

## Appendix C: Data Extraction Form

The below template will be used to extract data from included studies.

### Inclusion/Exclusion form:

#### A. Reference details:

Reference details						
A1. Ref ID						
A2. 1 <sup>st</sup> Author						
A3. Title of paper						
A4. Journal						
A5. Volume						
A6. Year of publication						
A7. Publication type	Paper <sup>1</sup>		Abstract <sup>2</sup>		Other <sup>3</sup>	
A8. Assessor's name	LK <sup>1</sup>		SR <sup>2</sup>		Other <sup>3</sup>	
A9. Date						

#### B. Study included in the review:

Yes <sup>1</sup>	No <sup>2</sup>

Reason(s) for exclusion (if excluded):	Yes <sup>1</sup>	No <sup>2</sup>
B1. Non-human participants		
B2. Non-English language		
B3. Publication date		
B4. Study design and/or statistical analyses		
B5. Publication type		
B6. Selected on physical health problem		
B7. Selected on other developmental disorder		
B8. Selected on other mental health diagnosis		
B9. No risk factor measure		
B10. No disruptive behaviour outcome measure		
B11. Timing of measures		
B12. Duplicate (Insert Ref ID of other study)	Ref ID:	
B13. Other please specify:		

**Data extraction form:**

Reference details						
A1. Ref ID						
A2. 1st Author						
A3. Title of paper						
A4. Journal						
A5. Volume						
A6. Year of publication						
A7. Publication type	Paper <sup>1</sup>		Abstract <sup>2</sup>		Other <sup>3</sup>	
A8. Assessor's name	LK <sup>1</sup>		SR <sup>2</sup>		Other <sup>3</sup>	
A9. Date						

Study details												
B1. Name of study/cohort												
B2. Design	Cross-sectional <sup>1</sup>		Prospective cohort <sup>2</sup>		Retrospective cohort <sup>3</sup>		Case-control <sup>4</sup>		Linked admin <sup>5</sup>		Other <sup>6</sup>	
B2A. If other:												
B2B. Participants birth year, if given	Average <sup>1</sup>		Max <sup>2</sup>		Min <sup>3</sup>		Other <sup>4</sup>					
B3. Country	UK <sup>1</sup>			USA <sup>2</sup>			AUS <sup>3</sup>			Other <sup>4</sup>		
B3A. If other:												

Risk factor(s) measures included			
C1. Maternal smoking during pregnancy	Yes <sup>1</sup>		No <sup>2</sup>
C2. Harsh, coercive discipline	Yes <sup>1</sup>		No <sup>2</sup>
C3. Maltreatment	Yes <sup>1</sup>		No <sup>2</sup>
C4. Divorce	Yes <sup>1</sup>		No <sup>2</sup>
C5. Maternal adolescent motherhood	Yes <sup>1</sup>		No <sup>2</sup>
C6. Parental depression	Yes <sup>1</sup>		No <sup>2</sup>
C7. Parental antisocial behaviour	Yes <sup>1</sup>		No <sup>2</sup>
C8. Parental drug use	Yes <sup>1</sup>		No <sup>2</sup>
C9. Peer deviance	Yes <sup>1</sup>		No <sup>2</sup>

C10. Poverty	Yes <sup>1</sup>	No <sup>2</sup>
C11. Neighbourhood disadvantage	Yes <sup>1</sup>	No <sup>2</sup>
C12. Hyperactivity / impulsivity	Yes <sup>1</sup>	No <sup>2</sup>
C13. Low IQ / school achievement	Yes <sup>1</sup>	No <sup>2</sup>
C14. Drug use	Yes <sup>1</sup>	No <sup>2</sup>
C15. Resting heart rate	Yes <sup>1</sup>	No <sup>2</sup>
C16. Skin conductance	Yes <sup>1</sup>	No <sup>2</sup>
C17. Autonomic fear conditioning	Yes <sup>1</sup>	No <sup>2</sup>
C18. Maternal alcohol use in pregnancy	Yes <sup>1</sup>	No <sup>2</sup>
C19. Parental education	Yes <sup>1</sup>	No <sup>2</sup>
C20. Family size	Yes <sup>1</sup>	No <sup>2</sup>
C21. Bullying / peer victimisation	Yes <sup>1</sup>	No <sup>2</sup>
C22. Stressful / adverse life events	Yes <sup>1</sup>	No <sup>2</sup>
C23. Other:	Yes <sup>1</sup>	No <sup>2</sup>

For each measure of risk factor(s)												
C24. Indicate which risk factor:												
C25. How was it measured:	Prospectively <sup>1</sup>						Retrospectively <sup>2</sup>					
C26. How was it ascertained	Parent <sup>1</sup>		Self <sup>2</sup>		Teacher <sup>3</sup>		Observer <sup>4</sup>		Others <sup>5</sup>			
C27. Age(s) recorded (years)	Average <sup>1</sup>		Max <sup>2</sup>		Min <sup>3</sup>		Other <sup>4</sup>					
C28. Age recorded (groups)	Childhood <sup>1</sup>			Adolescence <sup>2</sup>			Adulthood <sup>3</sup>					
C29. Above answers the same for all risk factors	Yes <sup>1</sup>						No <sup>2</sup>					

If no, copy and paste below as required	
C24. Indicate which risk factor:	
C25. Psychometric properties of measure given	
C26. How was it measured:	Prospectively <sup>1</sup> <input type="checkbox"/> Retrospectively <sup>2</sup> <input type="checkbox"/>
C27. How was it ascertained	Parent <sup>1</sup> <input type="checkbox"/> Self <sup>2</sup> <input type="checkbox"/> Teacher <sup>3</sup> <input type="checkbox"/> Observer <sup>4</sup> <input type="checkbox"/> Other <sup>5</sup> <input type="checkbox"/>
C28. Age(s) recorded (years)	Average <sup>1</sup> <input type="checkbox"/> Max <sup>2</sup> <input type="checkbox"/> Min <sup>3</sup> <input type="checkbox"/> Other <sup>4</sup> <input type="checkbox"/>
C29. Age recorded (groups)	Childhood <sup>1</sup> <input type="checkbox"/> Adolescence <sup>2</sup> <input type="checkbox"/> Adulthood <sup>3</sup> <input type="checkbox"/>

Disruptive behaviour measures included	
D1. Conduct problems	Child Behaviour Checklist (CBCL) <sup>1</sup> *or subset of CBCL e.g. Behavior Problems Index (BPI) Eyberg Child Behavior Inventory <sup>2</sup> Rutter Revised Preschool Scales <sup>3</sup> DSM diagnostic items <sup>4</sup> *or measure that uses DSM criteria e.g. Child and Adolescent Psychiatric Assessment (CAPA) or Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA) Others <input type="checkbox"/>
D1A. If other please describe	
D2. Conduct disorder	Diagnostic Interview Schedule for Children (DISC) <sup>1</sup> Diagnostic Interview for Children and Adolescents - Revised (DICA-R) <sup>2</sup> Schedule of Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime <sup>3</sup> DSM diagnostic items <sup>4</sup> *or measure that uses DSM criteria e.g. Child and Adolescent Psychiatric Assessment (CAPA) or Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA) Others <input type="checkbox"/>
D2A. If other please describe	
D3. Oppositional defiant disorder	The Oppositional Defiant Disorder Rating Scale <sup>1</sup> Behavior Assessment System for Children: Second Edition (BASC-2) <sup>2</sup> Child Behavior Checklist (CBCL) <sup>3</sup> DSM diagnostic items <sup>4</sup> Others <input type="checkbox"/>

D3A. If other please describe										
D4. Antisocial personality disorder	Structured Clinical Interview for DSM-IV (SCID) <sub>1</sub>		Psychopathy Checklist – Revised (PCL-R) <sub>2</sub>		Mini International Neuropsychiatric Interview (MINI) <sub>3</sub>		International Personality Disorder Examination (IPDE) <sub>4</sub>		Others	
D4A. If other please describe										
D5. Other disruptive behaviour										
D6. Psychometric properties of measure given										
D7. How ascertained	Parent <sub>1</sub>		Self <sub>2</sub>		Teachers <sub>3</sub>		Observer <sub>4</sub>		Others	
D7B. If Other, please describe										
D8. Age(s) ascertained (years)										
D8B. Age of onset	Years <sub>1</sub>		Months <sub>2</sub>		Childhood <sub>3</sub>		Adolescence <sub>4</sub>		Others	
D9. Comorbidities	Yes <sub>1</sub>				No <sub>2</sub>					
D10A. If Yes, please describe										
D11. Comments										

Available participant numbers	
E1. Baseline	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E2. Excluded	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E3. Refused	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E4. Lost to follow-up	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E5. Other losses	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E6. Included in analysis	Yes <sub>1</sub> No <sub>2</sub> If yes, number
E7. All accounted for	Yes <sub>1</sub> No <sub>2</sub>
E8. Length of follow up	
E9. Procedures to deal with missing data	

Variable details				
F1. Risk factor	Continuous <sup>1</sup>		Categorical <sup>2</sup>	Other <sup>3</sup>
F1A. If other please describe				
F2. Disruptive behaviour	Continuous <sup>1</sup>		Categorical <sup>2</sup>	Other <sup>3</sup>
F3. Comments				

Details of study design and analyses				
G1. Quasi-experimental features	Adoption study <sup>1</sup>		Fixed effect <sup>2</sup>	Twin study <sup>3</sup>
	Propensity Score Matching <sup>4</sup>		Sibling study <sup>5</sup>	Regression discontinuity <sup>6</sup>
	Instrumental variable <sup>7</sup>		Interrupted time series <sup>8</sup>	Mendelian randomisation <sup>9</sup>
	Matching study <sup>10</sup>		Experience sample <sup>11</sup>	Ecological momentary assessment <sup>12</sup>
	Difference in difference <sup>13</sup>		In vitro fertilisation <sup>14</sup>	Polygenic risk score <sup>15</sup>
	Natural experiment <sup>16</sup>		Matched control <sup>17</sup>	Potential outcome <sup>18</sup>
	Balancing covariate <sup>19</sup>		Controlled before and after <sup>20</sup>	Inverse probability weight <sup>21</sup>
	Doubly robust regression <sup>22</sup>		Selection model or selectivity model <sup>23</sup>	Heckit model or Heckman sample selection <sup>24</sup>
	Selection correction <sup>25</sup>		Two stage residual inclusion <sup>26</sup>	Sharp design or fuzzy design <sup>27</sup>
	Forcing variable <sup>28</sup>		Full information maximum likelihood <sup>29</sup>	Natural control <sup>30</sup>
G1A. If other:				
G2. Included in analysis	Males and females <sup>1</sup>		Males only <sup>2</sup>	Females only <sup>3</sup>
G3. Model type	Linear <sup>1</sup>	Logistic <sup>2</sup>	Poisson <sup>3</sup>	Survival <sup>4</sup> Others <sup>5</sup>
G4. List models presented incl. unadjusted				
G5. Confounders selected	Yes <sup>1</sup>		No <sup>2</sup>	
G5A. If yes, please describe				

Effect estimates								
Association estimated and which group e.g. M/F/All	Cross sectional; longitudinal; time-to-event	No. analysed	Effect estimate given? Y/N	If N, what are the qualitative findings?	If Y, what is the type of effect estimate, category comparison/value of unit change	Effect estimate	95% CI; SE; p	Confounders adjusted for
1								
2								
3								

Potential References Identified for Inclusion		
Reference	Included in database search	Not included in database search