## **Youth Endowment Fund**

# How do we measure what works to prevent youth violence?

The Youth Endowment Fund measures database for evaluations





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#### Overview

The Measures Database for Youth Endowment Fund (YEF) Evaluations ('measures database') is a compendium of outcome measures to help evaluators select appropriate tools for evaluations of programmes relating to youth crime and violence. It is part of YEF's wider mission of building the evidence base for what works in reducing violence, and it builds on the work of the Outcomes Framework.

The Outcomes Framework was created to identify the outcomes with the most potential to decrease young people's likelihood of becoming involved in crime and violence. It identifies 14 primary outcomes and outcome subcategories that evaluators should use to determine whether an intervention or programme is considered effective (see Appendix A), as well as secondary outcomes on various ecological levels that may facilitate change in primary outcomes. The outcomes were prioritised according to their strength of association with crime and/or violence ('Review of Reviews') and the expertise of an Expert Reference Group consisting of young people, parents/carers, frontline staff and community organisations, and researchers and academics working within the field. Read more about the purpose and methodology of the framework here.

The aim of this measures database is to identify the best available tools to measure primary outcomes in YEF-funded evaluations. Doing so helps facilitate the use of outcome measures to build the evidence base in what works to prevent or reduce youth involvement in crime and violence. Given that numerous measures exist, researchers and practitioners — particularly those newer to the field — may find it challenging to identify which of the available measures is appropriate for assessing a particular outcome. Using appropriate measures is critical for rigorously evaluating the extent to which an intervention contributes to change in the intended outcome(s). By appropriate, we mean that measures are user-friendly, suitable for use with the target population, and reliable in measuring what they are supposed to measure. By providing a selection of measures that have been thoroughly evaluated for their accessibility and psychometric quality, evaluators can make an informed decision about selecting the right outcome measure(s) for their project.

Measure databases are a common way of organising outcome measures for a specific purpose. They typically provide in-depth information on measures, including psychometric properties that assess validity and reliability, to help users decide on the most appropriate tool. For example, a <u>compendium</u> of violence-related measures was created for researchers and specialists working in youth crime prevention in the United States (Dahlberg et al., 2005). To our knowledge, this is the first compendium of measures relating to youth crime and violence created for use in the United Kingdom. The primary focus of this database is on the outcomes related to youth crime and violence that are likely to change through intervention, which appear as primary outcomes in the Outcomes Framework. We recognise that a range of individual, relational, societal, and contextual factors contribute to these outcomes; however, many of these wider factors are unlikely to change as a result of focused intervention and are therefore not the focus in the database. Appropriate measures for such outcomes may be found in other databases, such as <u>SPECTRUM</u> or <u>CORC</u> and the <u>EIF guide</u> to measuring parental conflict and its impact on child outcomes.

#### Approach

The aim was to compile a database of measures for the primary outcomes of the Outcome Framework and provide evidence of their psychometric properties. We took a narrative review approach to finding high quality outcome measures (Ferrari, 2015). This approach applies systematic review methods to the planning and conduct of literature reviews and mitigates the role of subjectivity (Higgins et al., 2021; Moher et al., 2009). Subjectivity is the influence of the researcher's perspective on the research conducted. By using pre-determined conceptualisations of the constructs (see Appendix A for construct definitions) and specific inclusion/exclusion criteria for measures, we eliminated potential biases for shortlisting measures. A narrative review also allowed us to comprehensively scope the current literature in an efficient way.

We first identified outcome measures for 10 of the 14 primary outcomes and sub-outcomes listed in the Outcomes Framework, including: breaking the law or 'offending behaviour'; bullying; behavioural difficulties; criminal peers; drug and alcohol use; helping others (also known as prosocial behaviour); meaningful relationships; school connectedness (as part of school engagement); sexual violence (as part of breaking the law) and victim of crime. Although not a primary outcome, we included measures of aggression to help disentangle it from its parent construct, 'behavioral difficulties', as both are closely linked with the outcome of violence.

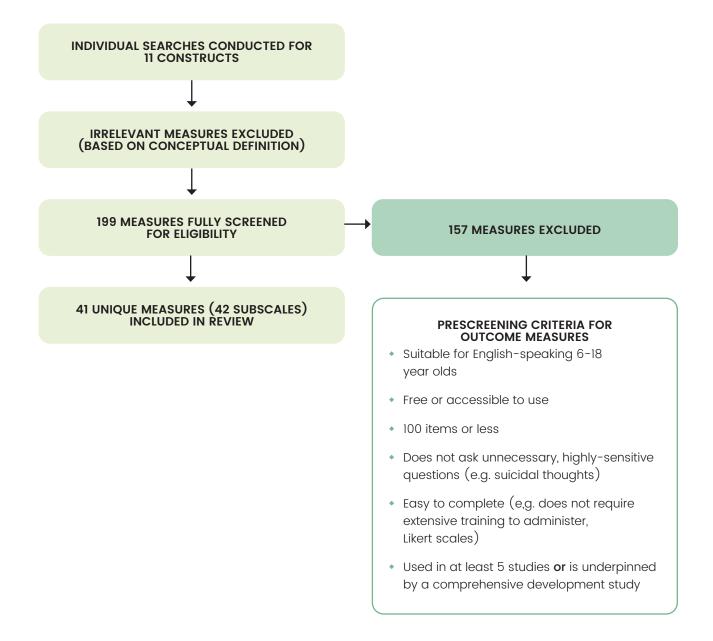
The remaining primary outcomes 'School attendance', 'School exclusions', and 'School grades' are not included in this database because they are measured using official school records. Measures of school connectedness or engagement may provide more insight into how children and young people feel about the school environment, teachers, and peers, and identify barriers to engagement.

We recognise that some of the outcomes above can also be measured using official records (e.g., breaking the law), but these processes are often more complex and time-consuming (e.g., official records may not be available for a substantial period of time after the evaluation has ended). Self-, parent-/carer-, or teacher-report measures allow us to capture estimates that are both accurate and timely. Where possible, we encourage using both official records and outcome measures to provide the most reliable measurements of the intended outcome.

For each primary outcome, we then identified and reviewed systematic reviews (or other types of reviews) to identify widely used outcome measures. If no review existed – or if this did not return sufficient results – the databases PsycINFO, MEDLINE, and/or EMBASE were searched until no new measures were returned. Primary outcomes were searched using pre-defined search terms. Using substance misuse as an illustrative example, in PsycINFO the terms "Substance\* OR drug\* OR alcohol" were searched under "Tests and measures" while "Adolescen\* OR young people" were searched simultaneously in the title and abstract of papers. Finally, a previous review commissioned by YEF and the 'Review of Reviews' were used to cross-reference identified measures.

Outcome measures identified through the search strategy above were shortlisted using the prescreening criteria, which was developed with the Expert Reference Group and YEF (see Figure 1). This helped us prioritise measures that were accessible and easy to use. The goal was to shortlist a maximum of five measures per outcome, so in some instances it was necessary to apply additional screening criteria (e.g., used in at least 10 studies; used in the UK). Measures were most often excluded because they were either a) not widely used, b) created for a specific study, c) not accessible, or d) not a conceptual fit to the construct. Some reviews provided information on the quality of measures, which also helped in the selection process. A few exceptions to the pre-screening criteria were made; for instance, when a measure required a fee but was considered a 'gold standard' in the field (e.g., Child Behavior Checklist), or where the inclusion of sensitive items was essential to measuring the outcome (e.g., sexual violence). Subjectivity was mitigated through weekly meetings to review the screening process and ensure measures conceptually fit with the primary outcomes (as they are defined in the Outcomes Framework). For example, it was important that measures of victimisation specifically included criminal victimisation. Measures identified outside of this search strategy, for example, by experts in the field, underwent the same pre-screening procedures.

#### Figure 1. Flow diagram of measurement selection.



A total of 199 measures were fully screened for inclusion in the database. After applying the prescreening criteria and discussing with the research team, 41 unique measures (42 subscales) were included in the final database (see Table 1 for an overview). The list of 157 excluded measures and reason for exclusion can be found in Appendix B.

#### Table 1. Measures included in the database.

OUTCOME MEASURES	TOTAL
HELPING OTHERS (I.E., PROSOCIAL BEHAVIOUR)	4
Prosocial Behavior Questionnaire	
Prosocial Tendencies Measure – Revised	
Strengths and Difficulties Questionnaire – Prosocial subscale	
BREAKING THE LAW (VIOLENT AND NON-VIOLENT CRIME)	6
Adapted Self-Report Delinquency Scale	
Add Health Self-Report Delinquency scale	
GAIN-I – Crime and Violence Scale	
International Self Report Delinquency Study (ISRD-3) – Offending subscale	
Self-Reported Delinquency Scale (SRD)	
Self-Report Early Delinquency Instrument (SRED) – UK adaptation	
BULLYING	4
Bullying and Cyberbullying Scale for Adolescents – Perpetration scale	
Illinois Bully Scale – Bullying subscale	
Modified Aggression Measure – Bullying subscale	
Olweus Bully/Victim Questionnaire – Revised	
DRUG AND ALCOHOL USE	5
Adolescent Alcohol Involvement Scale	
Alcohol Use Disorders Identification Test (AUDIT)	
CRAFFT Substance Abuse Screening Test	
GAIN-I – Substance Problems Scale	
Substances and Choices Scale	
BEHAVIOURAL DIFFICULTIES	5
Child Behavior Checklist (CBCL) (part of ASEBA)	
Eyberg Child Behaviour Inventory (ECBI) – 22-item version	
Strength and Difficulties Questionnaire – Conduct problems and hyperactivity subscales	
Teacher's Report Form (TRF) (part of ASEBA)	
Youth Self-Report (YSR) (part of ASEBA)	

AGGRESSION	4
Aggression Questionnaire	
Children's Aggression Scale	
Peer Conflict Scale	
Reactive-Proactive Aggression Questionnaire	
VICTIM OF CRIME	1
Juvenile Victimization Questionnaire – Conventional crime subscale	
CRIMINAL PEERS	3
Delinquent Peers Scale	
Eurogang Youth Survey – UK version	
The Measure of Criminal Attitudes and Associates – Criminal Friends Index	
SEXUAL VIOLENCE (PART OF 'BREAKING THE LAW')	3
American Association of University Women (AAUW) Survey – Modified	
Conflict in Adolescent Dating Relationship Inventory (CADRI) – Sexual subscale	) )
Measure of Adolescent Relationship Harassment and Abuse (MARSHA) – Sexual abuse subscale	
SCHOOL CONNECTEDNESS (PART OF 'SCHOOL ENGAGEMENT')	3
School Climate Measure	
School Connectedness Questionnaire	
Student Engagement Instrument – 35-item version	
MEANINGFUL RELATIONSHIPS	4
Child and Adolescent Social Support Scale (CASSS)	
Mentor Support Provisions Scale	
Network of Relationships Inventory – Behavioural Systems Version	
Student Resilience Survey	

After identifying the outcomes measures, we evaluated the psychometric properties of each outcome measure. Here, our aim was to provide evidence of each tool's validity and reliability using a modified version of the COSMIN criteria, which is a widely used system for assessing psychometric properties (see Appendix C for the modified COSMIN checklist). The COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) criteria provides a framework for assessing good measurement properties with the aim of facilitating the selection of high-quality measures for research and clinical practice (Prinsen et al., 2018). More information on the COSMIN guidelines can be found in the user manual.

We assessed the following properties: structural validity; internal consistency; test-retest reliability; measurement error; and modified criterion validity. Criterion validity assesses correlation with the "gold standard", but we expanded this to include "similar" outcome measures due to the lack of consensus on what is deemed the gold standard for a specified construct. We define the psychometric properties in Table 2.

Table 2. Definitions of measurement properties (based on COSMIN definitions).

CRITERIA	DEFINITION
Structural validity	The extent to which each scale (or subscale) measures a single dimension of the construct.
Internal consistency	The extent to which items in a scale are interrelated.
Test-retest reliability	The extent to which responses to the scale remain stable over time.
Measurement error	The amount of random error in the score that is not due to true changes in the construct measured.
Modified criterion validity	A correlation with the 'gold standard' measure or with a similar test (measuring the same construct).

Additional searches were run on each outcome measure to source information on its psychometric properties. We prioritised information from the following hierarchy of sources:

- Systematic review of the measure
- Recent validation of the measure
- Measure developers (e.g., development paper or manual)
- Large-scale or international studies

Psychometric properties were usually drawn from one comprehensive source but were occasionally supplemented to fill a gap, e.g., for criterion validity. A second reviewer cross-checked at least 90% of included studies.

#### Measures database

The measures database is organised by the following sections:

- Measure description: measure name, outcome, measure type, respondent type, reference, first author, year, description, subscales, ages, scoring and interpretation, administration, and an access link.
- Psychometric properties: reference, first author, year, sample information (ages, sample size, country, gender, ethnicity, socioeconomic information, special education needs), structural validity, internal consistency, test-retest reliability, measurement error, and modified criterion validity.

Read the measures database here.

#### **Considerations and recommendations**

We used a narrative review approach to identify 41 unique outcome measures (42 subscales) that assess 11 constructs related to youth crime and violence. The results of the narrative review indicated that most constructs have several psychometrically strong outcome measures, as evaluated using modified COSMIN criteria. Notably, however, there is a lack of evidence of the psychometric properties of outcome measures for breaking the law, criminal peers, and victim of crime that have been validated and deemed appropriate for use in the UK.

With regards to measures of breaking the law, there are measures that have been widely used in large cohort studies like the Edinburgh Study of Youth Transitions and Crime. These measures were often created in different fields of study, such as law or public policy, which may have different perspectives or methods for determining the validity and reliability of an outcome measure. This review used the COSMIN methodology to evaluate the included measures, which was developed by experts in epidemiology, statistics, psychology, and clinical medicine. For measures that have limited psychometric information, we encourage evaluators to validate them or report their psychometrics when using them in evaluations to help develop their evidence base or establish UK norms. We also encourage evaluators to take the opportunity to co-produce or co-adapt measures with young people who are involved in YEF-funded programmes or belong to a marginalised group. Breaking the law is a sensitive topic to ask about because the potentially stigmatising nature of these questions can result in labelling or criminalising young people; developing measures with young people can help mitigate this risk.

The research team and stakeholder groups would like to emphasise a few considerations and recommendations for using outcome measures. Firstly, when selecting a measure from this database, it is recommended to look for other studies that have used it with the specific population targeted by the programme being evaluated. Many measures have been used and validated with specific populations, for example there is less evidence with young women and girls, young people from Black and minoritized ethnic groups, neurodivergent young people, and for some with UK samples. Secondly, it is important that constructs and measures are appropriate for the aims of the evaluation and are aligned to the programme's theory of change or logic model. Where possible, this should include relevant secondary and contextual factors from different levels of the ecological model. Thirdly, some measures contain sensitive items, and as in all research and evaluation, it is important to have robust safeguarding plans in place to support young people when risk of harm is identified in responses to measures or if distress is experienced when completing measures. It is particularly important to have support in place for young people completing measures that may pertain to potentially traumatic experiences. Lastly, it is worth noting that some measures may include multiple dimensions of a construct or related constructs, e.g., bullying measures might include both a perpetration and victimisation subscale. In these instances, we focused on examining the psychometric properties of the relevant construct (i.e., perpetration only).

We hope this measures database provides a useful tool to evaluators and programmes and helps to encourage consistency of their use in the field. It is important that this database is updated as new measures are identified and developed.

If you are working on a new measure, we would be interested to hear from you at hello@youthendowmentfund.org.uk.

#### Acknowledgements

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## Appendix A – Primary outcomes and definitions (from the Outcomes Framework)

PRIMARY OUTCOME	OUTCOME SUB- CATEGORIES (IF APPLICABLE)	DEFINITION	NOTES
Breaking the law or 'offending behaviour'	Non-violent crime	Criminal behaviours that do not involve violence against another person (e.g. shoplifting, graffiti, using illegal drugs).	
	Sexually violent crime	There are many forms of sexually violent crimes that can take place in a range of settings. We focus on two forms of sexual violence most relevant to YEF programmes and the target age range of young people: sexual violence in a relationship and sexual harassment.	
	Violent crime	Criminal acts involving harm against another person (e.g. assault, robbery using threat or force, homicide).	
Bullying		Also called 'bullying perpetration'. Repeatedly directly harassing others verbally or physically, or repeatedly indirectly harassing others by isolating them, stealing from them, or destroying their property.	Bullying and being bullied by others are often related, and some of the measures we include will capture both of these sides of bullying.
Behavioural difficulties		Also called 'externalising behaviours'. A young person's distress or needs expressed through behaviours that are generally categorised as disruptive and aggressive.	In some definitions, hyperactivity may be included as part of both neuro-diverse needs (e.g., ADHD) and also externalising behaviours. After discussion with the expert group, our definition of externalising behaviours excludes hyperactivity and neuro- diverse needs.

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PRIMARY OUTCOME	OUTCOME SUB- CATEGORIES (IF APPLICABLE)	DEFINITION	NOTES
Criminal peers		Also called 'delinquent* peers'. Having a close group of people who take part in and promote criminal behaviour – criminal behaviour may be an important part of the group's identity. *The term 'delinquent' is falling out of use to reduce stigma.	Being involved with criminal others, such as a gang, may mean a child or young person is more likely to experience criminal or sexual exploitation (see secondary outcomes).
Drug and alcohol use		Also called 'substance misuse/abuse'. Problematic use of drugs and/or alcohol that results in negative and harmful consequences to the self or others, such as impaired physical health, difficulties concentrating or skipping school.	
Helping others		Also called 'prosocial behaviours'. Doing positive things for other people, such as helping and comforting them and sharing things with them.	The Expert Reference Group highlighted that prosocial behaviours can also be considered as self-directed. For example, going to work might not help other people, but it helps my life and positive engagement with society.
Meaningful relationships		Having someone in your life who understands you and is there for you. Here, relationships are with people who want the best for you – someone who does not want you to be involved in criminal activities.	
School engagement		School engagement is a multifaceted construct including affective, behavioural, and cognitive components. The sub-outcomes below are different indicators of school engagement.	A recurring theme in discussions with the Expert Reference Group was the importance of having an educational environment and system that enables children and young people to meaningfully engage with schooling. Without this, a child or young person's opportunities and resources are narrowed, meaning they are not included in society. This increases the likelihood of criminal activity.

PRIMARY OUTCOME	OUTCOME SUB- CATEGORIES (IF APPLICABLE)	DEFINITION	NOTES
	Attending school	Also called 'school attendance and truancy'. Amount of time being at school.	
	School connectedness	Students' meaningful participation in and connection with their school and learning, teachers and staff, and friends and peers.	
	School exclusions	Suspensions (fixed-term exclusion) or expulsions (permanent exclusion).	
	School grades	Also called 'academic attainment/achievement'. School progress as measured by standardises tests and grades.	To be clear: just because you get a certain grade it does not mean you will become involved in criminal activity. School grades alongside things like school connectedness may form a picture of school engagement (also see above).
Victim of crime		Also called 'criminal victimisation'. Having experience, or being a victim, of different types of crime, including robbery, theft, vandalism, assault and kidnapping.	This captures being a victim of general forms of crime. There are other specific forms of crime that children and young people in some programmes may be more vulnerable to, such as maltreatment, abuse, neglect, criminal exploitation and sexual exploitation (see these secondary outcomes).

### Appendix B - List of excluded measures

OUTCOME	MEASURE	REFERENCE	REASON
Helping others	Social-Emotional and Character Development Scale	https://www.proquest. com/scholarly- journals/social- emotional-character- development-scale/ docview/1449822489/ se-2	Does not add value above and beyond those shortlisted
Helping others	Prosociality Scale (for adolescents and adults)	https://doi. org/10.1027/1015- 5759.21.2.77	Validated with 18+ only
Helping others	Child Behavior Scale (prosocial subscale)	https://doi. org/10.1037/0012- 1649.32.6.1008	Teacher-report already covered in three of the shortlisted measures
Helping others	Prosocial Behavior Scale (PB); sometimes called 'Children's Prosociality Scale'	https://doi.org/10.1002/ per.2410070103	Not used in UK, not validated in similar population, few items used outside Italy
Helping others	Prosocial subscale of the Teacher Observation of Classroom Adaptation– Checklist (TOCA-C)	https://doi.org/10.1016/j. ijer.2018.08.001	Teacher-report already covered in three of the shortlisted measures
Helping others	Brief Scale of Prosocial Perception (BAPPS)	https://doi:10.1007/ s10826-013-9798-y	Does not explicitly measure behaviours
Helping others	Peer nominations of prosociality	https://doi.apa.org/ doiLanding?doi=10.1037% 2F0012-1649.28.2.231	Classroom measures not as relevant for YEF projects
Helping others	Peer nomination of aggression	Eron, L. D., Walder, L. Q, & Lefkowitz, M. M. (1971). Learning of aggression in children. Boston: Little, Brown.	Classroom measures not as relevant for YEF projects
Helping others	Prosocial scale in the Peer Relations Questionnaire (aka Bullying Prevalence Questionnaire)	https://doi.org/10.1080/0 0224545.1993.9712116	Prosocial subscale contains only 4 items and is part of a peer relations measure
Helping others	Social Interaction Observation Code	https://doi.org/10 .11 77/154079698400900405	Not a conceptual fit
Helping others	Social Problem-Solving Analysis Measure (SPSAM)	https://doi. org/10.1016/0193- 3973(89)90002-6	Not a composite measure
Helping others	Peer relations subscale of the School Social Behavior Scale-Second Edition (SSBS-2)	https://doi.org/10.1080/0 2796015.1993.12085641	Specific to classroom behaviours
Helping others	Prosocial Behaviour scale in NLSCY Youth questionnaires	https://doi.org/10.1080/01 45935X.2009.524461	A combination of measures

OUTCOME	MEASURE	REFERENCE	REASON
Helping others	Kindness and Generosity subscale (Padilla-Walker & Christensen, 2011) of the Values in Action Inventory of Strengths for Youth	http://www.ldysinger. com/@books1/Peterson_ Character_Strengths/ character-strengths- and-virtues.pdf	Not widely used (as a prosocial behaviour measure)
Helping others	Prosocial Reasoning (PROM)	https://doi.org/10.1207/ s15327795jra0204_3	Reasoning rather than behaviours
Helping others	Prosocial Behavior Questionnaire	Sánchez-Queija, I., Oliva, A., & Parra, Á. (2006). Empatía y conducta prosocial durante la adolescencia. Revista de psicología social, 21(3), 259-271.	Only used in Spanish- speaking populations
Helping others	Prosocial Skills Scale for Adolescents (EHP-A)	Morales-Rodríguez, M. & Suárez-Pérez, C. D. (2011, noviembre). Construcción y validación de una escala para evaluar habilidades prosociales en adolescentes. Ponencia presentada en el XI Congreso Nacional de Investigación Educativa, del Consejo Mexicano de Investigación Educativa, del 7 al 11, Delegación Coyoacán, México, Distrito Federal.	Only used in Spanish- speaking populations
Helping others	Prosocial Behavior Questionnaire	Martorell, M. C., Aloy, M., Gómez, O. & Silva, F. (1993). Cuestionario de evaluación del Autoconcepto. Madrid: TEA	Only used in Spanish- speaking populations
Helping others	Family Helping Inventory	Midlarsky, E., Hannah, M.E. & Corley, R. (1995). Assessing adolecents' prosocial behaviour: the Family Helping Inventory. Adolescence, 30, 141-155	Not a composite measure
Helping others	BAS-3	Silva, F. & Martorell, M. C. (1987). BAS-3. Batería de Socialización. Madrid: TEA	Only available in Spanish
Helping others	The Prosocial and Antisocial Behavior in Sport Scale (PABBS)	DOI: 10.1080/ 02640414.2013.775473	Sports context only
Helping others	Sociometric Questionnaire: prosocial classmate	MORENO, J. L. (1972). Fundamentos de la sociometría [Foundations of sociometrics]. Buenos Aires: Paidós. (Original work published 1934)	Idiosyncratic measure

Helping others	Behavioural observations in the Peer Observation	Fung, A. L. C. (2008).	Idiosyncratic measure
	Checklist	Developing Prosocial Behaviors in Early Adolescence with Reactive Aggression . International Journal Of Progressive Education , 4 (3) , 34-52 . Retrieved from https://dergipark. org.tr/en/pub/ijpe/ issue/25641/270563	
Helping others	Prosocial behavior scale of the Adaptive Social Behavior Inventory	DOI: 10.1 177/073428299201000303	Wrong age
Helping others	Concern for Others Scale	Development Studies Center. (2005). Concern for Others Scale. Oakland, CA: Author.	Not validated
Helping others	Play Observation Scale	https://citeseerx.ist.psu. edu/viewdoc/download ? doi =10 .1 .1 .6 57 . 7522&rep=repl&type=pdf	Wrong age
Helping others	Observation during competitive situations via Behavioral Observation Form	McKenney, A., & Dattilo, J. (2001). Effects of an intervention within a sport context on the prosocial behavior and antisocial behavior of adolescents with disruptive behavior disorders. Therapeutic Recreation Journal, 35(2), 123–140.	Measure used had no reference
Helping others	Prosocial Orientation Story-completion Task	https://doi.org/10.1111/ sode.12091	Idiosyncratic measure
Helping others	Observational Measure of Prosocial Incidents	https://doi.org/10.1080/ 02568540909594679	Idiosyncratic measure
Helping others	Observation criteria for prosocial behaviors based on the theory of Petermann and Petermann (2005)	https://doi.org/10.1016/j. jenvp.2014.05.001	Petermann article not available in English
Helping others	Social interactions videotaped and coded	DOI:10.1080 /0300443930960104	Idiosyncratic coding scheme

OUTCOME	MEASURE	REFERENCE	REASON
Helping others	Prosocial Behavior Inventory for the Context of Sport (PSBI-Sport)	https://doi.org/10.1111/ j.1467-9507.2010.00598.x	Sports context only
Helping others	Observation of prosocial classroom behaviours	https://doi.org/10.1007/ s10864-016-9252-5	Limited to classroom behaviours
Helping others	Observation of positive social interactions	https://doi.org/10.1 080/0156655960430304	Idiosyncratic measure
Helping others	Teacher Checklist of Student Functioning + bespoke prosocial behaviour items	DeRosier, M. E., & Mercer, S. H. (2007). IMPROVING STUDENT SOCIAL BEHAVIOR: The effectiveness of a storytelling-based character education program. Journal of Character Education, 5(2), 131-148. Retrieved from https://www. proquest.com/scholarly- journals/improving- student-social- behavior-effectiveness/ docview/231707348/se-2	ldiosyncratic measure
Helping others	Teacher Social Competence Scale (Conduct Problems Prevention Research Group, 1995), prosocial behavior subscale	doi:10.1037/a0038256	Wrong age
Helping others	Peer ratings	doi: 10.1177/01 45445516650879	Idiosyncratic measure
Helping others	Video observations: use of mental-state language and production of prosocial behavior	https://doi.org/10.1111/ infa.12107	Idiosyncratic coding scheme
Helping others	Blinded observers coded the interactions of children during structured conflict	https://doi.org/10.1016/j. appdev.2004.12.002	Idiosyncratic measure
Helping others	Teacher Assessment of Social Behavior; prosocial subscale	https://doi.org/ 10.1111/ j.1467-8624.1992.tb01632.x	Not a composite measure

OUTCOME	MEASURE	REFERENCE	REASON
Helping others	Adapted Skillstreaming Checklist	doi:10.1007/s10803-007- 0460-7	Only for ASD populations
Helping others	Prosocial subscale of the Social Behavior Questionnaire (SBQ)	DOI: 10.1080/ 00332747.1991.11024542	Prosocial items were taken from Weir's prosocial scale (already shortlisted)
Helping others	African Youth Psychosocial Assessment	https://doi.org/10.1016/j. jaac.2013.01.013	Narrow population
Helping others	Prosocial Behavioral Intentions Scale	https://doi.org/10.1080/0 0223891.2017.1411918	Used with 16-18 in only one study
Helping others	Prosocial Behavior Scale for Adolescents (PBSA)	Yang, Y., Zhang, M., & Kou, Y. (2016). The revalidation and development of the prosocial behavior scale for adolescent. Chinese Social Psychological Review, 10, 135–150.	
Helping others	Berkeley Puppet Interview	Ablow, J.C., & Measelle, J.R. (2003). Manual for the Berkeley Puppet Interview: Symptomatology, Social, and Academic Modules (BPI 1.0). MacArthur foundation Research Network Psychopathology and Development (David J. Kupfer, Chair): The MacArthur Working Group on Outcome Assessment	Training may be considered extensive
Helping others	Add Health's Wave I Daily Activities scale	https://doi.org/10.1007/ s10964-013-0047-x	Not a conceptual fit
Helping others	System for Observing Children's Activity and Relationships during Play (SOCARP)	https://doi.org/10.1123/ jpah.7.1.17	Initial training took 25 hours in development study; manual or training information not accessible
Helping others	Social Interaction Observation System	SIOS: Social Interaction Observation System. Honolulu: University of Hawaii Department of Special Education.	Manual or training information not accessible
Breaking the law 'offending behaviour'	Self-Report of Delinquency (National Youth Survey)	https://doi. org/10.2307/2095245	Not adapted for UK

OUTCOME	MEASURE	REFERENCE	REASON
Breaking the law 'offending behaviour'	Self Report of Offending (Denver Youth Survey)	https://doi. org/10.2307/1143790	See Pechorro's updated version included above
Breaking the law 'offending behaviour'	Self-report delinquency scale	https://doi.org/10 .1177/1541204004265877	Idiosyncratic self report measure
Breaking the law 'offending behaviour'	Measure of Delinquent Social Identity (MDSI)	https://doi.org/10.1080/01 639625.2018.1456723	Not a conceptual fit
Breaking the law 'offending behaviour'	Conduct problems subscale of SDQ	https://doi. org/10.1097/00004583- 200111000-00015	Not a conceptual fit
Breaking the law 'offending behaviour'	Short form SRD	https://doi.org/10.1002/ cbm.805	Duplicate - uses an excluded measure
Breaking the law 'offending behaviour'	Self-Report Delinquency Inventory (Christchurch Health and Development Study)	https://doi.org/10 .1108/17596591111132891	Duplicate - uses an excluded measure
Breaking the law 'offending behaviour'	Maudsley Violence Questionnaire (MVQ)	https://doi.org/10.1016/j. paid.2004.04.001	Measures attitudes instead of behaviours
Breaking the law 'offending behaviour'	Self-Reported Delinquency (Rochester Youth Development Study)	https://doi.org/ 10.1111/ j.1745-9125.2003.tb01019.x	No psychometric properties available; does not appear to have been used in UK population
Breaking the law 'offending behaviour'	Criminal Tendencies subscale of the Self Report Psychopathy Checklist (previously the Anti-Social subscale)	https://doi.org/10.1080/0 0223891.2011.648294	Similar items to delinquency scales but not as comprehensive
Breaking the law 'offending behaviour'	MacArthur Community Violence Instrument (MCVSI)	doi:10.1001/ archpsyc.55.5.393	Does not appear to be used in younger populations
Breaking the law 'offending behaviour'	Quantification of Violence Scale (QoVS)	https://doi.org/10. 1177/0020764007083870	Wrong age
Breaking the law 'offending behaviour'	Non-violent and violent offending behavior scale (NVOBS)	https://doi.org/10.1002/ ab.20340	Wrong age

OUTCOME	MEASURE	REFERENCE	REASON
Breaking the law 'offending behaviour'	The Delinquency Scale	https://doi.org/10.1007/ s10964-006-9123-9	Not widely used; not validated
Breaking the law 'offending behaviour'	The Delinquency Scale	https://doi.org /10.1023/A:1023028221675	Not validated/ psychometrics not available
Breaking the law 'offending behaviour'	A checklist of crimes derived from the What's Happening Survey [Kellam et al., 1980]	https://doi. org/10.1016/0376- 8716 (80) 90003-4	Not widely used
Breaking the law 'offending behaviour'	Antisocial Processes Screening Device	https://doi.org/10.1111/ j.1467-9450.2007.00560.x	Not a conceptual fit
Bullying	Bullying Behavior Scale	https://doi.org/10.1111 /j.2044-8279.1996. tb01211.x	Low quality study (59% quality in Vessey review)
Bullying	Children's Social Behavior Scale – Self Report	https://doi. org/10.2307/1131945	Recently conceptualised as an aggression measure
Bullying	Aggression Scale	https://doi. org/10.2307/1131945	Short timeframe (previous 7 days)
Bullying	Bully and Ostracism Screening Scales (BOSS)	https://doi.org/10.1080/0 2739615.2012.720962	Items quite simplistic/ generic; study quality <75% (in Vessey review)
Bullying	Adapted Participant Role Scale	https://doi.org/10.1002/ (SICI)1098- 2337(1999)25:2<97::AID- AB3>3.0.CO;2-7	<70% quality
Bullying	California Bullying Victimization Scale	https://doi.org/10.1002/ ab.20389	Victimisation only
Bullying	Child Social Behavior Questionnaire	https://doi.org/10.1080/0 144341032000123796	<70% quality
Bullying	Child-Adolescent Teasing Scale	https://doi.org/10.1111/ j.1746-1561.2008.00312.x	Victimisation only
Bullying	E-Bullying Scale (E-BS); E-Victimization Scale (E-VS)	https://doi.org/10.1016/j. chb.2012.06.021	<70% quality
Bullying	Forms of Scale- Perpetration; Forms of Bullying Scale- Victimization	https://doi.org/10.1037/ a0032955	<70% quality
Bullying	Gatehouse Bullying Scale	https://doi.org/10.1111/ j.1746-1561.2007.00170.x	<70% quality

OUTCOME	MEASURE	REFERENCE	REASON
Bullying	Homophobic Bullying Scale	https://doi.org/10. 1177/0013164412440169	Not a composite measure
Bullying	Homophobic Content Agent Target Scale	https://doi.org/10.1891/ vivi.2005.20.5.513	Not a composite measure
Bullying	Mii School	https://doi.org/10.1089/ cyber.2010.0589	<70% quality
Bullying	Multidimensional Peer- Victimization Scale	https://doi.org/10.1002/ (SICI)1098-2337 (2000)26:2<169::AID- AB3>3.0.CO;2-A	<70% quality
Bullying	Olweus Bully/ VictimQuestionnaire	https://doi.org/10.1002/ ab.21486	<70% quality
Bullying	Peer Interaction in Primary School Questionnaire (PIPS)	doi: 10.1097/01. DBP.0000267562.11329.8f	<70% quality
Bullying	Peer Victimization Scale	https://doi. org/10.1016/0191- 8869(94)00127-E	<70% quality; victimisation only
Bullying	Perceived School Bullying Scale	https://doi.org/10.1080/01 443410.2011.633495	<70% quality
Bullying	Perception of Teasing Scale	DOI: 10.1080/027396 15.2010.515925	Victimisation only
Bullying	Personal Experience Checklist	https://doi.org/10.1037/ a0025178	<70% quality
Bullying	Physical Appearance Related Teasing Scale- Revised	https://doi.org/10.1080/ 01460860390183038	<70% quality
Bullying	School Bullying Involvement Scales	https://doi.org/10.1002/ ab.20379	<70% quality
Bullying	School Bullying Scales	https://doi.org/10.1 177/0013164410387387	<70% quality
Bullying	School Climate Bullying Survey	https://doi.org/10.1080/0 2796015.2009.12087819	Attitudes towards bullying instead of perpetration
Bullying	Survey of Knowledge of Internet Risk and Internet Behavior	https://doi.org/10. 1177/0013164410387389	<70% quality
Bullying	Health Behavior in School-Aged Children (HBSC)	https://doi.org/10.11 77/0734282917696932	Authors do not recommend using subscales separately
Bullying	Child Adolescent Bullying Scale (CABS)	https://doi.org/10.1002/ nur.21871	Victimisation only

OUTCOME	MEASURE	REFERENCE	REASON
Drug and alcohol use	MINI-KID diagnostic interview - substance use subscale	DOI: 10.4088/ JCP.09m05305whi	Extensive training required
Drug and alcohol use	Personal Experience Screening Questionnaire	https://doi. org/10.1016/0306- 4603(92)90008-J	Not widely used in UK
Drug and alcohol use	Substance Abuse Subtle Screening Inventory (SASSI, SASSI-2)	https://doi. org/10.1037/0893- 164X.11.3.155	Lengthy and not used in UK
Drug and alcohol use	RUFT-Cut	https://doi.org/10.1097/01. ALC.0000125346.37075.85	Development unclear; not widely used
Drug and alcohol use	Young Persons' Specialist Substance Misuse Outcome Record (YPOR)	https://assets.publishing. service.gov.uk/ government/uploads/ system/uploads/ attachment_data/ file/725134/YPOR_form_ v3_July_2018.pdf	Development or validation paper not found
Drug and alcohol use	Child Adolescent Functional Assessment Scale (CAFAS)	https://doi.org/10.1007/ BF02233865	Not used in UK; similar to GAIN
Drug and alcohol use	Problem Oriented Screening Instrument for Teenagers (POSIT)	Dembo, R., & Anderson, A. (2005). Problem- oriented screening instrument for teenagers. Mental health screening and assessment in juvenile justice, 112-122.	Does not ask about frequency; not used in UK; substance questions not necessarily a subscale
Drug and alcohol use	Drug Abuse Screening Test (DAST, DAST-10, DAST-20)	Skinner HA (1982). The Drug Abuse Screening Test. Addict Behav 7(4):363-371. Yudko E, Lozhkina O, Fouts A (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. J Subst Abuse Treatment 32:189-198.	Does not ask about frequency; not used in UK
Drug and alcohol use	RAFFT	Riggs, S.R. & Alario, A. (1989). Adolescent substance use instructor's guide. In C. Dube, M. Goldstein, D. Lewis, E. Myers & W. Zwick (Eds.), Project ADEPT Curriculum for Primary Care Physician Training. (pp. 1-57). Providence, RI: Brown University.	Only clinician administered

OUTCOME	MEASURE	REFERENCE	REASON
Drug and alcohol use	Detection of Alcohol and Drug Problems (DEP-ADO)	Yudko E, Lozhkina O, Fouts A (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. J Subst Abuse Treatment 32:189-198.	Diagnostic tool
Drug and alcohol use	Adolescent Diagnostic Interview (also ADI)	Winters, K. & Henly, G. Adolescent Diagnostic Interview (ADI) Manual. Los Angeles, CA: Western Psychological Services, 1993.	Not accessible (50 minutes to administer)
Drug and alcohol use	Substance Use Risk Profile Scale (SURPS)	https://doi.org/10.1007/ s10865-010-9278-4	Measures risk of substance use, not actual use/misuse
Drug and alcohol use	Adolescent Drug Abuse Diagnosis (Euro-ADAD)	https://doi.org/10.2190/ XBU5-9MAB-C2R5-0M96	Too lengthy (150 items)
Drug and alcohol use	Drug Use Screening Inventory (DUSI) or (DUSI-R)	https://doi.org/10.31 09/00952999009001570	(Too lengthy) 149 items
Drug and alcohol use	Substance Abuse Screening Instrument (SASI)	National Centre for Juvenile Justice. Manual for d20. National Centre for Juvenile Justice. Manual for developing substance screening protocol for the juvenile court and implementing the Client Substance Index-Short form (CSI- SF). National Center for Juvenile Justice. Pittsburg PA. 1993.eveloping substance screening protocol for the juvenile court and implementing the Client Substance Index-Short form (CSI- SF). National Center for Juvenile Justice. Pittsburg PA. 1993.	Based on another measure; not enough evidence available
Drug and alcohol use	Drug and Alcohol Problem Quick Screen (DAP quick screen)	https://doi.org/10.1177/0 00992289002900106	Not used in UK
Drug and alcohol use	MMPI-A subscales: PRO (Alcohol/Drug Problem Proneness Scale), ACK (Alcohol/ Drug Acknowledgement Scale), and MAC-R (MacAndrew Alcoholism Scale-Revised)	Butcher, J. N., Williams, C. L., Graham, J. R., Archer, R. P., Tellegen, A., Ben-Porath, Y. S., & Kaemmer, B. (1992). MMPI-A: Minnesota Multiphasic Personality Inventory-A: A Manual for administration, scoring, and interpretation. Minneapolis: University of Minnesota Press.	Requires special training and/pr professional or academic credentials; requires fee for use; not used in UK

OUTCOME	MEASURE	REFERENCE	REASON
Drug and alcohol use	Teen Addiction Severity Index (T-ASI or T-ASI-2)	Kaminer Y ; Wagner E ; Plummer B ; Seifer R. Validation of the Teen Addiction Severity Index (T-ASI): preliminary findings. American Journal on Addictions 1993; 2(3): 250-254.	Not used in UK
Drug and alcohol use	Adolescent Drinking Index (ADI)	Mental Measurements Yearbook, 12th ed. Lecce's and Waldron, 1994.	Does not include frequency
Drug and alcohol use	Rutgers Alcohol Problem Index (RAPI)	https://doi.org/10.15288/ jsad.2018.79.658	Does not include frequency
Drug and alcohol use	Timeline Follow-Back	Source: Sobell LC, Sobell M (1996). Timeline Followback Method (Drugs, Cigarettes, and Marijuana).	Does not measure consequences of problematic use
Drug and alcohol use	Assessment of Substance Misuse in Adolescents (ASMA)	https://doi. org/10.1046/j.1360- 0443.2000.951116919.x	Not widely used
Drug and alcohol use	(CPQ-A)	https://doi.org/10.1016/j. addbeh.2006.03.001	Cannabis only
Drug and alcohol use	Alcohol, smoking, and substance involvement screening test for young people (ASSIST-Y)	https://doi.org/10.1046/ j.1360-0443.2002.00185.x	Not validated for youth, not used in UK
Aggression	Form-Function Aggression Measure (FFAM)	https://doi.org/10.10 80/01650250244000128	Other measures are more widely used
Aggression	Aggression scale	https://doi.org/10.117 7/027243160102100100	Used as a bullying measure
Aggression	Adolescent Peer Relations Instrument (APRI)	Finger, Linda, Yeung, Alexander S., Craven, Rhonda, Parada, Roberto and Newey, Katrina. (2008). Adolescent peer relations instrument: Assessment of its reliability and construct validity when used with upper primary students. Australian Association for Research in Education Annual Conference. Australia: Australian Association for Research in Education. pp. 1 – 9	Used as a bullying measure

OUTCOME	MEASURE	REFERENCE	REASON
Aggression	Self-Report of Aggression and Social Behavior Measure (SRASBM)	Morales JR, Crick NR. Self-report measure of aggression and victimization. University of Minnesota; Twin Cities Campus: 1998. Unpublished measure	Not widely used in UK or with adolescents
Aggression	Peer Aggressive and Reactive Behavior Questionnaire (PARB-Q)	https://doi.org/10.1007/ s10578-013-0368-8	Not yet adapted for US/ UK population (Brazil and Italy only)
Aggression	Reactive/proactive aggression - fast track	https://doi. org/10.1037/0022- 3514.53.6.1146	Items have been incorporated into newer measures
Aggression	Children's Social Behavior Scale (CSBS)	https://doi. org/10.2307/1131945	Classroom measures not as relevant for YEF; overt aggression is brief and may not be robust
Aggression	Revised Behavior Problem Checklist	https://doi.org/10.1080/0 2796015.1983.12085039	Similar to CBCL in strucure and purpose; lengthy
Behavioural difficulties	Child Behavior Scale	doi:10.1037//0012- 1649.32.6.1008	Not used in UK
Behavioural difficulties	How are things?	https://www.corc. uk.net/outcome- experience-measures/ how-are-things- behavioural-difficulties- oppositional-defiant- disorder-odd-p/	No development or validation paper found
Behavioural difficulties	Oppositional Defiant Disorder Rating Scale (ODDRS)	https://doi.org/10.117 7/106342660601400202	Specialist measure
Behavioural difficulties	Social Skills Rating System (SSRS)	Gresham, F. M., & Elliott, S. N. (1990). Social skills rating system: Manual. American guidance service.	Not very accessible to administer
Behavioural difficulties	Personality Inventory for Children (PIC)	Lachar, D. (1982). The Personality Inventory for Children.	Lengthy; not widely used in UK; not very accessible to administer
Behavioural difficulties	Children's Behavior Questionnaire	https://doi.org/10.11 11/ j.1469-7610.1967.tb02175.x	Specifically measures behaviour in school
Behavioural difficulties	InterRAI Child and Youth Mental Health (externalizing subscale)	https://doi.org/10.11 77/1359104520963143	Not easily accessible (specialised administrator required)
Behavioural difficulties	Parent Daily Report (PDR)	Chamberlain, P., & Reid, J.B. (1987). Parent observation and report of child symptoms. Behavioral Assessment, 9, 97–109.	An additional source of information to supplement parent and home observations

OUTCOME	MEASURE	REFERENCE	REASON
Behavioural difficulties	Youth Externalizing Behavior Screener	https://doi.org/10.1080/21 683603.2018.1466747	Not validated for use outside Turkey
Behavioural difficulties	Student Externalizing Behaviors Screener (SEBS)	https://doi.org/10.1037/ t42705-000	Not widely used in UK
Behavioural difficulties	Behavior Assessment System for Children (BASC or BASC-2)	https://doi.org/10.1002/ 9781118625392.wbecp447	Lengthy; requires a fee
Behavioural difficulties	Behavior Problem Index (BPI)	https://doi. org/10.2307/352397	For mothers only; based on CBCL and other measures
Behavioural difficulties	Mental Health and Social Inadaptation Assessment for Adolescents (MIA)	https://doi.org/10.1002/ mpr.1566	Length
Behavioural difficulties	Clinical Assessment of Behavior (CAB)	Bracken, B. A., & Keith, L. K. (2004). CAB, clinical assessment of behavior: Professional manual. Lutz, FL: PAR, Psychological Assessment Resources.	Not widely used
Behavioural difficulties	Diagnostic Interview Schedule for Children (DISC)	Costello, A., Edelbrock, C., Kalas, R., Kessler, M., & Klaric, S. A. (1982). Diagnostic interview schedule for children (DISC). Bethesda, MD: National Institute of Mental Health.	Diagnostic tool
Behavioural difficulties	MINI-kid	DOI: 10.4088/ JCP.09m05305whi	Extensive training required
Victim of crime	Screen for Adolescent Violence Exposure (SAVE)	DOI: 10.31390/ gradschool_ disstheses.6488	Relevant subscale is 'traumatic violence' but it does not separate witnessed vs. experienced victimisation
Victim of crime	Violence Exposure Scale for Children (VEX-R)	Fox, N. A., & Leavitt, N. A. (1995). The violence exposure scale for children-VEX (preschool version). College Park, MA: Department of Health Development, University of Maryland.	Explicit; age group is too young for measuring criminal victimisation
Victim of crime	My Exposure to Violence Questionnaire	Buka, S., Selner-O'Hagan, M., Kindlon, D., & Earls, F. (1996).My Exposure to Violence and My Child's Exposure toViolence. Unpublished manual.	Not accessible
Victim of crime	Victimization scale	https://doi.org/10.11 77/0093854885012003	Not validated

OUTCOME	MEASURE	REFERENCE	REASON
Victim of crime	Childhood experiences of violence questionnaire (CEVQ)	https://doi.org/10.1016/j. chiabu.2008.05.003	Does not include crime victimisation
Victim of crime	Children's Report of Exposure to Violence	https://doi. org/10.1097/00004583- 199502000-00015	Direct victimisation or direct experience subscale would be most relevant, but includes non-conventional crime
Victim of crime	Me and My Neighborhood	Pitt Mother & Child Project	Does not include crime victimisation; can't access development article
Victim of crime	Things I Have Seen and Heard	Richters, J. E., & Martinez, P. (1990). Things I have seen and heard: A structured interview for assessing young children's violence exposure. Rockville: National Institute of Mental Health.	Does not include crime victimisation
Victim of crime	KID-Screen for Adolescent Violence Exposure (KID-SAVE)	DOI: 10.31390/ gradschool_ disstheses.7265	Not widely used
Criminal peers	Deviant Peers Scale	https://doi.org/10.1007/ s10862-018-9710-6	Created for Spanish population
Criminal peers	Offending, Crime and Justice Survey	https://dera.ioe. ac.uk/8472/1/rdsolr1406. pdf	Based on the Eurogang questionnaire (already included)
School connectedness	Psychological Sense of School Membership (PSSM)	https://doi.org/10.1080/0 0220973.1993.9943831	Only one item relating to engagement/ participation. Not considered a measure of school connectedness according to Hodges et al 2018
School connectedness	School Connectedness Measure for Adolescents	Lohmeier, J. H., and S. W. Lee. 2011. "A School Connectedness Scale for Use with Adolescents." Educational Research and Evaluation 17 (2): 85–95.	Measure not accessible
School connectedness	Identification with School Questionnaire (ISQ)	Voelkl KE. Measuring students identification with school. Educational and Psychological Measurement. 1996; 56:760-70.	Poor content validity, therefore excluded from further analysis by Hodges 2018
School connectedness	School Bonding Index Revised (SBI-R)	https://doi.org/10.1007/ s10935- 005-0003-y	Weak evidence for psychometrics; doesn't cover many dimensions of connectedness

OUTCOME	MEASURE	REFERENCE	REASON
School connectedness	Perceived School Experiences Scale (PSES)	https://doi.org/10.11 77/1049731511419866	Weak evidence for psychometrics
School connectedness	Developmental Study Centre's School Climate Survey	Solomon D, Battistich V, Watson M, Schaps E, Lewis C. A six-district study of educational change: direct and mediated effects of the child development project. Social Psychology of Education. 2000; 4:3- 51.	Too lengthy
School connectedness	Student Engagement in Schools Questionnaire (SESQ)	Hart SR, Stewart K, Jimerson SR. The Student Engagement in Schools Questionnaire (SESQ) and the Teacher Engagement Report Form-New (TERF-N): Examining the preliminary evidence. Contemporary School Psychology. 2011; 15:67-79.	Too lengthy
School connectedness	Student Personal Perception of Classroom Climate (SPPCC)	https://doi.org/10.1 177/0013164410378085	Poor psychometrics
School connectedness	Student Engagement Instrument (SEI) - 33 item version	https://doi.org/10.1037/ a0020259	35-item version had stronger psychometrics
School connectedness	Student Engagement Instrument (SEI) - Elementary version	https://doi.org/10.1037/ a0029229	35-item version had stronger psychometrics
School connectedness	Simple School Belonging Scale (SSBS)	https://doi.org/10.1080/0 7481756.2017.1358057	Focuses on one dimension of connectedness
School connectedness	Student Subjective Wellbeing Questionnaire (SSWQ)	https://doi.org/10.1037/ spq0000088	Does not ask about relationships or engagement
School connectedness	Developmental School Climate Survey - Abbreviated Version	Ding C, Liu Y, Berkowitz M. The study of factor structure and reliability of an abbreviated school climate survey. Canadian Journal of School Psychology. 2011; 26:241– 56.	Does not include peer and teacher relationships, being engaged or feeling directly supported
School connectedness	Student School Engagement Survey (SSES)	National Center for School Engagement. Quantifying School Engagement: Research Report. Denver, CO.: Colorado Foundation for Families and Children, 2006.	Does not really enquire into peer/teacher relationships

OUTCOME	MEASURE	REFERENCE	REASON
School connectedness	School Engagement Index	doi:10.1037/10254-034	Relationships not covered
School connectedness	Scale used in TIMSS international study	https://doi.org/10.19030/ jier.v12i4.9798	Not a composite measure of connectedness
School connectedness	Affect to School subscale of the Facilitating Conditions questionnaire	https://doi.org/10. 1177/0013164405278561	Missing behavioural component of engagement, missing peer relations
School connectedness	Emotional Engagement	https://doi.org/10.1016/j. jsp.2011.04.001	Relationships not covered
School connectedness	PISA international study	Willms, J. D. 2003. Student Engagement at School. A Sense of Belonging and Participation. Results from PISA 2000. Paris, France: Organisation for Economic Co-operation and Development.	Relationships not covered
School connectedness	Academic Engagement Scale	doi:10.1016/j. cedpsych.2011.05.002	Measures engagement but not connectedness/ relationships
School connectedness	What's Happening at this School? (WHITS)	https://doi.org/10. 1177/1365480212473680	Does not address behavioural domain (Hodges et al, 2018), e.g., engaging or participating in school/learning
School connectedness	School connectedness subscale of the US National Longitudinal Study of Adolescent Health survey	https://doi.org/10.1016/ S1054-139X (00)00155-5	School connectedness is part of the wider survey
School connectedness	Hemingway Measure of Adolescent Connectedness	Karcher, M. J., and Y. Lee. 2002. "Connectedness among Taiwanese Middle School Students: A Validation Study of the Hemingway Measure of Adolescent Connectedness." Asia Pacific Education Review 3(1): 92–114.	Does not include items on engagement/ participation
School connectedness	Social Support Scale for Children and Adolescents (SSSCA)	Harter, S. (2012). Social support scale for children: Manual and questionnaires. Denver, CO: University of Denver.	Response choices not accessible
Meaningful relationships	Multidimensional Scale of Perceived Social Support	https://doi.org/10_ .1023/A:1005109522457	Does not include aspects of being a positive influence
Meaningful relationships	Perceived Social Support Scale	https://doi.org/10.1007/ BF00898416	Does not include school or other sources

OUTCOME	MEASURE	REFERENCE	REASON
Meaningful relationships	Children's Pictorial Perceived Social Support Instrument	https://doi. org/10.1037/0012- 1649.35.5.1210	Not accessible; no validation found
Meaningful relationships	Social Support Questionnaire	https://doi.org/10. 1177/0265407587044007	Not a measure of the quality, but the number of available supportive others and the YP's satisfaction with the relationship
Meaningful relationships	Survey of Children's Social Support (SOCSS)	https://doi.org/10.1207/ s15374424jccp1801_7	Newer measures have similar items of support and are shorter
Sexual violence	Revised Conflict Tactics Scale (CTS2)	https://doi.org/10.1 177/019251396017003001	Too explicit
Sexual violence	Interpersonal Sexual Objectification Scale— Perpetration Version	https://doi.org/10.1037/ vio0000148	Does not appear to be valid for use with adolescents
Sexual violence	Cyber dating abuse	https://doi.org/10.1007/ s10964-013-9922-8	No validation; developed for study
Sexual violence	Cyber dating violence inventory	https://doi.org/10.1080/17 405629.2017.1305885	Adaptation of the CADRI but in Italian only
Sexual violence	Dating Behavior Survey (DBS)	Bradley AR, Yeater EA, O'Donohue W. An evaluation of a mixed-gender sexual assault prevention program. Journal of Primary Prevention 2009;30(6):697-715.	No validation
Sexual violence	Modified Conflict Tactics Scale	DOI: 10.1037/1040- 3590.11.4.546	No reliability information available
Sexual violence	Recent Fearful Dating Experiences (RFDE)	https://doi.org/10.1080/10 926770802350940	Victimisation only
Sexual violence	VIFFA	https://doi.org/10.7870/ cjcmh-2001-0009	French only
Sexual violence	Adolescent Partner Aggression Scale (APAS)	Leisen, M. B. (2000). Development and validation of the Adolescent Partner Aggression Scale (APAS). (Unpublished doctoral dissertation). University of Hawai'i atMānoa, Honolulu, HI.	Is an unpublished dissertation and unclear which items form the final scale
Sexual violence	Technology-assisted adolescent dating violence and abuse (TAADVA) survey	https://doi.org/10.1007/ s10826-018-1255-5	Measures victimisation only

OUTCOME	MEASURE	REFERENCE	REASON
Sexual violence	Sexual Experiences Survey (SES)	DOI: 10.1891/0886-6708. VV-D-15-00110	No validation for adolescents found; explicit items
Sexual violence	Sexual Experiences Survey-Short Form Perpetration	https://doi.org/10.1111/ j.1471-6402.2007.00385.x	No validation for adolescents found; explicit items
Sexual violence	Dating Violence Scale (or Safe Dates Scales)	Foshee, V. (1996). Gender differences in adolescent dating abuse prevalence, types, and injuries. Health Education Research, 11(3), 275–286.	No validation
Sexual violence	Dating Violence Perpetration Acts Scale	https://doi.org/10.15288/ jsad.2011.72.555	Adaptation of Safe Dates Scale
Sexual violence	Peer dating violence scale (PDVS)	Spencer, M. B. (1995). Old issues and new theorizing about AfricanAmerican youth: A phenomenological variant of ecological systems theory. In R. L. Taylor (Ed.), African- American youth: Their social and economic status in the United States (pp. 37–69). Praeger.	Not validated
Sexual violence	Conflict in relationship scale (CRS)	Wolfe, D. A., Reitzel- Jafe, D., Gough, R., & Wekerle, C. (1994). Conficts in relationships: Measuring physical and sexual coercion among youth. Department of Psychology, University of Western Ontario, London, Canada	Author also created CADRI, which is included

### Appendix C – Modified COSMIN checklist for psychometric properties

MEASUREMENT PROPERTY	RATING	CRITERIA
Structural validity Evidence for unidimensionality of a scale/subscale	+	Adequate sample size AND a) OR b)
		a) CTT: Classical Test Theory CFA: Comparative Fit Index (CFI) or Tucker-Lewis Index (TLI) or comparable measure >0.95 OR RMSEA <0.06 OR SRMR <0.082
		<ul> <li>b) IRT/Rasch: Item Response Theory</li> <li>No violation of unidimensionality: CFI or TLI or comparable measure &gt;0.95 OR RMSEA &lt;0.06 OR SRMR &lt;0.08</li> <li>AND</li> <li>no violation of local independence: residual correlations among the items after controlling for the dominant factor &lt;0.20 OR Q3's &lt; 0.37</li> </ul>
		AND no violation of monotonicity: adequate looking graphs OR item scalability >0.30 AND adequate model fit: IRT: χ2 >0.01
		Rasch: infit and outfit mean squares ≥ 0.5 and ≤ 1.5 OR Z-standardized values > -2 and <2
	?	CTT: Not all information for '+' reported [model fit not reported/ EFA/very low sample size] OR no information reported IRT/Rasch: Model fit not reported
	-	Adequate sample size AND criteria for '+' not met
Internal consistency	+	Criteria for structural validity met AND Cronbach's alpha(s) ≥ 0.70 for each unidimensional scale or subscale
Reported for each unidimensional scale separately (e.g., a scale with three factors will report 3 Cronbach alphas)	?	Cronbach's alpha(s) not reported
	-	Criteria for structural validity met AND Cronbach's alpha(s) < 0.70 for each unidimensional scale or subscale
	*	Structural validity unclear or not met
Test-retest Reliability	+	Intraclass Correlation Coefficient (ICC) OR <b>weighted Kappa</b> (inter-rater reliability) ≥ 0.70
	?	ICC OR weighted Kappa not reported
	-	ICC OR weighted Kappa < 0.70
Measurement error	+	Smallest Detectable Change (SDC) OR Limits of Agreement (LoA) < Minimal Important Change (MIC)
	?	MIC not defined
	-	SDC OR LOA > MIC
Modified criterion validity	+	Correlation (between two scores) with similar test ≥ 0.70 OR AUC ≥ 0.70
		Regression coefficient with similar test ≥ 0.70 OR AUC ≥ 0.70
	?	Not all information for '+' reported
	-	Correlation (between two scores) with similar test < 0.70 OR AUC < 0.70
		Regression coefficient with similar test < 0.70 OR AUC < 0.70







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