftus, M., Flint, B., <i>et al.</i> (2005) Factors associated with the efficacy of a group intervention for anger in people with intellectual disabilities. <i>British Journal of Clinical Psychology</i> , 44, 305-317.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> self-report measure. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> learning disability. <b>Coexisting conditions:</b> problems with aggression. <b>Qualifying diagnostic assessment:</b> British Picture Vocabulary Scale. N = 86 <b>Age:</b> 17 to 64 years (treatment group mean: 38.6 years; control group mean: 34.7 years). <b>Sex:</b> male 71, female 15. <b>Ethnicity:</b> not reported. <b>IQ:</b> 24 to 113 (mean: 72). <b>Inclusion criteria:</b> participants were experiencing problems with aggression which included physical assault on other people and/or repeated damage to property and/or severe and repeated verbal aggression; they had a degree of receptive language such that they could understand simple directions; and they were able to sit with one of the group leaders on an individual basis for 20 minutes or more during an initial interview.
<i>Interventions</i>	1. CBT adapted from Benson (1992, 1994) (N = 50). 2. Waiting list control group (N = 36). <b>Duration:</b> <b>Intervention:</b> 16 2-hour sessions of CBT. <b>Follow-up:</b> 6 months.
<i>Outcomes</i>	The primary outcome was anger management as assessed by the Anger Inventory, which is a self-report measure of anger intensity in response to 35 potentially anger provoking scenarios.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	The scores for 11 of the participants were included in both control and treatment groups, and groups should normally be independent for the analysis adopted.
<i>Notes</i>	N = 11 dropped out of treatment group, but demographic data only given for completers.

<b>Study ID</b>	<b>RUSSELL2009</b>
<i>Bibliographic reference</i>	Russell, A. J., Mataix-Cols, D., Anson, M. A. W., <i>et al.</i> (2009) Psychological treatment for obsessive-compulsive disorder in people with autism spectrum disorders - a pilot study. <i>Psychotherapy and Psychosomatics</i> , 78, 59–61.
<i>Methods</i>	<b>Allocation:</b> non-randomised. <b>Matching:</b> no matching. <b>Blindness:</b> non-blind. <b>Setting:</b> outpatient. <b>Raters:</b> not reported. <b>Country:</b> UK.
<i>Participants</i>	<b>Diagnosis:</b> ICD-10 ASD. <b>Coexisting conditions:</b> OCD. 50% of the CBT group and 42% of the treatment as usual group had additional psychopathology and the majority of additional diagnoses were of recurrent uni-polar depression or anxiety disorder. <b>Qualifying diagnostic assessment:</b> ADI (in 67% of cases), ADOS (in 13% of cases). <b>N</b> = 24. <b>Age:</b> range not reported (treatment as usual group mean 32.1 years, CBT group mean 23.8 years). <b>Sex:</b> male 21, female 3. <b>Ethnicity:</b> not reported. <b>IQ:</b> range not reported (mean VIQ 100.3, mean PIQ 95.5 [WAIS-III]). <b>Inclusion criteria:</b> high-functioning adults with autism and comorbid OCD who were referred to specialist autism clinic.
<i>Interventions</i>	1. CBT for OCD, comprising exposure and response prevention and cognitive appraisal of OCD-related beliefs (N = 12). 2. Treatment as usual (N = 12). <b>Duration:</b> <b>Intervention:</b> 10 to 50 (mean 27.5) treatment sessions. <b>Follow-up:</b> mean of 15.9 months.
<i>Outcomes</i>	The primary outcome was treatment effects on co-existing conditions, in this case OCD, as measured by the Y-BOCS. OCD symptoms were carefully distinguished from the repetitive phenomena typically seen in autism.
<i>Study design</i>	Quasi-experimental (parallel groups)
<i>Source of funding</i>	South London and Maudsley NHS Foundation Trust
<i>Limitations</i>	1. The treatment as usual group were significantly older than the CBT group. 2. Small sample size. 3. Changes in medication were introduced at mid-treatment in some cases. 4. In 50% of the CBT cases, the Y-BOCS was completed by the treating therapist. 5. The CBT group had severer OCD symptoms at baseline, and the treatment effects may simply reflect a regression to the mean.
<i>Notes</i>	–

<b>Study ID</b>	<b>TSE2007</b>
<i>Bibliographic reference</i>	Tse, J., Strulovitch, J., Tagalakis, V., <i>et al.</i> (2007) Social skills training for adolescents with Asperger syndrome and high-functioning autism. <i>Journal of Autism and Developmental Disorders</i> , 37, 1960–1968.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> outpatient. <b>Raters:</b> parent-report. <b>Country:</b> Canada.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 46. <b>Age:</b> 13 to 18 years (mean 14.6 years). <b>Sex:</b> male 28, female 18. <b>Ethnicity:</b> not reported. <b>IQ:</b> not reported. <b>Inclusion criteria:</b> adolescents were 13 to 18 years old and referred to the group from psychiatry and community clinics across the McGill University network; participants had a diagnosis of ASD, adequate language skills for participation in activities and were able to talk about their interests and to verbalise some goals for participation.
<i>Interventions</i>	1. Social skills group (N = 46), which combined psychoeducational and experiential methods of teaching social skills, with emphasis on learning through role-play. <b>Duration:</b> <b>Intervention:</b> 1 to 1.5 hour meetings held weekly for 12 weeks. <b>Follow-up:</b> 12 weeks.
<i>Outcomes</i>	The primary outcome was social interaction as measured by the parent-completed SRS, which measured children’s social competence, and the Nisonger Child Behaviour Rating Form positive social subscale. Data were extracted for the SRS. A secondary outcome was challenging behaviour as measured by the Aberrant Behaviour Checklist – Irritability subscale and the Nisonger Child Behaviour Rating Form problem behaviour subscale. Data were extracted for the Aberrant Behaviour Checklist – Irritability Subscale.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample size. 2. No control group. 3. Incomplete datasets.
<i>Notes</i>	–

<b>Study ID</b>	<b>WEBB2004</b>
<i>Bibliographic reference</i>	Webb, B. J., Miller, S. P., Pierce, T. B., <i>et al.</i> (2004) Effects of social skill instruction for high-functioning adolescents with autism spectrum disorders. <i>Focus on Autism and Other Developmental Disabilities</i> , 19, 53–62.
<i>Methods</i>	<b>Allocation:</b> N/A – no control group. <b>Matching:</b> N/A – no control group. <b>Blindness:</b> non-blind. <b>Setting:</b> community. <b>Raters:</b> parent-rated scale. <b>Country:</b> US.
<i>Participants</i>	<b>Diagnosis:</b> ASD. <b>Coexisting conditions:</b> not reported. <b>Qualifying diagnostic assessment:</b> not reported. N = 10. <b>Age:</b> 12 to 17 years (mean 14.8 years). <b>Sex:</b> male 10, female 0. <b>Ethnicity:</b> white N = 9; Asian N = 1. <b>IQ:</b> 81 to 132 (mean 100.5). <b>Inclusion criteria:</b> participants needed to have current educational eligibility for an autism programme, be aged 12 to 18 years, have receptive and expressive language ability >70 standard score as measured within last 3 years, be currently attending a general education classroom for at least one lesson a day, have a deficit in social skills and have parental agreement to transport the child to and from sessions twice a week for the 10-week project.
<i>Interventions</i>	1. SCORE social skills intervention (N = 10). <b>Duration:</b> <b>Intervention:</b> 13 1-hour sessions twice a week for 6.5 weeks. <b>Follow-up:</b> 10 weeks.
<i>Outcomes</i>	The primary outcome was social interaction as assessed by role-play behavioural observations and the parent-completed Social Skills Rating System which was used as an index of parental perception of changes in the social skills of the participants. Data were extracted for the Social Skills Rating System.
<i>Study design</i>	Observational (before-and-after)
<i>Source of funding</i>	Not reported
<i>Limitations</i>	1. Small sample size. 2. No control group.
<i>Notes</i>	–

## 1.2 CHARACTERISTICS OF EXCLUDED STUDIES

ALANSARI1996

Reason for exclusion	This paper was from the sift of learning disabilities studies, but only 63% of the sample had learning disabilities and all had comorbid psychiatric diagnoses.
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APPLE2005

Reason for exclusion	Sample size was less than ten per arm.
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ATTWOOD2004

Reason for exclusion	Descriptive paper.
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AZRIN1973

Reason for exclusion	Sample size is less than ten per arm.
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BANZETT1991

Reason for exclusion	Sample size was less than ten per arm.
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BARLOW2006

Reason for exclusion	Mean age <15 years.
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BARLOW2008

Reason for exclusion	Mean age <15 years.
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BAUMINGER2002

Reason for exclusion	Mean age <15 years.
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BEAUMONT2008

Reason for exclusion	Mean age <15 years.
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BIZARRA2009

Reason for exclusion	This paper was from the sift of learning disabilities studies, but only 44% of the study sample had learning disability.
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BOLTE2002

Reason for exclusion	Sample size was less than ten per arm.
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BRODERICK2002

Reason for exclusion	Sample size was less than ten per arm.
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CARROLL1978

Reason for exclusion	Sample size was less than ten per arm.
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CARTER2005

Reason for exclusion	Sample size (N = 5 with autism).
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CHALFANT2007

Reason for exclusion	Mean age <15 years.
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CRAIG2006

Reason for exclusion	Sample size was less than ten per arm.
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DAVIS1991

Reason for exclusion	Mean age <15 years.
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DIXON1998

Reason for exclusion	Sample size was less than ten per arm.
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DIXON2001

Reason for exclusion	Sample size was less than ten per arm.
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DUNLAP1984

Reason for exclusion	Sample size was less than ten per arm.
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EBERLIN1993

Reason for exclusion	Data could not be extracted because no statistical analysis is reported.
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EIKESETH2005

Reason for exclusion	Mean age <15 years.
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ELDEVIK2006

Reason for exclusion	Mean age <15 years.
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EPP2008

Reason for exclusion	No details given as to diagnosis of sample so cannot ascertain whether this is an autistic population.
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FARR2010

Reason for exclusion	Sample size was less than ten per arm.
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FAYYAD2010

Reason for exclusion	Mean age <15 years.
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FELDMAN1992

Reason for exclusion	Data could not be extracted as no statistical analysis reported.
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FELDMAN2002

Reason for exclusion	Mean age <15 years.
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FIELD2001

Reason for exclusion	Mean age <15 years.
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FRANKEL2010

Reason for exclusion	Mean age <15 years.
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FRIMAN1994

Reason for exclusion	Letter to editor - no useable data.
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GEURTS2008

Reason for exclusion	Mean age <15 years.
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GHEZZI2007

Reason for exclusion	Descriptive paper.
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GREENBERG2008

Reason for exclusion	Mean age <15 years.
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GUTSTEIN2007

Reason for exclusion	Mean age <15 years.
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HARCHIK1990

Reason for exclusion	Sample size was less than ten per arm.
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HAYS2007

Reason for exclusion	Descriptive paper.
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HIGBEE2002

Reason for exclusion	Sample size was less than ten per arm.
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HUDSON1982

Reason for exclusion	Mean age <15 years.
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HUDSON2003

Reason for exclusion	Mean age <15 years.
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ISRAEL1993

Reason for exclusion	Data could not be extracted because no statistical analysis reported.
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KASHIMA1988

Reason for exclusion	Mean age <15 years.
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KAZDIN1993

Reason for exclusion	Not primary data.
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KEEL1997

Reason for exclusion	Data could not be extracted.
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KEELING2007

Reason for exclusion	Sample size and comorbidity – learning disabilities population was small (N = 11) and three had acquired brain injury.
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KENT1994

Reason for exclusion	Data could not be extracted because no statistical analysis was reported.
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KIRKHAM1993

Reason for exclusion	Mean age <15 years.
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KOEGEL1988

Reason for exclusion	Sample size was less than ten per arm.
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KRATOCHWILL2003

Reason for exclusion	Mean age <15 years.
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LAUD2009

Reason for exclusion	Mean age <15 years.
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LEGOFF2004

Reason for exclusion	Mean age <15 years.
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LEGOFF2006

Reason for exclusion	Mean age <15 years.
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LEUNG2003

Reason for exclusion	Mean age <15 years.
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LIM2007

Reason for exclusion	Mean age <15 years.
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LLEWELLYN2003

Reason for exclusion	Sample size was less than ten per arm for statistical analysis as a cross-over design was used.
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LOVAAS1973

Reason for exclusion	Mean age <15 years.
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LOVELAND1991

Reason for exclusion	Sample size was less than ten per arm for post-hoc tests for intervention efficacy.
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LUND1992

Reason for exclusion	Sample size was less than ten per arm.
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MARTIN2003

Reason for exclusion	Mean age <15 years.
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MATSON1980A

Reason for exclusion	Data could not be extracted as ANOVA is 2×2×3.
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MATSON1980B

Reason for exclusion	Data could not be extracted as ANOVA is 2×3.
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MATSON1982

Reason for exclusion	Data could not be extracted as ANOVA is 3×1.
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MATSON1998

Reason for exclusion	Data could not be extracted as ANOVA is 2×2.
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MATSUMOTO2007

Reason for exclusion	Mean age <15 years.
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MAZURYK1978

Reason for exclusion	Mean age <15 years.
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MCCARRAN1990

Reason for exclusion	Sample size is less than ten participants per arm.
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MCCLANNAHAN2002

Reason for exclusion	Data could not be extracted.
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MCCUBBIN1988

Reason for exclusion	Data could not be extracted because no measure of variability was reported.
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MCGARRY1979

Reason for exclusion	Data could not be extracted because no statistical analysis reported.
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MCGREGOR1998

Reason for exclusion	Mean age <15 years.
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MCGREGOR1999

Reason for exclusion	Sample size was less than ten per arm.
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MESIBOV1984

Reason for exclusion	Data could not be extracted.
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MESIBOV1990

Reason for exclusion	Data from MESIBOV1984.
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MEYER1987

Reason for exclusion	Sample size was less than ten per arm.
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MICHIE1998

Reason for exclusion	Data could not be extracted.
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MILLER1973

Reason for exclusion	Mean age <15 years.
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MORAWSKA2007

Reason for exclusion	Mean age <15 years.
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MYLES1996B

Reason for exclusion	Duplicate data from MYLES1996A.
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NAJDOWSKI2010

Reason for exclusion	Sample size is less than ten participants per arm.
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NELSON1980

Reason for exclusion	Mean age <15 years.
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NIKOPoulos2007

Reason for exclusion	Sample size was less than ten per arm.
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NIND1996

Reason for exclusion	Sample size was less than ten per arm.
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NIND1999

Reason for exclusion	Descriptive paper.
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NORVELL1989

Reason for exclusion	Sample size was less than ten per arm.
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OCONNOR1996

Reason for exclusion	Descriptive paper.
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ODELL1977

Reason for exclusion	Descriptive paper.
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ONEILL2002

Reason for exclusion	Sample size is less than ten participants per arm.
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PASSERINO2008

Reason for exclusion	Sample size was less than ten per arm.
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PEARSON1999

Reason for exclusion	Mean age <15 years.
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RIVERS2010

Reason for exclusion	Mean age <15 years.
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ROEYERS1996

Reason for exclusion	Mean age <15 years.
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ROSE2000

Reason for exclusion	Overlapping (but smaller) dataset with ROSE2005.
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ROSE2009

Reason for exclusion	Mean age <15 years.
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ROSSITER1998

Reason for exclusion	Sample size was less than ten per arm.
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ROTATORI1979

Reason for exclusion	Sample size was less than ten per arm.
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ROUTH1995

Reason for exclusion	Mean age <15 years.
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RUSSELL1999

Reason for exclusion	Mean age <15 years.
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SALLOWS2005

Reason for exclusion	Mean age <15 years.
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SCHALLER2005

Reason for exclusion	Data could not be extracted.
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SCHREIBMAN1991

Reason for exclusion	Sample size is less than ten participants per arm and mean age <15 years.
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SCHULTZ1992

Reason for exclusion	Mean age <15 years.
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SEUNG2006

Reason for exclusion	Mean age <15 years.
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SHORT1984

Reason for exclusion	Mean age <15 years.
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SILVER2001

Reason for exclusion	Data could not be extracted.
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SMITH1994

Reason for exclusion	Data could not be extracted because no statistical analysis is reported.
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SMITH2005

Reason for exclusion	Mean age <15 years.
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SOFRONOFF2004

Reason for exclusion	Mean age <15 years.
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SOFRONOFF2007

Reason for exclusion	Mean age <15 years.
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SPACCARELLI1992

Reason for exclusion	Mean age <15 years.
----------------------	---------------------

STEELEMCCARRAN1990

Reason for exclusion	Sample size was less than ten per arm.
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STRAIN2000

Reason for exclusion	Sample size was less than ten per arm.
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TAANILA1998

Reason for exclusion	Mean age <15 years.
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TANAKA2010

Reason for exclusion	Mean age <15 years.
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TAVORMINA1975

Reason for exclusion	Mean age <15 years.
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TAYLOR2008

Reason for exclusion	Mean age <15 years.
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TAYLOR2009

Reason for exclusion	Data could not be extracted as 3×1 ANOVA.
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THOMPSON1996

Reason for exclusion	Mean age <15 years.
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THORELL2009

Reason for exclusion	Mean age <15 years.
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TO2000

Reason for exclusion	Data could not be extracted because no measure of variance was reported.
----------------------	--

TRACE1977

Reason for exclusion	Sample size was less than ten per arm.
----------------------	--

TYSON1991

Reason for exclusion	Data could not be extracted because no statistical analysis reported.
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USLU2006

Reason for exclusion	Mean age <15 years.
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VANOORSOUW2009

Reason for exclusion	Mean age <15 years.
----------------------	---------------------

VARMA1992

Reason for exclusion	Mean age <15 years.
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WACHTEL2006

Reason for exclusion	Sample size was less than ten per arm.
----------------------	--

WAGNER1975

Reason for exclusion	Descriptive paper.
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WEBSTERSTRATTON1994

Reason for exclusion	Mean age <15 years.
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WEINBLATT2008

Reason for exclusion	Mean age <15 years.
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WELLMAN2002

Reason for exclusion	Mean age <15 years.
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WHITTINGHAM2009

Reason for exclusion	Mean age <15 years.
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WILLIAMS1989

Reason for exclusion	Mean age <15 years.
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WILLIAMS2005

Reason for exclusion	Mean age <15 years.
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WOLFE2009

Reason for exclusion	Case studies.
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WONG2006

Reason for exclusion	Mean age <15 years.
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ZINGALE2008

Reason for exclusion	Mean age <15 years.
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