

Appendix 17: Study characteristics on risk factors for developing antisocial personality disorder

Study ID	Country	Population	Age of recruitment to follow-up	Risk factors	Outcome
BABINSKI1999 Quality assessed: +	US, San Francisco	N = 360; male and female <u>Selection criteria:</u> All the public and private schools were listed, 40 schools each were randomly selected, one sample for each grade level up to grade 5 was selected	9 – 26 years	<u>Child factors:</u> - Conduct problems - Hyperactive-impulsive behaviour - Conduct problems + hyperactive-impulsive behaviour	<u>Offending behaviour:</u> - Official records - Self-report
BIEDERMAN1996 Quality assessed: +	US	N = 260; male <u>Selection criteria:</u> Children with and without ADHD (DSM-III-R)	Recruited from ages 6 – 17 years Followed up between ages 16 and 27 years	<u>Child factors:</u> - ADHD - Oppositional defiant disorder - Conduct disorder	<u>Diagnosis (DSM-IV):</u> - ADHD - Oppositional defiant disorder - Conduct disorder
BOR2004 (The Mater University Study of Pregnancy)	Australia, Brisbane	N = 5278; male and female <u>Selection criteria:</u> Women in 1981 who gave birth to a live, singleton baby and completed postnatal surveys 3 to 5 days after the birth	Prenatal to 14 years	<u>Child factors at 5 years:</u> - Behaviour problems (parent-rated/CBCL) - Academic (Peabody Picture Vocabulary Test-Revised) <u>Family factors from prenatal to 5 years:</u> - Harsh discipline	<u>Behaviour problems:</u> - Parent-rated (CBCL)

				<u>Social factors from prenatal to 5 years:</u> - Family income - Perinatal factors	
Quality assessed: + FARAONE1997	US	N = 260; female <u>Selection criteria:</u> Psychiatrically referred females from lists of consecutive ADHD patients from paediatric psychopharmacology clinics. Controls from lists of outpatient at paediatric medical clinics	Age at recruitment: 6 - 17 years Age at follow-up: 10 and 21 years	<u>Family factors:</u> - Parents who had oppositional defiant disorder - Parents who had conduct disorder - Parent who had/have ADHD	<u>Diagnosis:</u> - ADHD + conduct disorder - ADHD + oppositional defiant disorder - ADHD only
Quality assessed: + FARMER2004	US, North Carolina	N = 475; male and female <u>Selection criteria:</u> Participants in 7th grade from three schools in North Carolina	13 - 24 years	<u>Child factors:</u> - Aggression	<u>Offending behaviour:</u> - Official arrests
Quality assessed: + FARRINGTON1989 (Cambridge Study in Delinquent Development)	UK, London	N = 411; males <u>Selection criteria:</u> Living in a working class area of London, 8 years of age and on the registers of six state primary schools within a one-mile	8 - 32 years	<u>Child factors:</u> - Impulsivity: at ages 8-10 - IQ: at ages 8-10 <u>Social factors:</u> - Family income: at age 8 - Social class: ages 8-10	<u>Behaviour problems:</u> - Teacher reports - Self-report <u>Offending behaviour</u> - Official offences/ - convictions

		radius of the research office		<u>Family factors:</u> - Harsh discipline: at age 8 - Parental disagreement: at age 8 - Divorce: by age 10	<u>Diagnosis:</u> - Antisocial personality disorder
Quality assessed: + FERGUSSON1994 (Christchurch Multidisciplinary Health and Development Study)	New Zealand, Christchurch	N = 1265 <u>Selection criteria:</u> Birth cohort	Birth to 16 years	<u>Child factors (between 7 and 9 years):</u> - Behaviour problems (parent- and teacher-rated) - Reading ability: at age 8 - Academic ability <u>Social factors (between 7 and 9 years):</u> - Family and childhood adversity <u>Family factors:</u> - Parental separation: between the ages of 0 - 5; 5 - 10; 10 - 15 years	<u>Behaviour problems:</u> - Self-report - Parent-report (Revised Behaviour Problem Checklist) - Teacher-report - Self-report <u>Diagnosis:</u> - Conduct disorder (DSM-III-R)
Quality assessed: + HELGELAND2005	Norway, Oslo	N = 148; males and females <u>Selection criteria:</u> Consecutive admissions of patients to the adolescent unit of the National Centre for Child and Adolescent Psychiatry	15 - 43 years	<u>Child factors:</u> - Any personality disorder - Any cluster A - Any cluster B - Any cluster C	<u>Diagnosis (DSM-IV):</u> - Any personality disorder - Any cluster A - Any cluster B - Any cluster C

<p>HERRENKOHL2000 (Seattle Social Development Project)</p> <p>Quality assessed: +</p>	<p>US, Seattle</p>	<p>N = 808; male and female</p> <p><u>Selection criteria:</u> 5th graders from 18 Seattle public elementary schools serving high crime areas</p>	<p>10 – 18 years</p>	<p><u>Child factors:</u></p> <ul style="list-style-type: none"> - Hyperactivity (parent- and teacher-rated): at age 10, 14 and 16 years - Behaviour problems (teacher-rated): at age 10, 14 and 16 years <p><u>Social factors:</u></p> <ul style="list-style-type: none"> - Peer delinquency: at age 10, 14 and 16 years - Socioeconomic status (community): at age 10, 14 and 16 years <p><u>Family factors:</u></p> <ul style="list-style-type: none"> - Parent conflict: at age 10, 14 and 16 years - Parent criminality: at age 10, 14 and 16 years 	<p><u>Behaviour problems:</u></p> <ul style="list-style-type: none"> - Self-report (violence)
<p>KLEIN1997</p> <p>Quality assessed: +</p>	<p>US</p>	<p>N = 132; male and female</p> <p><u>Selection criteria:</u> Local newspapers and advertisement requesting mothers and adolescents to participate in parent-adolescent interaction study</p>	<p>14 – 20 years</p>	<p><u>Family factors:</u></p> <ul style="list-style-type: none"> - Single parents - Parent conflict 	<p><u>Behaviour problems:</u></p> <ul style="list-style-type: none"> - Self-report (National Youth Survey) <p><u>Offending Behaviour:</u></p> <ul style="list-style-type: none"> - Self report (arrests/convictions)

KOSKINEN2001 Quality assessed: +	Finland	N = 5589; male <u>Selection criteria:</u> Birth cohort of 1966	Prenatal to 14 years	<u>Family factors:</u> - Single parent: throughout - Single parent: at birth but remarried - Divorced/separated: at any point between birth and 14 years	<u>Offending behaviour:</u> - Official offences
KRATZER1997 Quality assessed: +	Sweden, Stockholm	N = 12, 717; male and female <u>Selection criteria:</u> Unselected birth cohort	Prenatal to 30 years	<u>Child factors:</u> - Conduct problems at school: ages 12 - 13 and 15 - 16 years and/or in the community: before age 15 <u>Social factors:</u> - Social class	<u>Offending behaviour:</u> - Official records
LOEBER1991 (Pittsburgh Youth Study) Quality assessed: +	US	N = 205 males <u>Selection criteria:</u> 4 th , 7 th and 10 th graders from 21 schools	Age at recruitment: 10 - 16 years Age at follow-up: 15 - 21 years	<u>Child factors:</u> - Behaviour problems (parent-rated/retrospective): between ages 1 - 5 years - Behaviour problems (parent-rated): between ages 10 and 16 years - Aggression/hyperactivity <u>Social factors:</u> - Deviant peers <u>Family factors:</u> - Discipline (inconsistent)	<u>Behaviour problems:</u> - Aggression (self-report) <u>Offending behaviour:</u> - Official arrests - any - Self-report - theft
LOEBER1995	US	N=96; all male <u>Selection criteria:</u> Disruptive behavior disorder	Age at recruitment: Mean of 10 years (range: 7 - 12 years)	<u>Child factors:</u> - Behavioural problems - ADHD - oppositional defiant disorder	<u>Behaviour problems:</u> Conduct disorder

			Age at follow up: 16 years	<u>Family factors:</u> - Parent with antisocial personality disorder - Parental substance misuse - Poor communication - Poor marital relations	
Quality assessed: +					
LUNTZ1994	US	N = 699; male and female <u>Selection criteria:</u> Abused and/or neglected children and a comparison group	20 years after their childhood victimisation Age at follow-up: ages 18 - 35 years	<u>Family and/or social factors:</u> - Physical /sexual abuse - Neglect from parents	<u>Diagnosis:</u> - Antisocial personality disorder
Quality assessed: +					
MANNUZZA1998	US	N = 158; males <u>Selection criteria:</u> ADHD participant recruited from psychiatric research clinic and a comparison group recruited from a non-psychiatric outpatient clinic	7 - 24 years	<u>Child factors:</u> - ADHD - Conduct disorder - Oppositional defiant disorder	<u>Diagnosis:</u> - Antisocial personality disorder (DSM-III-R) - Conduct disorder
Quality assessed: +					
MCCABE2005 (Patterns of Youth Mental Health Care in Public Service Systems Study)	US, California	N = 423; male and female <u>Selection criteria:</u> Sub-sample from Patterns of Care study of participants	12 - 17 years	<u>Child factors:</u> - Behaviour problems (CBCL) - Conduct disorder (DSM-IV) <u>Social factors:</u> - Income	<u>Behaviour problems:</u> - Parent-report (CBCL) <u>Diagnosis:</u> - Conduct disorder (DSM-

		who were 12 or older at baseline and 17 or younger at follow-up			IV)
Quality assessed: + MOFFITT2002 (Dunedin Multidisciplinary Health and Development Study) Quality assessed: +	New Zealand, Dunedin	N = 1037; male and female <u>Selection criteria:</u> Dunedin birth cohort of all births between 1 April 1972 and 31 March 1973	3 – 32 years	<u>Child factors (between ages 7 and 9 years):</u> - Behaviour problems (Rutter) - Reading ability (Burt Reading Test)	<u>Behaviour problems:</u> - Self-report - Parent-report (Revised Behaviour Problem Checklist)
Quality assessed: + PAKIZ1997	US	N = 375; male and female <u>Selection criteria:</u> in public kindergarten in the north-eastern US in 1977	5 – 21 years	<u>Child factors:</u> - Behaviour problems (teacher- report/ Kindergarten Behaviour Questionnaire): at age 5 years - Behaviour problems (teacher-report/ Child and Adolescent Adjustment Profile): at age 9 years - Behaviour problems (self-report/CBCL-YSR): at ages 15 and 18 years	<u>Diagnosis:</u> - Antisocial personality disorder (DSM-III-R)
Quality assessed: + RAINE1994	Denmark, Copenhagen	N = 4269; males <u>Selection criteria:</u> All male consecutive births in a state university hospital between 1959 and 1961	Prenatal to 17 – 19 years	<u>Social factors:</u> - Peer rejection: at age 1 year - Birth complications	<u>Offending behaviour:</u> - Official violent offences
Quality assessed: + RITTER2002	US	N = 109; 48 males; 61 females (results	15 – 21 years	<u>Child factors:</u> - Conduct disorder (DSM-II-	<u>Behaviour problems:</u>

		analysed separately by gender) <u>Selection criteria:</u> Participant not exposed to familial alcoholism and those who are exposed		R/DSM-IV) <u>Family factors:</u> - Conflict	- Conduct disorder (DSM-II-R/DSM-IV)
Quality assessed: + SATTERFIELD1997	US, California	N = 254; males only <u>Selection criteria:</u> Consecutive referrals of hyperactive boys to psychiatric outpatient clinics and boys from public schools matched to the at-risk group	7 - 37 years	<u>Child factors:</u> - ADHD (DSM-III)	<u>Offending behaviour:</u> - Official arrests - Official incarcerations
Quality assessed: + SOURANDER2006 (Epidemiological Multicentre Child Psychiatry study in Finland) Quality assessed: +	Finland	N = 2713; male <u>Selection criteria:</u> Finnish birth cohort born during 1981	8 years to late adolescence	<u>Child factors:</u> - Behaviour problems: parent- and teacher-report (Rutter Scale) <u>Family factors:</u> - Single family	<u>Offending behaviour:</u> - Official offences
STEVENSON2001	UK, London	N = 828; male and female <u>Selection criteria:</u> One-in-four random sample of cohort of children born in 1969 - 1970 living in	3 - 23/24 years	<u>Child factors:</u> - Behaviour problems	<u>Offending behaviour:</u> - Official offences

Quality assessed: +		borough of London			
TREMBLAY1994 (Montreal Longitudinal Study) Quality assessed: +	Canada, Quebec	N = 957 males; 645 females <u>Selection criteria:</u> Schools with the lowest socioeconomic index, both biological parents were born in Canada and their mother tongue was French	6 - 17 years	<u>Child factors:</u> - Impulsivity: at age 6 years - Behaviour problems: at age 6 years - IQ (verbal): at age 13 years <u>Social factors:</u> - Family income: 10 to 16 years <u>Family factors:</u> - Divorce: between 6 and 11 years and 12 and 15 years	<u>Behaviour problems:</u> - Self-report <u>Diagnosis (DSM-III-R):</u> - Conduct disorder
WALKER1997 (Oregon Youth Study) Quality assessed: +	US	N = 80 <u>Selection criteria:</u> Sub-sample of antisocial adults and control group from the Oregon Youth study (WIESNER2003A)	10 - 17 years	<u>Child factors:</u> - Antisocial personality disorder construct - Delinquency - Academic skills <u>Social factors:</u> - Deviant peers	<u>Offending behaviour:</u> - Official arrests
WHITE2001	US	N=698; all male <u>Selection criteria:</u> Representative sample of New Jersey adolescents	Age at recruitment: 12 - 18 years Age at follow up: 25 - 31 years	<u>Child factors:</u> - Neuropsychological risk (low birth weight, premature birth) - Verbal ability/executive functioning - Impulsivity <u>Family factors:</u> - Single parent - Parent hostility	<u>Offending behaviour:</u> - Self-report

Quality assessed: +				<u>Social factors</u> - Socioeconomic status	
WIESNER2003A (Oregon Youth Study)	US	N = 206; males <u>Selection criteria:</u> Two successive grade 4 (age 9–10 years) recruited from 1983 to 1985 from schools in the higher crime areas of a medium-sized metropolitan region	9 /10 to 23 /24 years	<u>Child factors:</u> - Behaviour problems (combined parent-, teacher- and self-report) <u>Family factors:</u> - Harsh/inconsistent discipline - Parent’s offending behaviour - Single parent <u>Social factors:</u> - Deviant peers	<u>Offending behaviour:</u> - Self-report of arrests (Elliot Delinquency Scale) - Official arrests
Quality assessed: +					
WIESNER2003B	Germany	N = 318; male and female <u>Selection criteria:</u> Representative sample of East and West German children	Age at recruitment: 10 – 13 years (mean = 11) Age at follow-up: 13 – 17 years (mean = 15)	<u>Child factors:</u> - Behaviour problems (self-report) <u>Social/family factors:</u> - Early adversities	<u>Offending behaviour:</u> - Self-report
Quality assessed: +					

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