Constructs associated with youth crime and violence amongst 6-18 year olds: A systematic review of systematic reviews

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ABSTRACT

It is the duty of adults in the network around young people (e.g., parents/carers, educators, professionals) to meet their different needs. According to Child-First philosophy, if a young person becomes involved in youth crime and violence, this might be due to unmet needs that have escalated to the point of crisis. Research indicates a gamut of possible constructs indicating needs and strengths, and the aim of the present research was to identify constructs with evidence of association with youth crime and violence amongst 6-18 year olds. A systematic review of systematic reviews was conducted and, from 4819 identified hits, 30 systematic reviews were included. Constructs with more consistent evidence of protective association were rejection or absence of drug or alcohol use, positive family relationships and support, and education and employment opportunities. Constructs with more consistent evidence of being a need were low empathy, dating abuse (both perpetration and victimisation), and bullying perpetration. There is an urgent need for routine, ongoing, and co-produced assessment of children and young people's needs in order to achieve equity in positive outcomes for all children and young people.

1. Introduction

The latest data shows that there were 49,100 offences resulting in a caution or sentence for 10-17 year olds in 2019/20 in England and Wales (Youth Justice Board & Ministry of Justice, 2021). Of these, the main offence type for almost a third (31 %) was violence against the person. Taking a public health approach, there is a need for more primary, secondary, and tertiary care to tackle criminal exploitation of young people and correspondingly, youth crime and violence (Children's Commissioner, 2021).

Violence can be defined as "the intentional use of physical force or power, threatened or actual, against another person or against a group that results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (p.5) (Krug et al., 2002). The government has recently invested £35.5 m for Violence Reduction Units to implement public health interventions for youth crime and violence, such as providing youth workers in hospitals (gov. uk, 2021). Over an eleven-year period, the economic and social cost of

serious youth violence is estimated to be £11 billion (Irwin-Rogers et al., 2020). Youth crime and violence are associated with a range of deleterious outcomes, including overall mortality, mortality due to suicide, and mortality due to alcohol- and substance-related diagnoses (Stenbacka et al., 2019). Violence and criminal behaviour reach their peak during adolescence; however, they have many precursors and long developmental pathways (Huesmann et al., 1984). Previous research has identified a number of precursors to youth violence and crime, such as early onset of aggressive behaviour, information-processing/social problem-solving skill deficits, poor parental supervision and monitoring, association with peers involved in criminal behaviour, and alcohol and drug use (Assink et al., 2015a; Dahlberg, 1998). Economic problems and their consequences on families (e.g., moving into cheaper accommodation) have also been linked to increased involvement in crime and violence (Agnew et al., 2008). As there is a great diversity of risk factors that has been the subject of research throughout the years, risk factors have been classified into groups which are often referred to as "domains". One example of such a classification can be found in the

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cumulative developmental model of serious delinquency, which distinguished five domains of risk factors: individual, family, peers, school, and neighbourhood (Loeber & Stouthamer-Loeber, 2008).

According to the World Report on Violence and Health (Krug et al., 2002), the first steps needed towards violence prevention are collating knowledge on the magnitude and nature of the problem and researching the causes and correlates of violence which might be modified through interventions. It is also important to understand which factors can protect against involvement in crime and violence even in the presence of risk factors (Resnick et al., 2004). A review of all the relevant factors implicated in youth crime and violence, using an ecological perspective, would therefore help elucidate the wider context of presenting difficulties and provide direction for preventative or interventive action across sectors of support, such as education or social services. Indeed, the World Health Organization's (World Health Organization, 2015) public health approach to youth violence calls for multi-disciplinary input across sectors.

Preventative strategies must be tailored to the needs of young people and support their individual strengths and engagement in prosocial activities through the creation of legitimate opportunities for them to fulfil their potential and to make positive contributions to society. This is of utmost importance in a youth crime and violence context as the stigma of being involved in the youth justice system, or being perceived to be likely to become involved in it, limits children and young people's opportunities and resources to the point they are cemented on a pathway towards youth crime and violence rather than away from it. These limitations are highlighted in the historic offence-focused perspective and risk factor paradigm, wherein assessments and interventions were centred on targeting 'risk factors' to prevent and respond to criminal activity for children and young people; such strategies encourage contact with the youth justice system and act as a catalyst for labelling, stigmatisation, disproportionate levels of intervention, and an over-emphasis on the prevention of negative outcomes (McAra & McVie, 2010).

The more recent Child-First philosophy aims to redress this (Case & Browning, 2021). It sets out several guiding principles that aim to assist youth justice practitioners and stakeholders to understand and treat children as children first and foremost, no matter the setting or circumstances. This includes recognition that children have specific needs, which are distinct from the needs of adults, according to their physical and psychological development and capacity. Under the Child-First philosophy, behaviours that are interpreted as criminal are recognised as manifestations of distress, disadvantage, or unmet needs that have escalated to the point of crisis, because these difficulties have not been supported by adults in the system around the child (e.g., parents/carers, educators, health and social care professionals). The importance of this recognition cannot be overstated. Adults in the network around a young person have the duty to meet these needs. If a young person becomes involved in youth crime and violence, it is because the network has not identified, acknowledged, or met a young person's needs. It must be acknowledged that there is a tension between providing preventative strategies under a public health approach, tailored to meet the needs of children and young people, and avoiding the clear danger of the stigma of labelling a child or young person as being likely to be involved in youth crime and violence.

1.1. Aims and considerations of the present research

Research indicates a gamut of possible constructs related to youth crime and violence. Recent umbrella reviews of the impact of youth violence prevention programmes (Kovalenko et al., 2022) and of risk factors for violence and violent crime (across ages) (Farrington et al., 2017) indicate a range of constructs that could be related to youth crime and violence. However, the inclusion criteria in these reviews have limited categories of violence. Expanding the categories to include e.g., aggression, cyber dating abuse, and related constructs can provide a

more holistic picture of the needs that should be addressed to give all young people equal opportunities and resources to achieve positive outcomes. Researchers have also called for more information on the strength of relationships between needs and protective factors and outcomes (Farrington et al., 2017). To address this gap, the aim of the present research was to identify constructs associated with youth crime and violence amongst 6-18 year olds by conducting a systematic review of systematic reviews. This methodology was chosen in order to achieve the aim of identifying as many factors associated with youth violence and crime as possible within the defined scope, whilst also providing an estimate of the degree of association where this was present. In line with the Child-First philosophy, these constructs are conceptualized as 'needs' and 'protective factors' and reflect the range of contexts and circumstances that indicate a child or young person's distress, disadvantage, or unmet needs are not being supported (or are being supported) by adults in the system around them. This is critical to support children's individual strengths and engagement in prosocial activities before difficulties, disadvantages, and needs escalate to the point at which they manifest as behaviours that are interpreted as criminal.

There is a real danger of labelling children and young people as being involved, or likely to become involved, in youth crime and violence. This study aims not to exacerbate in any way this danger and has attempted to reflect this in the present approach.

2. Method

A systematic review was conducted following best practice guidelines (Page et al., 2021). The review protocol was drafted by the original review team (JE-C, JD, RU, and STL) with input from the Youth Endowment Fund. The review team comprised experienced mental health researchers (JE-C, JD, and STL) and an experienced systematic review methodologist (RU). Following initial scoping and discussion with the funder, the protocol was revised to better reflect the overall programme aims. The population of interest was broadened to include 6 to 18 year olds (previously this had been 10 to 18 year olds), and the outcomes of interest were narrowed to focus more closely on those related specifically to youth violence and violent crime (the outcomes of substance misuse and bullying were excluded, although these remained as risk factors of interest). The revised protocol was registered on the Open Science Framework website (https://osf.io/c6q7u/).

2.1. Inclusion/exclusion criteria

Systematic reviews of studies involving any population of children and young people aged 6-18 years were included, including specific social samples, for example children looked after and young people who were homeless. Studies of clinical populations where all participants had a diagnosed mental health problem were excluded. Systematic reviews where over 50 % of the included studies involved adults (age over 18 years), or where the mean age of participants across all included studies was over 18 years, were excluded. Factors were categorised following the ecological model (Bronfenbrenner, 1979) as being at the individual, family, peer/social, school, community/neighbourhood, or societal level.

Factors at all levels being investigated as having a potential association with youth violence and violent crime were included. Medical/physiological factors such as biochemical markers, genetics, and traumatic brain injury were excluded, as were factors limited to pregnancy or infancy and those not ameliorable to interventions actioned for children and young people aged 6 years and over. Outcomes relating to any type of youth violence and violent crime were included, for example criminal and offending behaviour, serious or aggressive antisocial behaviour, violence towards others, and cyber/online violence. Studies reporting only suicide or self-harm, extremist or terrorist behaviour, fire-setting, alcohol or substance use, or bullying or cyber-bullying were excluded. Systematic reviews of studies with or without a comparison

group were included, except where the comparison was with an adult sample or between different types of offending behaviour. Systematic reviews where fewer than 50 % of the included studies met the inclusion criteria for the current review were excluded. The participants, intervention, comparator, and outcome (PICO) framework tables (please see supplementary material) show details of the inclusion and exclusion criteria for the review.

2.2. Search strategy

To identify systematic reviews of needs and protective factors for youth violence and crime, we conducted a systematic online search for English language studies published between January 1st 2010 and 19th February 2021 in ten databases: Web of Science Core Collection (Science Citation Index Expanded, Social Science Citation Index Expanded, Arts and Humanities Citation Index, Conference Proceedings Citation Index–Science edition, Conference Proceedings Citation Index–Social Science and Humanities edition, Emerging Sources Citation Index (2015–18)), MEDLINE and SciELo (on the Web of Science platform), PsycINFO, and the Cochrane Central Database of Controlled Trials. Studies were identified using search terms relating to children and young people; risk and protective factors; family, school, and community; emotional, psychological, and behavioural problems; violence, crime, and offending (please see supplementary material for the full search string). To complement the present systematic review, we also hand-searched an Evidence and Gap Map, commissioned by the funder, from a systematic review of interventions to prevent children and young people from becoming involved in violence (Youth Endowment Fund, 2021). The findings from this part are presented in the supplementary material.

A first round of citation screening of titles and abstracts was undertaken to remove clearly irrelevant studies. After the initial search and screening of identified citations, we conducted a second round of screening of titles and abstracts. When the abstract was unclear, for example on whether the study was a systematic review or whether it focussed on children and young people, the full paper was retrieved and the method section read for clarification. Study selection was undertaken by RU. A randomly selected sample of 26/195 studies was assessed for inclusion/exclusion by a second member of the research team (STL). There was agreement on all but one of the papers, which was referred to a third team member for assessment (JE-C) and a decision made to exclude the study.

2.3. Study selection flow

Following the screening of the titles and abstracts of the 4819 citations obtained through online searches, 4555 were identified as being not relevant for this review and removed. Overall, 137 citations were identified from the Evidence and Gap Map. Following the removal of duplicates, the remaining 195 studies were examined against the inclusion/exclusion criteria, which resulted in the selection of 30 systematic reviews for inclusion in the current review. Where there was any uncertainty as to whether a study fully met the inclusion criteria, a second opinion was sought from another team member (JE-C) and a decision made by consensus. The study selection flow is shown in Fig. 1.

2.4. Data extraction and quality appraisal

Data extraction was done by one experienced reviewer (RU). Information on study characteristics, participants, and outcomes were extracted directly into an evidence table using Excel comprising the following details where available: number and type of included studies, sample populations, outcome(s), risk or protective factors, moderating factors, statistical analysis, and findings. Participant characteristics included age and sample population. The underpinning construct or theory linking risk and/or protective factors with outcomes was also
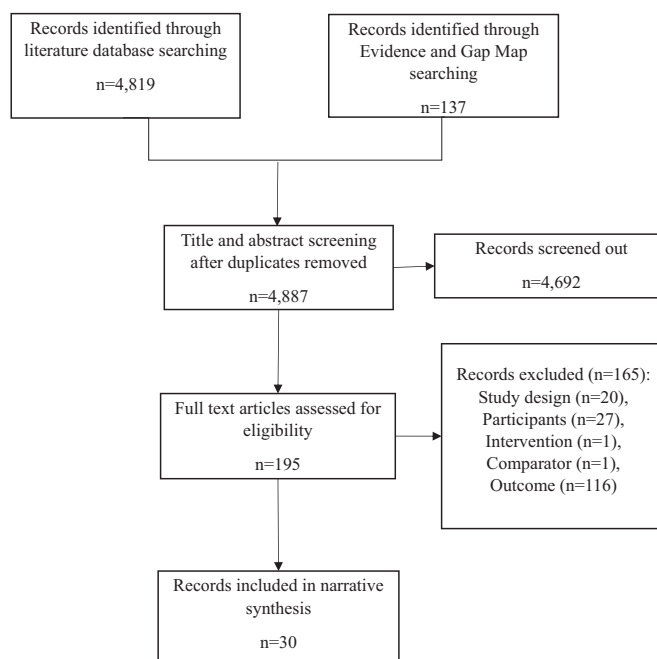

Fig. 1. Study selection flow.

noted. Moderating factors were also noted where these had been investigated. These were often identified as sources of heterogeneity and then described as moderating factors, or mediators, where researchers were seeking to explain significant heterogeneity found in meta-analyses. Data pertaining to sociodemographic moderating factors were extracted as reported. Moderating effects of study design and methods were noted briefly.

Outcomes of interest were defined as presented in each review and recorded using the original language and thus some outdated terms appear (such as 'delinquency'). These terms were retained in the first instance for purposes of accuracy but have been replaced with equivalent terms in report-writing wherever possible, for example, delinquency is termed antisocial/offending behaviour. Findings were extracted as reported, either as narrative summaries or statistics from meta-analyses. Any measure of association was recorded from simple descriptive statistics (e.g., proportions or percentages) to findings from meta-regression analysis. When a systematic review provided additional information regarding any recognised outcome measurement tools used in the included studies these were also noted.

The overall quality of evidence for each outcome was assessed using the GRADE approach (Guyatt et al., 2011) by one experienced reviewer (RU) and 20 % of these studies were randomly selected and independently assessed by a second member of the research team (JEC). Any discrepancies were resolved by discussions and agreement.

The following factors were considered for the classification of evidence: risk of bias (considering selection, performance, detection, attrition, and reporting bias); inconsistency of results (heterogeneity between study effect sizes, defined as $I^2 > 50$ % (where reported)); indirectness (poor applicability of the study population or outcomes (for example, where the study sample included a proportion of children and young people with a diagnosed mental health problem)); imprecision of the results (based on the width of confidence intervals, adequacy of the sample size, or both); or publication bias. After all factors had been considered, an overall evidence rating was assigned for each outcome as follows: high (high certainty that the true effect is close to the estimated); moderate (moderate certainty that the true effect is close to the estimated); low (restricted certainty of the estimated effect and the true effect might be substantially different from the estimated effect); and very low (very little certainty of the estimated effect and the true effect is

likely to be substantially different from the estimated effect) (Balshem et al., 2011) (please see supplementary material for full GRADE tables).

2.5. Strength of association

Strength of association was ascribed for each individual systematic review. Due to the wide variation between definitions of constructs and outcomes between systematic reviews, as well as the range of different methods for determining degree of association, no further meta-analysis of findings between reviews was undertaken. The strength of association between factors and outcomes was noted and categorised depending on the reported degree of association and (where available) the statistical significance. For meta-analyses where researchers reported a statistically significant weak or weak-moderate association, this was recorded as evidence of a possible association. Where a moderate, moderate-strong, or strong statistically significant association was reported, this was recorded as evidence of association. Findings that were reported as being not statistically significant were recorded as uncertain evidence of association.

For the narrative syntheses, consistent evidence of association across all included studies reporting an association, where $n = 3$ or more studies, was recorded as evidence of association. Where the majority of included studies reported an association, again where $n = 3$ or more reported the association, this was recorded as evidence of possible association. Inconsistent findings, or findings reported from only one or two studies, was recorded as uncertain evidence of association. The strength of association was downgraded by one level if evidence for that outcome had been rated as being of very low certainty using GRADE.

3. Results

Thirty systematic reviews met the inclusion criteria for this review by describing constructs associated with youth violence and violent crime. The 30 studies reported a total of 18 outcomes relating to violence and violent crime as shown in Table 1. These ranged from specific outcomes such as cyber dating abuse and a conviction of killing another person, to more broadly defined outcomes such as 'criminal behaviour leading to imprisonment/detention in a secure setting', 'all types of antisocial behaviour', and 'all violence' (Table 2). Where meta-analyses were performed on compound outcomes, for example 'violence or aggression', these have been reported as a single outcome as defined in the original paper. Five studies reported offending/antisocial behaviour to describe at least one of their outcomes of interest, referring to a broad range of offending or criminal behaviour including non-violent antisocial behaviour as well as more serious criminal acts involving harming another person.

Twenty-two protective factors (or strengths, facilitators) investigated for their association with youth violence and/or crime were identified from the included studies. As shown in Table 3, 10 of the 30 systematic reviews reported protective factors [Caridade & Braga, 2020; Ferriz Romeral et al., 2018; Flanagan et al., 2019; Haylock et al., 2020; Jacobs et al., 2020; Savage et al., 2017; Scott & Brown, 2018; Spencer et al., 2019; Spruit et al., 2016; Vega et al., 2021], although only six stated a priori that they were specifically looking for these positive constructs [Caridade & Braga, 2020; Flanagan et al., 2019; Haylock et al., 2020; Scott & Brown, 2018; Spruit et al., 2016; Vega et al., 2021]. Just three of the included studies focussed specifically on protective factors rather than risk factors [Ferriz Romeral et al., 2018 (moral reasoning), Spruit et al., 2016 (guilt and shame), Vega et al., 2021 (emotional intelligence)].

Many more reviews focussed on needs for youth violence and crime compared to protective factors. Seventy-three needs were reported across 28 of the 30 included studies as detailed in Table 4.

3.1. Synthesis of findings

A colour-coded overview matrix was developed which maps evidence of association between constructs described following the ecological model and specific outcomes relating to violence and crime (please see supplementary material). Significant moderating factors have been noted and included in matrix cells where there is evidence of association. Moderating factors with only uncertain evidence of association with outcomes related to youth violence and crime are not included in the overview matrix.

3.1.1. Protective factors

Three constructs were identified as having evidence of a protective (negative) association with recidivism: rejection or absence of drug or alcohol use (individual level); good family relationships and support (family level); education and employment opportunities (education and employment level). Findings from separate meta-analyses showed all three constructs to be moderated by gender, with the association with good family relationships and support, and with education and employment opportunities, being identified only for males ($d = -0.57$ (95 % CI -0.72 to -0.42); $d = -0.68$ (95 % CI -1.19 to -0.17) respectively (p values not reported)). The association between rejection or absence of drug or alcohol use was stronger for males, although there was a weaker, significant association also identified for females (males: $d = -0.57$ (95 % CI -0.72 to -0.41); females: $d = -0.31$ (95 % CI -0.59 to -0.03) respectively) [Scott & Brown, 2018].

Findings from meta-analyses also suggested a further five individual level constructs as having a possible, or weaker, protective association with violence and/or crime: prosocial attitudes and values, shame, emotional intelligence, conflict resolution skills, and moral reasoning. Prosocial values and attitudes were identified as a weak protective factor against recidivism for females but not for males ($d = -0.48$ (95 % CI -2.40 to -0.04); $d = -0.29$ (95 % CI -0.89 to 0.30) respectively, p values not reported) [Scott & Brown, 2018]. Shame was found to have a small protective association with crime/criminal behaviour ($r = -0.130$ (95 % CI -0.235 to -0.022), $p < 0.01$) [Spruit et al., 2016]. Emotional intelligence was found to have a small negative association with physical aggression ($r = -0.20$ (95 % CI -0.26 to -0.15), $p < 0.0001$) [Vega et al., 2021]. Conflict resolution skills showed a weak to moderate negative association with dating violence ($r = -0.17$ (95 % CI -0.28 to -0.06), $p < 0.01$) [Spencer et al., 2019]. Finally, moral reasoning was found to have a small negative association with antisocial or offending behaviour ($r = -0.336$, $p < 0.001$), with this association being stronger for females and increasing with age (females vs. males: $Q_R(1) = 9.53$, $p < 0.01$; $Q_E(65) = 245.44$, $p < 0.001$; $R^2 = 0.037$; age: $Q_R(1) = 11.07$, $p < 0.001$; $Q_E(62) = 188.80$, $p < 0.001$; $R^2 = 0.055$) (moderator analysis carried out using univariate ANOVA and meta-regression) [Ferriz Romeral et al., 2018].

One possible protective construct was reported at the relationship level. The presence of prosocial, positive peer relationships was found to have a small negative association with recidivism for males, although this association was not statistically significant for females ($d = -0.48$ (95 % CI -0.70 to -0.26); $d = -0.48$ (95 % CI -0.97 to 0.10) respectively, p values not reported) [Scott & Brown, 2018].

As well as the important protective role played by education and employment opportunities, academic achievement was also noted as having a possible protective association with non-violent offending and violence (all types) ($r = -0.113$ (95 % CI -0.131 to -0.096), $p \leq 0.05$; $r = -0.143$ (95 % CI -0.154 to -0.135), $p \leq 0.05$ respectively) [Savage et al., 2017]. The negative association between academic achievement with violence was found to be stronger for samples of young people who had been involved in crime than for general population samples ($r = -0.258$ (95 % CI -0.309 to -0.219), $p \leq 0.05$; $r = -0.132$ (95 % CI -0.155 to -0.107), $p \leq 0.05$ respectively). Models controlling for economic factors showed a weaker negative association, suggesting a moderating effect, but statistical significance remained ($r = -0.083$ (95 % CI -103 to -0.063, $p \leq 0.05$)) [Savage et al., 2017].

Table 1

Study characteristics.

First author (date)	Included studies	Population and sample	Outcome(s)	Constructs investigated	Moderators examined
Asscher et al. (2011)	$N = 53$ studies ($N = 60$ independent samples)	Young people recruited from a range of populations: Offenders Clinical/receiving treatment Community samples Age range: 9.3-18.4 years Mean age: 15.32 years	Offending and/or recidivism Official records ($n = 33$ studies) Research measurement tool/self-report ($n = 16$) Both sources ($n = 4$)	Psychopathy/psychopathic traits	Age % immigrants in sample Gender Study characteristics
Assink et al. (2015)	$N = 55$ studies (Reported in 48 manuscripts)	Juvenile offenders Mean age at start of study: 11.8 years	Adolescence-limited offending vs life-course persistent offending	Criminal history Aggression Emotional and behavioural problems Sexual behaviour School/employment Family Static demographic factors Neurocognition/physiology Attitude Neighbourhood Physical health	% ethnic minority youth in sample % of males in sample Age Study characteristics
Baly and Butler (2017)	N = 16 studies All observational studies $n = 14$ cross-sectional group comparisons n = 2 longitudinal design	Juvenile sexual offenders Age range: 10-22 years	Sexual offending	Level of empathy (assessed using a range of measures)	Not reported
Boonmann et al. (2015)	$N = 21$ studies All cross-sectional observational studies	Juvenile sexual offenders Age range: 10-22 years	Sexual offending	Mental health disorder Comorbidity Affective disorder Major depression Anxiety disorder Post-traumatic-stress-disorder (PTSD) Attention-deficit-hyperactivity-disorder (ADHD) Disruptive behaviour disorder (DBD) Conduct disorderOppositional defiance disorder (ODD) Substance misuse disorder Alcohol use Paraphilia Paedophilia	Gender Age Ethnicity Study characteristics
Braga et al. (2017)	N = 33 studies ($N = 37$ samples) All prospective longitudinal observational studies	Young people aged 10-19 years Mean age at outcome: 15.45 years	Antisocial behaviour including: lying, aggression, theft and other criminal acts	Maltreatment including: Physical abuse Sexual abuse Emotional abuse Neglect	Sociodemographic factors: Gender AgeSocioeconomic status (SES) Family structure: Single vs multiple parent household Family stress Individual factors: Temperament Pre-test of antisocial behaviour Study characteristics
Caridade and Braga (2020)	$N = 17$ studies in total $n = 11$ studies of perpetrations of cyber abuse n = 6 studies of victimisation (not reported here) All observational studies $n = 10$ cross-sectional n = 1 longitudinal	Perpetrators of cyber dating abuse recruited from community population (one study used a clinical sample) Age range: 13-30 years	Cyber dating abuse	Socio-ecological factors Individual factors: Gender Age Race/ethnicity Intimate relations Relational factors: Intimate relations Living with both parents Parents' education Individual risk factors: Adverse experiences Behavioural Mental and physical health	Age Gender Race/ethnicity Study method quality

Table 1 (*continued*)

First author (date)	Included studies	Population and sample	Outcome(s)	Constructs investigated	Moderators examined
				Psychosocial Relational risk factors: Intimate relations Family Peers Community factors	
Chang et al. (2016)	N = 43 studies n = 25 longitudinal n = 18 cross-sectional	Perpetrators of physical aggression Age range: 2-16 years	Physical aggression Severe aggression: violent crime, antisocial behaviour, offending Minor/general aggression: kicking, biting, hitting	Neighbourhood disadvantage	Age % female participants Aggression severity (minor vs. severe) Study characteristics
De Ribera et al. (2019)	N = 87 studies n = 76 cross-sectional comparative studies n = 5 longitudinal studies n = 3 case control studies n = 3 other study design All studies conducted in low- or middle-income countries (n = 60 countries)	Children and young people living in low- or middle-income countries Age range: 10-26 years	All violence: Includes any physical violence or assault, physically injuring someone, robbery with a weapon, threatening with a weapon, physical harassment, carrying a weapon Fighting: Includes fighting other people, fist fighting, gang fighting, physical fights Carrying a weapon: Includes firearm or knife (not reported here)	Socio-ecological factors: Male Employment status Individual factors: Psychological Substance and alcohol use Victimisation Family factors: Parental sociodemographic factors Parenting practices and behaviours Education and school: Academic achievement Media consumption Type and location of school Peer-related: Deviant peer group Delinquent peer group Community: Neighbourhood risk/high crime Urban living Drugs availability in community	Type of violence % males in sample Study characteristics
Ferriz Romeral et al. (2018)	N = 72 studies Studies included both one group and two group designs Two group designs compared offenders vs. non-offenders	Children and young people with an official history of antisocial behaviour/crime Age range: 11-19 years	Juvenile antisocial behaviour Offending based on official records	Moral reasoning	Age Gender Study characteristics
Flanagan et al. (2019)	N = 19 studies All longitudinal studies with at least one year of follow up	Children and young people recruited from community settings Age range for when parental supervision measured: 9-18 years Age range for when offending measured: 15-29 years	Juvenile offending Offending behaviour Official records (n = 3) Self-report (n = 16)	Parental supervision	Gender
Geerlings et al. (2020)	N = 87 studies (N = 74 independent samples) n = 65 cross-sectional studies n = 22 longitudinal studies	Children and young people recruited from a range of populations: Offenders Clinical and at-risk samples Community samples Range of mean ages: 6.5-19.7 years	Antisocial behaviour/juvenile offending Assessed based on official records or self-report	Psychopathic traits Defined according to a three-factor structure: Narcissistic factors Impulsive factors Callous-unemotional factors	Type of offending (antisocial behaviour, general recidivism, violent recidivism) Psychopathic trait construct Gender Age % immigrants in sample Study characteristics
Gerard et al. (2014)	N = 16 studies n = 10 retrospective case-control studies n = 2 quasi-experimental case-control studies n = 4 cohort studies	Children and young people who had killed another person Children and young people judged to be 'at risk' of committing serious violent crime For comparison groups: Children and young people who had committed crimes other than killing (including violent and non-violent crimes) Children and young people with clinical diagnosis of mental ill health Adults who had killed (1	Convicted of killing another person	Broadly defined as: Demographic/socio-ecological factors Individual factors Family Peers School/education	Not reported

Table 1 (*continued*)

First author (date)	Included studies	Population and sample	Outcome(s)	Constructs investigated	Moderators examined
Haylock et al. (2020)	N = 16 studies All observational studies n = 3 cohort studies *n* = 3 case-control studies n = 4 cross-sectional studies n = 3 qualitative studies n = 3 literature reviews	study) Age range: 10-21 years Children and young people living in the U.K. Age range: 11-34 years	Weapon-related crime and gang violence	World Health Organization (WHO) ecological model categories used to report risk factors: Individual Relationships (family and peers) Community Societal	Not reported
Jacobs et al. (2020)	*N* = 27 studies All observational studies Note: high degree of sample overlap between included studies	Youth offenders Range of mean ages: 12.6-20.0 years	Recidivism (e.g., arrest or conviction) Official records (*n* = 20) self-report (n = 5) (*n* = 2 not described)	Social-structural factors Economic factors Justice-related factors	Gender Type of offending
Kroese et al. (2021)	*N* = 48 studies (*N* = 36 independent samples) n = 18 longitudinal studies *n* = 18 cross-sectional studies *n* = 12 case-control studies	Young people who had committed a crime (self-report or official records) Age range 6-21 years	Criminal behaviour	Household structure: single biological parent in household during time young person is/was growing up (includes with and without a step-parent)	Gender Study characteristics
Mallie et al. (2011)	N = 11 studies n = 9 retrospective follow-up studies *n* = 1 retrospective study *n* = 1 prospective study	Perpetrators of sexual offences (most committed sexual offences, in some cases charged for committing a sexual offence) Age range: 10-18 years	Recidivism (official records of convictions and criminal charges)	Offending history: previous perpetrator of sexual or physical abuse offence(s)	Publication status
Malvaso et al. (2016)	*N* = 62 studies n = 48 retrospective cohort studies n = 14 case-control studies	Young people who had committed an offence Sampled from: Community/general population Official/administrative records (Ages of recruited samples not reported)	Antisocial or offending behaviour Official records (*n* = 40) Self-report (*n* = 11) Both sources (*n* = 11)	Maltreatment Including studies focussing on a single type of maltreatment e.g., sexual abuse, and those with aggregated categories	Care experiences Education Mental health SES and poverty Family structure Peer relations
Malvaso et al. (2019)	*N* = 78 studies n = 72 cross-sectional studies n = 6 longitudinal studies n = 1 mixed methods design	Young people recruited from secure settings or treatment programmes (Ages of recruited samples not reported)	Sexual offending Official records (*n* = 63) Self-report (*n* = 5) Caregiver/professional report (n = 7) Mixed sources (*n* = 1) (2 studies unaccounted for)	Previous experience of childhood sexual abuse	Not reported
Murray et al. (2012)	N = 40 studies (*N* = 50 samples) n = 21 prospective studies n = 17 retrospective studies	Children and young people (and adults) who had experienced at least one parent being imprisoned Sampled from: Community Clinics Courts Age range (at start of study): 0-46 years 35/40 studies mean age < 18 years	Antisocial behaviour: includes criminal behaviour as well as antisocial behaviour that does not involve breaking the law Variety of data sources: self-report, caregivers, professionals, peers, clinical assessment, clinical records	Parental imprisonment	Gender Mother or father imprisoned Child age at parental imprisonment Study characteristics
Piotrowska et al. (2015)	*N* = 160 studies	Recruited from general population Age groups (reported for *n* = 139 independent samples included in meta-analysis): Preschool (age 0-5/6) (*n* = 23 studies) Childhood (*n* = 38 studies) Adolescence (age 13+) (*n* = 59 studies)	Antisocial behaviour: includes any global or specific construct of antisocial behaviour	SES Includes both family and social position e.g., income, occupation, education	Gender Age Level of individualism Antisocial behaviour construct Study characteristics

Table 1 (*continued*)

First author (date)	Included studies	Population and sample	Outcome(s)	Constructs investigated	Moderators examined
Pyle et al. (2016)	*N* = 85 studies (No further details reported)	Across age groups (*n* = 19 studies) Young people in U.S. secure settings aged 11-18 years (Ages of recruited samples not reported)	Imprisonment/detention in a secure setting	Individual factors: Mental health Personality Psychological factors Social/emotional behavioural issues Intellectual development Academic achievement Victimisation history Substance use	Gender
Pyle et al. (2020)	*N* = 51 studies (No further details reported)	Young people in US secure settings aged 11-18 years (Actual ages of recruited samples not reported)	Imprisonment/detention in a secure setting	Social factors in the following domains: School and community Peers Family	Gender
Savage et al. (2017)	N = 43 studies	General population samples and samples drawn from secure institutions Age: not reported Sample populations reported in meta-analysis as: n = 4 child n = 23 adolescent n = 6 adult n = 3 mixed ages	Violent behaviour including: Physical aggression Criminal violence Non-violent criminal behaviour	Academic achievement including: Grades/national exam results Teacher ratings Scores on English and maths assessments (administered as part of research study)	Age Gender Parent education Form of offending Economic factors Prior violence Study characteristics
Scott and Brown (2018)	N = 22 studies (No further details reported)	Young people aged up to 18 years Community samples including young people on probation and those in secure settings Age for included studies not reported	Recidivism	Criminal history Antisocial personality Antisocial attitudes Family/marital problems Education/employment deficits Poor use of leisure time	Gender
Spencer et al. (2019)	N = 37 studies n = 20 longitudinal studies n = 17 cross-sectional studies	Young people living in the U.S. aged 13-19 years Age for included studies not reported	Physical dating violence perpetration	Ontogenic: e.g., internalising and externalising factors Microsystem: e.g., family level factors and peer-related factors Exosystem: e.g., neighbourhood and school-related factors Macrosystem: e.g., societal and government legislation	Gender
Spruit et al. (2016)	N = 25 studies (*N* = 24 independent samples) n = 11 longitudinal studies n = 14 cross-sectional studies	Young people and young adults with a history of criminal behaviour Community and offender samples 13/25 studies mean age < 18 years	Criminal behaviour	Guilt Shame	Type of guilt Type of criminal behaviour Gender Proportion of sample from ethnic minority background
Ttofi et al. (2012)	*N* = 28 studies (identified from 51 reports) All prospective, longitudinal studies	School-aged children and young people living in the community Age range: 8.0-14.4 years	Aggression or violence (including criminal violence or violent offending) later in life (i.e., after bullying) Outcomes measured at age range: 14.4-24.6 years	School bullying perpetration or victimisation (physical, verbal, or psychological) *n* = 15 studies of bullying perpetration	Age (at time of bullying and at time of outcome) Study characteristics
Vega et al. (2021)	N = 17 studies n = 14 cross-sectional studies n = 3 longitudinal studies	Children and young people aged 10-24 years All studies conducted in school settings Average age: 13.75 years	Aggressive behaviour defined as the immediate intention to harm another person	Emotional intelligence	Not reported
Wibbelink et al. (2017)	N = 20 studies All prospective studies	Juvenile offenders aged under 19 years Age range: 5-19 years Mean age: 15.8 years	Recidivism: Reoffence Rearrest Reconviction Reimprisonment	Mental health disorders: Internalising disorders Externalising disorders Comorbid disorders	Gender Study characteristics
Yoon et al. (2018)	N = 15 studies All longitudinal studies	Young people and young adults with a report of maltreatment, out- of-home placement and offending behaviour	Offending behaviour in adolescence (before age 19 years) and early adulthood (19-35 years) All included studies used official records of offending behaviour	Out-of-home placement	Characteristics of out-of-home placement: Type of placement Number of placements Age at first placement

Table 1 (*continued*)

First author (date)	Included studies	Population and sample	Outcome(s)	Constructs investigated	Moderators examined
		Range of mean ages: 11.4-32.0 years	11/15 included studies use reports of adolescent offending (before age 19 years)		Neighbourhood associated with placement

3.1.2. Needs associated with youth crime and violence

3.1.2.1. Individual-level needs. Four individual level constructs were identified from the literature that showed a significant moderate-strong positive association with violence- and crime-related outcomes: low empathy, bullying perpetration, dating abuse perpetration, and being a victim of dating abuse. Low empathy, assessed using a wide range of recognised measures (for example, Child Behaviour Checklist, Inventory of Callous-Unemotional Traits, Youth Psychopathic Traits Inventory, Psychopathy Checklist – Youth Version, Modified Psychopathic Personality Inventory, Global Risk Assessment Device) was found to be associated with offending, recidivism, and violent recidivism ($r = 0.23$, $p < 0.001$; $r = 0.21$, p < 0.001; $r = 0.22$, p < 0.001 respectively; confidence intervals not reported) [Asscher et al., 2011] and antisocial and offending behaviour ($r = 0.24$ (95 % CI 0.20 to 0.30), $p < 0.001$) [Geerlings et al., 2020]. Age was found to be a moderating factor to some degree for this construct, with the association between low empathy and offending being stronger for children of a younger age ($\beta = -0.41$, $p < 0.001$ (multivariate regression analysis)). However, this moderating effect was not identified for the other outcomes of recidivism and antisocial and offending behaviour.

Bullying perpetration was found to be strongly associated with aggression and/or violence (OR = 2.04 (95 % CI 1.69 to 2.45), z = 7.53, $p < 0.0001$). The age when bullying was measured was found to be significantly negatively associated with violence or aggression, suggesting that the younger the child is when bullying is perpetrated the stronger the relationship with violence or aggression ($\beta = -0.065$, SE = 0.021, $p = 0.002$) [Ttofi et al., 2012]. In terms of dating violence, physical dating violence and previous physical or emotional dating violence perpetration or victimisation each showed either a moderate or strong degree of association with dating violence - physical dating violence victimisation: $r = 0.66$ (95 % CI 0.56 to 0.74); emotional teen dating violence victimisation: $r = 0.49$ (95 % CI 0.37 to 0.59); previous physical dating violence perpetration: $r = 0.41$ (95 % CI 0.27 to 0.53); emotional teen dating violence perpetration: $r = 0.37$ (95 % CI 0.30 to 0.63); violence towards peers ($r = 0.12$ (95 % CI 0.06 to 0.19)); and peers perpetrating dating violence ($r = 0.21$ (95 % CI 0.15 to 0.26)), all significant at the $p < 0.001$ level [Spencer et al., 2019]. The association between previous dating violence perpetration (undifferentiated) and physical dating violence was found to be stronger for females than for males ($Q^b = 13.54$, $p < 0.001$ (measure of heterogeneity of between group differences)), although it was statistically significant for both.

As well as the four individual level constructs found to be associated with youth violence and crime, a further five were identified across three or more systematic reviews as having a possible association: substance use, antisocial beliefs/attitudes/behaviour, externalising behaviours, maltreatment, and adverse childhood experiences. Substance use (includes alcohol and drug use) was found to be weakly associated with four outcomes of interest: recidivism (d = 0.17 (95 % CI 0.10 to 0.24, males only)) [Scott & Brown, 2018]; imprisonment or detention in a secure setting (findings reported as a narrative synthesis) [Pyle et al., 2016]; sexual offending/reoffending (mean proportion = 0.29 (95 % CI 0.14 to 0.43), Z = 3.8, $p < 0.001$; very low certainty evidence) [Boonmann et al., 2015]; and violence (all types) (OR = 3.85 (95 % CI 2.57 to 4.81), p < 0.001; very low certainty evidence) [de Ribera et al., 2019]. Some moderating effects were noted for gender. The possible association between substance use and recidivism was found to be stronger for males than for females (d = 0.10 (95 % CI 0.02 to 0.18), females) [Scott

& Brown, 2018], whilst the prevalence of substance disorder amongst young sexual offenders was found to be higher when the proportion of females in the study sample was higher (Z = -2.06, $\beta = -0.51$, $p < 0.05$) [Boonmann et al., 2015]. Age was also found to be a significant moderator of the association between substance use and sexual offending, with the prevalence of substance use and substance use disorder increasing with age of sexual offenders (Z = -2.06, $\beta = -0.51$, $p < 0.05$) [Boonmann et al., 2015].

Antisocial beliefs, attitudes, or behaviour; parental incarceration; and anger were found to have a possible association with recidivism, violence (all types), cyber dating abuse, and dating violence. The association with recidivism was investigated for antisocial behaviour and antisocial attitudes separately and was found to be present in both females and males (females - antisocial personality/behaviour: d = 0.42 (95 % CI 0.23 to 0.61), antisocial attitudes/orientation: d = 0.29 (95 % CI 0.17 to 0.41); males - antisocial personality/behaviour: d = 0.37 (95 % CI 0.22 to 0.52), antisocial attitudes/orientation: d = 0.32 (95 % CI 0.25 to 0.40), p values not reported) [Scott & Brown, 2018]. Antisocial attitudes, described as tolerance to deviance, were reported as being weakly associated with violence (all types) (OR = 2.47 (95 % CI 1.90 to 3.21), $p < 0.001$; very low certainty evidence) [de Ribera et al., 2019]. A weak association was also found for psychosocial factors, specifically normalisation of violence, attitudes about sexting, and hostile gender stereotyping, with cyber dating abuse ($r = 0.11$ (95 % CI 0.08 to 0.15), $p < 0.001$) [Caridade & Braga, 2020].

A possible association with youth violence and crime was demonstrated for externalising problems. Externalising problems, defined in the reviewed evidence as including behavioural problems, sexting perpetration, physical aggression, risky sexual behaviour, sex at an early age, and substance use, were reported to be weakly associated with cyber dating abuse ($r = 0.18$ (95 % CI 0.10 to 0.28), $p < 0.001$; very low certainty evidence) [Caridade & Braga, 2020]. Conduct problems were found to be possibly associated with violence (all types) (OR = 2.73 (95 % CI 2.20 to 3.38), $p < 0.001$; very low certainty evidence) [de Ribera et al., 2019]. A review of factors potentially associated with dating violence perpetration identified externalising behaviours (broadly defined with no further detail) as having a possible association ($r = 0.33$ (95 % CI 0.18 to 0.46), $p < 0.001$; very low certainty evidence) [Spencer et al., 2019].

3.1.2.2. Family-level needs. Evidence from three systematic reviews demonstrated a possible association between being a victim of maltreatment and perpetration of violence or offending behaviours. Maltreatment is defined as physical abuse, emotional abuse, sexual abuse, or child neglect. A possible association was found between maltreatment and four outcomes relating to youth violence and crime: recidivism (strength of association reported as 0.10 < d < 0.49, CI does not include zero; association found for females and males) [Scott & Brown, 2018]; imprisonment or detention in a secure setting (narrative synthesis: experience of maltreatment found to be much higher amongst imprisoned youth compared with those not imprisoned; very low certainty evidence) [Pyle et al., 2016]; and (for maltreatment, abuse, and neglect) antisocial behaviour (all types) ($r = 0.11$ (95 % CI 0.08 to 0.14), $p < 0.001$) and aggressive antisocial behaviour (r = 0.11 (95 % CI 0.07 to 0.14), p < 0.001) [Braga et al., 2017]. Family functioning was found to have a significant moderating effect on the association between history of maltreatment and antisocial behaviour (all types) in that controlling for family functioning yielded a smaller effect size ($r^2 = 0.04$, p

Table 2
Youth crime and violence outcome descriptions.

Outcome	Description
Aggression or violence	Includes all types of violence including physical violence or assault, physical aggression, causing physical injury, robbery with a weapon, carrying a weapon, threatening someone with a weapon, physical harassment, violence, violence offending. Sources include official records but were not always clearly reported [de Ribera et al., 2019; Gerard et al., 2014; Savage et al., 2017; Ttofi et al., 2012].
Anti-social behaviour (all types)	Includes aggressive and non-aggressive antisocial behaviour, for example: lying, theft, criminal acts, rule-breaking, antisocial behaviour not involving breaking the law, aggressive behaviour. Sources: Official records, self-report, caregiver report, professional report [Braga et al., 2017; Murray et al., 2012; Piotrowska et al., 2015].
Antisocial/offending behaviour	Includes offending behaviour from official records as well as self-reported, reported by others [Chang et al., 2016; Ferriz Romeral et al., 2018; Geerlings et al., 2020; Murray et al., 2012; Spruit et al., 2016].
Convicted of killing another person	Source: Official records [Gerard et al., 2014].
Criminal behaviour	Convicted of committing a crime. Sources: official records or self-report of criminal behaviour [Kroese et al., 2021; Spruit et al., 2016].
Cyber dating abuse	Source: self-report [Caridade & Braga, 2020].
Dating violence	Includes physical dating violence. Source: Self-report [Spencer et al., 2019].
Life-course persistent offending (vs. adolescence-limited offending)	Offending behaviour that continues throughout adult life, rather than desisting during, or shortly after, adolescence. Sources: official records, self-report [Assink et al., 2015].
Offending	Any offending behaviour based on official records, self-report, or reported by others [Asscher et al., 2011; Flanagan et al., 2019; Malvaso et al., 2016; Savage et al., 2017; Yoon et al., 2018].
Physical aggression (some overlap with violence or aggression)	Includes severe aggression such as violent crime, antisocial behaviour and offending plus general physical aggression (kicking, biting, hitting); intention to do immediate harm to another person. Sources: official records, self-report [Chang et al., 2016; Vega et al., 2021].
Reoffending/recidivism	Any reoffending behaviour, convictions, or criminal charges; re-arrest, reconviction, reincarceration. Sources: official records, self-report or reported by others [Asscher et al., 2011; Jacobs et al., 2020; Mallie et al., 2011; Scott & Brown, 2018; Wibbelink et al., 2017].
Secure admission/detention in a secure setting/imprisonment	Defined as 'incarcerated youth' and includes young people detained in 'correctional facilities' such as juvenile detention centres, treatment facilities or residential facilities. Source: Official records [Pyle et al., 2016, 2020].
Sexual offending/reoffending or sexually abusive behaviours	Any type of sexual offending or reoffending behaviour, includes rape and attempted rape, sexual assault, sexual battery, sexual misdemeanour, child molestation. Sources: official records, charges, convictions, reports from social services, treatment/therapy files, self-report [Baly & Butler, 2017; Boonmann et al., 2015; Mallie et al., 2011; Malvaso et al., 2019].
Weapon-related crime and gang violence	Operationalised as knife or sharp weapon-related crime (rather than gun crime). Gang violence defined as violent behaviour or threatening behaviour perpetrated by a group of 3 or more young people [Haylock et al., 2020].

Table 3
Protective factors identified in included studies.

Ecological level and protective factor	Description
Individual	
1. Conflict resolution skills	Constructive conflict resolution, self-efficacy to resolve conflict [Caridade & Braga, 2020].
2. Emotional intelligence	Measured as performance-based ability emotional intelligence, self-report ability emotional intelligence, self-report mixed emotional intelligence [Vega et al., 2021].
3. Guilt and/or shame	Described as self-conscious emotions [(Spruit et al., 2016)].
4. Mental health counselling	Cited as an example of an individual mental health protective factor [Caridade & Braga, 2020].
5. Moral reasoning	Defined as a cognitive process that allows individuals to make morally acceptable decisions and guide moral behaviour [Ferriz Romeral et al., 2018].
6. Personality and coping	Includes honesty, self-efficacy, positive problem-solving [Scott & Brown, 2018]; positive coping strategies [Caridade & Braga, 2020].
7. Prosocial behaviour and attitudes	Prosocial behaviour [Caridade & Braga, 2020]; prosocial attitudes [Scott & Brown, 2018].
8. Rejection or absence of drug or alcohol use	No further details reported [Scott & Brown, 2018].
9. Responsibility	No further definition provided [Spencer et al., 2019].
Relational/peer-related	
10. Peer social support	No further details reported [Caridade & Braga, 2020] [Spencer et al., 2019].
11. Prosocial relationships with peers	No further details reported [Scott & Brown, 2018].
Family	
12. Effective parental supervision	Parental monitoring [Caridade & Braga, 2020]; also defined as level of parental knowledge about child (e.g., whereabouts, parental rule setting) [Flanagan et al., 2019].
13. Good family relationships and support	Family relationships and support [Scott & Brown, 2018]; parental support [Spencer et al., 2019]; parental closeness, parental communication [Caridade & Braga, 2020]; relationship quality with parents/carers [Spencer et al., 2019].
14. Strong parent/carer attachment	Parent/carer-child closeness [Caridade & Braga, 2020]; contrasted with the risk factor of poor parental attachment [Haylock et al., 2020].
Education/employment	
15. Education and employment opportunities	No further details reported [Scott & Brown, 2018].
16. Academic achievement[a]	Includes examination grades, national examination results, teacher ratings, scores on English and Maths assessments (administered as part of research study) [Savage et al., 2017]; [Spencer et al., 2019].
17. School attachment/engagement	Daily school attendance, involvement in class, school connectedness [Caridade & Braga, 2020].
Community/neighbourhood	
18. Extracurricular activities and community support	Social support from community, community engagement, [Caridade & Braga, 2020]; [Scott & Brown, 2018].

Table 3 (*continued*)

Ecological level and protective factor	Description
19. Neighbourhood affluence	Proportion of affluent families [Jacobs et al., 2020].
20. Presence of community services to reduce youth offending/antisocial behaviour	Defined as justice system-related community services established specifically to reduce offending and anti-social behaviour [Jacobs et al., 2020].
21. Neighbourhood safety	No further details reported [Caridade & Braga, 2020].
Demographic and socio-ecological factors	
22. Immigrant density	Living in areas with higher numbers of people from the same country and higher numbers of people not speaking the language of the county they are living in [Jacobs et al., 2020].

Note. In some, but not all, research this is conceptualized as an individual factor. We conceive of this as fitting within the education/employment category of the ecological model.

< 0.05) [Braga et al., 2017].

The more generally defined construct of adverse childhood experiences was also found to have a possible association with a wide range of crime and violence-related outcomes. Childhood adversity, operationalised as unstable living arrangements, out of home placements, history of running away and suicidality, was found to be possibly associated with recidivism (0.10 < d < 0.49, CI does not include zero; association found for females and males) [Scott & Brown, 2018]. A possible association was also reported in a narrative synthesis of studies examining a range of adverse experiences, including a history of victimisation, and imprisonment or detention in a secure setting (rate reported as being higher in imprisoned young people compared with those not imprisoned; very low certainty evidence) [Pyle et al., 2016]. Adverse experiences were also found to be possibly linked with: cyber dating abuse perpetration (adverse experiences defined as bullying victimisation: OR = 1.42 (95 % CI 1.25 to 1.62), *p* < 0.001 [Ttofi et al., 2012] and other adverse childhood experiences: *r* = 0.20 (95 % CI 0.08 to 0.32), p < 0.001 [Caridade & Braga, 2020]); violence (all types) (adverse experiences defined as being robbed, assaulted, sexually assaulted, or subjected to neighbourhood victimisation: OR = 3.30 (95 % CI 2.24 to 4.86), *p* < 0.001 [de Ribera et al., 2019]); and weapon-related crime and gang violence (adverse experiences: victim of physical or sexual abuse, victim of neglect, parental separation, child looked after with multiple placements and self-reported childhood traumatic events; reported as having a positive association with *p* < 0.05; very low certainty evidence [Haylock et al., 2020]).

3.1.2.3. Peer/social-level needs. One construct was identified in the peer/social domain of the ecological model that showed a possible association with three violence and crime-related outcomes - peer groups involved in antisocial or criminal activities, or other 'high risk' behaviours. A weak positive association was found between living amongst justice-involved young people and recidivism (defined as re-arrests) (β = 0.63 to 1.19, *p* < 0.05) [Jacobs et al., 2020] and between antisocial peer relations and recidivism (females: d = 0.27 (95 % CI 0.10 to 0.45); males d = 0.32 (95 % CI 0.17 to 0.46); *p* values not reported) [Scott & Brown, 2018]. A third review found a positive association with violence (all types) and both offending (termed 'deviant') peer groups and antisocial ('delinquent') peer groups (OR = 4.00 (95 % CI 2.87 to 5.54), *p* < 0.001 and OR = 2.80 (95 % CI 1.88 to 4.16), p < 0.001 respectively; both downgraded for very low certainty of evidence) [de Ribera et al., 2019]. Finally, a narrative synthesis of systematic reviews reported a possible association between influence from a high-risk peer group and weapon-related crime and gang violence (positive association reported at *p* < 0.05 level) [Haylock et al., 2020].

Table 4

Needs identified in included studies.

Ecological level and need	Description
Individual	
1. Aggression	'Aggression' (no further details) [Assink et al., 2015].
2. Anger	'Anger' (no further details) [Spencer et al., 2019].
3. Hostility-aggression	Outcome defined using this term in one systematic review [Gerard et al., 2014].
4. Antisocial beliefs, attitudes, or behaviour	Includes antisocial attitude [Assink et al., 2015]; tolerance to deviance [de Ribera et al., 2019]; antisocial personality disorder [Gerard et al., 2014]; deviant personality [Pyle et al., 2016]; antisocial personality (e.g., poor frustration tolerance) or behaviour, antisocial attitudes/orientation (e.g., defies authority, aggressive attitudes) [Scott & Brown, 2018]; approval of violence [Spencer et al., 2019]. *Prior offending behaviour.* Prior offending behaviour overall [Gerard et al., 2014]. *Criminal history.* 'Criminal history' [Assink et al., 2015] [Scott & Brown, 2018]; also includes prior convictions or arrests [Scott & Brown, 2018]. *Previous referrals, arrests, or detainments.* Includes prior and/or later court contact [Gerard et al., 2014]. *Violent offending/antisocial behaviour* [Gerard et al., 2014].
5. Arson	No further details reported [Gerard et al., 2014].
6. Bullying perpetration	Includes emotional and/or physical bullying [Ttofi et al., 2012].
7. Bullying victimisation	Including high incidence of being bullied [de Ribera et al., 2019]*; [Haylock et al., 2020] [Ttofi et al., 2012].
8. Controlling behaviours	'Controlling behaviours' (no further details) [Spencer et al., 2019].
9. Developmental delay	Includes learning difficulties [Gerard et al., 2014].
10. Deviant sexual behaviour	Includes paedophilia and paraphilia [Braga et al., 2017].
11. Direct or indirect adverse childhood experiences	Used as an overarching term [Caridade & Braga, 2020] [Haylock et al., 2020]; can also include witnessing a traumatic event [Pyle et al., 2016].
12. Externalising behaviours	Includes behavioural problems [Assink et al., 2015] [Caridade & Braga, 2020]; externalising behaviours/disorders (all types) [Spencer et al., 2019] [Wibbelink et al., 2017]. *Attention deficit hyperactivity disorder (ADHD).* ADHD cited as a specific mental disorder [Braga et al., 2017] [Pyle et al., 2016]; or an externalising disorder [Wibbelink et al., 2017]. *Disruptive behaviour disorder (DBD).* Includes conduct problems generally [de Ribera et al., 2019]; conduct disorder [Pyle et al., 2016]; as well as DBD specifically [Braga et al., 2017] [Wibbelink et al., 2017]. *Oppositional defiant disorder (ODD).* Investigated as a specific externalising disorder [Braga et al., 2017] [Wibbelink et al., 2017].
13. Internalising disorders	Used as a general, overarching term. Includes anxiety, depression, mood disorder, post-traumatic-stress-disorder (PTSD) [Wibbelink et al., 2017], and affective disorders [Braga et al., 2017] [Pyle et al., 2016]. *Anxiety.* Includes anxiety disorder [Braga et al., 2017]; anxiety [Wibbelink et al., 2017]. *Depression.* Includes major depression [Braga et al., 2017]; depression [Spencer et al., 2019] [Wibbelink et al., 2017].

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Table 4 (*continued*)

Ecological level and need	Description
	PTSD. Investigated as a specific internalising disorder [Braga et al., 2017] [Wibbelink et al., 2017].
14. Language and communication difficulties	Described as communication deficits and reduced language abilities [Pyle et al., 2016].
15. Learning needs	Assessed through Intelligence Quotient (IQ). Defined as IQ < 70 [Gerard et al., 2014]; low IQ (70-100) [Pyle et al., 2016].
16. Low self-esteem	Low self-esteem [de Ribera et al., 2019]*; also includes poor perception of self in relation to peers [Pyle et al., 2016].
17. Mental and physical health	Physical health [Assink et al., 2015]; mental and physical health (e.g., 'anxiety and physical health complaints') [Caridade & Braga, 2020]. *Mental health problems*. Broadly defined outcome including a range of internalising and externalising mental health disorders [Braga et al., 2017] [Pyle et al., 2016]; common mental disorders (anxiety and depression) [de Ribera et al., 2019]; or simply 'poor mental health' [Haylock et al., 2020] [Scott & Brown, 2018]. *Comorbidity*. Includes comorbid disorder [Braga et al., 2017] [Wibbelink et al., 2017] and, more specifically, substance use disorder + internalising disorder, disruptive behaviour disorder + internalising disorder [Wibbelink et al., 2017]. *Physical ill health*. Includes respiratory, infectious, neurological, genitourinary illnesses, and perinatal complications [Gerard et al., 2014].
18. Mistreatment of animals	No further details reported [Gerard et al., 2014].
19. Neglect	No further details reported [Braga et al., 2017] [Gerard et al., 2014] [Pyle et al., 2020].
20. Neurocognition/physiology	Includes abnormal brain structure and function, neuropsychological performance such as intelligence tests, and abnormal physiology such as low resting heart rate [Assink et al., 2015].
21. Personality disorder	No further details reported [Gerard et al., 2014].
22. Poor executive function	No further details reported [Gerard et al., 2014].
23. Poor use of leisure and recreation	Includes limited participation in organised activities, 'could make better use of time', no personal interests [Scott & Brown, 2018].
24. Previous perpetrator of dating abuse	Includes physical or emotional dating violence [Spencer et al., 2019].
25. Low empathy	Includes general empathy, victim group empathy, and victim-specific empathy [Baly & Butler, 2017]. Includes psychopathic traits [Asscher et al., 2011] [Geerlings et al., 2020]. Examples include impulsivity traits, callous-unemotional traits, narcissistic traits [Geerlings et al., 2020]; admission to an inpatient mental health service, personality disorder [Gerard et al., 2014]; diagnosis of mental illness, psychotic disorders [Pyle et al., 2016].
26. Psychosocial problems	Psychosocial factors as a general term [Caridade & Braga, 2020]; also includes poor social skills, difficulties in relationships with others, poor emotion regulation [Pyle et al., 2016].
27. Substance use	Includes substance use disorder [Braga et al., 2017] [Wibbelink et al., 2017]; any substance use [de Ribera et al., 2019]; alcohol/substance use [Assink et al., 2015] [Gerard et al., 2014]; alcohol (mis)use/dependence [Braga et al., 2017] [Gerard et al., 2014] [Spencer et al., 2019]; drinking alcohol [de Ribera et al., 2019]; substance misuse [Pyle

Table 4 (*continued*)

Ecological level and need	Description
	et al., 2016] [Scott & Brown, 2018]; drug use [Spencer et al., 2019]; drug (mis)use/dependence [Braga et al., 2017] [Gerard et al., 2014]; any illicit drug use [de Ribera et al., 2019]; smoking tobacco [de Ribera et al., 2019]*.
28. Suicide ideation	Includes suicide planning [de Ribera et al., 2019]*.
29. Victimisation and maltreatment	General, overarching term, includes bullying victimisation [Haylock et al., 2020] [Ttofi et al., 2012]; being robbed, assaulted, sexually assaulted, neighbourhood victimisation [de Ribera et al., 2019]. *Maltreatment*. Victim of child abuse (any type, not specified), [Boonmann et al., 2015] [Pyle et al., 2016] [Pyle et al., 2020] [Scott & Brown, 2018] includes child abuse in family of origin [Spencer et al., 2019] *Victim of dating violence*. Includes physical or emotional dating violence [Spencer et al., 2019]. *Victim of abuse/neglect*. Include emotional abuse [Boonmann et al., 2015]; physical abuse [Baly & Butler, 2017] [Malvaso et al., 2016]; sexual abuse [Boonmann et al., 2015] [Mallie et al., 2011] [Malvaso et al., 2016] [Malvaso et al., 2019]; neglect [Boonmann et al., 2015] [Gerard et al., 2014] [Malvaso et al., 2016] [Pyle et al., 2020].
30. Weapon possession/use	Includes weapon possession/conviction, possession of a firearm, and previous use of a firearm [Gerard et al., 2014].
Family	
31. Access to firearm in the home	[Gerard et al., 2014].
32. Challenges within the family and parenting	Includes parent-child conflicts, family with dysfunction [de Ribera et al., 2019]; harsh parenting [Gerard et al., 2014]; relationship quality with parents/carer and parental support, 'poor' parenting [Spencer et al., 2019]; inadequate supervision [Flanagan et al., 2019] [Pyle et al., 2020]; difficulty controlling behaviour, inappropriate discipline, inconsistent parenting [Scott & Brown, 2018].
33. Exposure to family violence	Exposure to domestic violence [de Ribera et al., 2019]; violent family [Gerard et al., 2014]. *Witnessing parental intimate partner violence*. No further detail [Spencer et al., 2019].
34. Family and young person having contact with court	Parent and child having prior or later contact with court [Gerard et al., 2014].
35. Family composition	Includes divorced/separated parents/carers [de Ribera et al., 2019]*; also living without both biological parents, living with no biological parent, living with biological parent + step-parent [Gerard et al., 2014] [Pyle et al., 2020]; single mother/parent/carer household, female-headed household, absent father [Kroese et al., 2021].
36. Long term separation from parents	Includes child not with parent until age 14 years [Gerard et al., 2014].
37. Mother aged 20 years or younger	[de Ribera et al., 2019]*
38. Parent victim of abuse	Includes physical or sexual abuse [Gerard et al., 2014].
39. Parental imprisonment	Mother or father imprisoned at any stage in the child or young person's life [Murray et al., 2012].
40. Parental mental health problems	Parents' psychopathology [Gerard et al., 2014].
41. Parental substance use	Includes drug and alcohol misuse [de Ribera et al., 2019]* [Gerard et al., 2014] [Pyle et al., 2020].

Table 4 (*continued*)

Ecological level and need	Description
42. Parental/family involvement in crime	Includes violent crime and gang membership [Gerard et al., 2014] [Pyle et al., 2020].
43. Parents' education	Parents' level of education [Caridade & Braga, 2020]; low levels of parental formal education [de Ribera et al., 2019].
44. Parents' employment status	Parental unemployment [de Ribera et al., 2019].
45. Young person placed in care/looked after	Includes residential care in a children's home and foster care [Yoon et al., 2018].
Peers and social environment	
46. Gang membership	Young person described as member of a gang [Gerard et al., 2014] [Pyle et al., 2020].
47. Limited relationships with others	Includes peers and others outside the home, loneliness [Caridade & Braga, 2020] [Spencer et al., 2019].
48. Peer gang members	Peer gang membership [Gerard et al., 2014].
49. Peer groups involved in antisocial or criminal activities	Includes antisocial/offending peer group [de Ribera et al., 2019]*, peer group engaging in antisocial/offending [de Ribera et al., 2019] [Pyle et al., 2020]; 'high risk' peer group [Haylock et al., 2020], antisocial peer relations [Scott & Brown, 2018], peers perpetrating dating violence [Spencer et al., 2019].
50. Violence towards peers	Violence towards peers, including dating violence [Spencer et al., 2019].
51. Sexual behaviour/risky sexual behaviours	Includes intimate relations, sex at an early age; >2 sexual partners [Caridade & Braga, 2020].
52. Attending/attended state school	Compared with private school [de Ribera et al., 2019]*.
53. Harsh school discipline	Includes zero tolerance and tendency to use expulsion [Pyle et al., 2020].
54. High level of educational or employment difficulties	'Severe' educational difficulties [de Ribera et al., 2019]*. *Education concerns.* Low academic attainment, truancy, current school problems [Scott & Brown, 2018]. *Employment concerns.* Includes being unemployed, not seeking employment [Scott & Brown, 2018]. *Levels of education.* Years in education and level of public examinations taken [Gerard et al., 2014]. *Low academic attainment.* Includes grades, national examination results, teacher ratings, and/or assessment by researchers [de Ribera et al., 2019] [Gerard et al., 2014] [Pyle et al., 2016] [Pyle et al., 2020] [Savage et al., 2017]; poor academic performance [Spencer et al., 2019].
55. Multiple school moves	Defined as 3 or more [de Ribera et al., 2019]*.
56. School exclusion	Includes suspension, expulsion [de Ribera et al., 2019]*.
57. School in city area	[de Ribera et al., 2019]*
58. School/employment-related factors	Includes work-related factors, low academic attainment, poor behaviour in school, lack of motivation/interest in school [Assink et al., 2015].
59. Special educational needs	Not defined further [Pyle et al., 2016].
60. Truancy	[de Ribera et al., 2019]*
Community and global factors	
61. Age	[Caridade & Braga, 2020] [Haylock et al., 2020]
62. Disadvantage density	Defined as poverty, unemployment, female-headed households, and in receipt of state benefit [Jacobs et al., 2020].
63. Drugs availability in the community	[de Ribera et al., 2019]*
64. Economic deprivation	Includes low family socio-economic status (SES), poverty, low neighbourhood affluence, neighbourhood disadvantage [Chang et al., 2016]; and community economic deprivation

Table 4 (*continued*)

Ecological level and need	Description
	[Haylock et al., 2020]; low SES/poverty [Piotrowska et al., 2015] [Pyle et al., 2020].
65. Ethnicity	[Caridade & Braga, 2020] [Gerard et al., 2014] [Haylock et al., 2020]
66. Gender	Gender [Caridade & Braga, 2020] [Haylock et al., 2020] [Scott & Brown, 2018]; male gender [de Ribera et al., 2019] [Gerard et al., 2014].
67. Immigrant density	Defined as % foreign-born and % linguistically isolated [Jacobs et al., 2020].
68. Living in an urban area	Living in a large city/urban area [de Ribera et al., 2019]*.
69. Marginalisation	Includes stigma, discrimination [Haylock et al., 2020].
70. Neighbourhood risk	Includes level of neighbourhood safety [Caridade & Braga, 2020]; high crime rate [de Ribera et al., 2019]*; neighbourhood crime, living amongst justice-involved youth [Jacobs et al., 2020]; neighbourhood violence and crime [Pyle et al., 2020].
71. Unemployment	Young person themselves unemployed [de Ribera et al., 2019].
72. A desire for status, power, peer recognition	Also described as wanting to demonstrate 'masculinity' [Haylock et al., 2020].

Note. * = studies from the Global South.

3.1.2.4. School-level needs. One broadly defined construct at the school level of the ecological model was found to be associated with youth violence or crime. Education and/or employment problems, defined as low academic achievement, truancy at school, current school problems, unemployment, or not seeking employment, was found to have a positive, moderate-strong association with recidivism for both females and males (females: d = 0.52 (95 % CI 0.36 to 0.69); males: d = 0.52 (95 % CI 0.35 to 0.69); *p* values not reported) [Scott & Brown, 2018]. The provision of education that is inclusive of children and young people with diverse needs is of utmost importance. Whist individually, the factors comprising education and/or employment problems might be unrelated to youth crime and violence, together they may paint a picture of the extent to which children and young people are receiving education with which they can engage, as it meets their diverse needs. Receiving education with which children and young people can engage is crucially important to the levels of access to opportunities and resources they have now and for the rest of the life course.

3.1.2.5. Societal-level needs. One societal level construct was found to have a possible association with youth violence and crime-related outcomes: economic deprivation or low socio-economic status. Neighbourhood disadvantage was found to have a weak, positive association with physical aggression (pooled effect = 0.03, *p* < 0.001) [Chang et al., 2016] and socio-economic status was found to have a weak, negative association with antisocial behaviour (antisocial behaviour (all types): overall effect size = -0.099 (95 % CI -0.116 to -0.082), Z = 11.29, *p* < 0.001; aggressive antisocial behaviour *r* = 0.065 (95 % CI -0.085 to -0.045), p < 0.001) [Piotrowska et al., 2015]. Similarly, there was a negative association between living in high socio-economic neighbourhoods and reoffending for young people (β = -0.83 and β = -0.58, *p* < 0.05). Age was found to have a moderating effect for both outcomes, with the association being stronger for younger children. The effect size for the association between neighbourhood disadvantage and physical aggression was significantly larger in studies involving younger participants (regression estimate -0.001 (95 % CI -0.00 to -0.00), *p* < 0.001) [Chang et al., 2016]. In addition, the relationship between low socio-economic status and antisocial behaviour was found to decrease with increasing age (preschool: r = -0.133 (95 % CI -0.183 to -0.081), *p* < 0.001; childhood: r = -0.109 (95 % CI -0.149 to -0.069), p < 0.001; adolescence: r = -0.066 (95 % CI -0.083 to -0.049), p < 0.001) [Piotrowska et al., 2015].

3.1.3. Additional findings

Ethnic background was found to be not associated with youth violence and crime. One systematic review reported evidence from three quantitative studies demonstrating no association and one demonstrating a positive association. The narrative synthesis of findings found evidence of no association between ethnicity and knife crime when controlling for confounders (including gender, family structure, and neighbourhood deprivation), or with gang violence when controlling for level of gang involvement and comparing across groups, including ethnic groups [Haylock et al., 2020]. Three further systematic reviews investigating this demographic factor reported uncertain evidence of association [Caridade & Braga, 2020; Gerard et al., 2014; Jacobs et al., 2020]. We report on this construct in particular given the known over-representation of young people and adults from Black and minoritized ethnic groups in the youth or criminal justice system.

There were also findings of association across levels of the ecological model that were reported less consistently in the included systematic reviews. In terms of recidivism, there was evidence of higher levels of needs for people involved in repeated criminal behaviours, for example, higher levels of comorbidity (e.g., disruptive behaviour and internalising difficulties) for people with higher levels of recidivism ($d = 0.366$ (95 % CI 0.294 to 0.438), $p < 0.001$) [Wibbelink et al., 2017]. A narrative synthesis identified several studies that found young people in prison were more likely to have special education or learning needs [Pyle et al., 2016]. Criminal history was also found to be associated with life-time persistent offending (rather than adolescent-limited offending) ($d = 0.758$ (95 % CI 0.553 to 0.964), $p < 0.001$) and recidivism ($d = 0.20$ (95 % CI 0.01 to 0.39) (p values not reported) [Scott & Brown, 2018]. The same review also highlighted an association with employment or education problems and recidivism for men who had a criminal history ($d = 0.52$ (95 % CI 0.36 to 0.69)). Albeit low certainty of evidence, one review also highlighted aggression as possibly associated with persistent offending ($d = 0.561$ (95 % CI 0.317 to 0.805), $p < 0.001$) [Assink et al., 2015]. A weak association was also identified with recidivism for poor use of leisure/recreation ($d = 0.20$ (95 % CI 0.01 to 0.39)) and challenges with the family and parenting ($d = 0.21$ (95 % CI 0.09 to 0.33)) [Scott & Brown, 2018]. Similarly, there was evidence of possible association between parental imprisonment and antisocial behaviour (OR = 1.6 (95 % CI 1.4 to 1.9, $p < 0.001$) and crime (OR = 1.6 (95 % CI 1.3 to 2.0)) [Murray et al., 2012].

A small positive association was found between bullying victimisation and later aggression or violence (OR = 1.42 (95 % CI 1.25 to 1.62), $p = 0.000$ [Ttofi et al., 2012]; OR = 2.84 (95 % CI 2.10 to 3.83) [(de Ribera et al., 2019)]) low and very low certainty, respectively. Another review, in which antisocial attitudes were investigated as approval of violence, showed a weak association with physical dating violence perpetration ($r = 0.19$ (95 % CI 0.14 to 0.24), $p < 0.001$) [Spencer et al., 2019]. A weak association was found with physical dating violence and anger ($r = 0.15$ (95 % CI 0.08 to 0.22), $p < 0.001$) or controlling behaviours ($r = 0.22$ (95 % CI 0.13 to 0.30), $p < 0.001$) [Spencer et al., 2019]. The risk of antisocial behaviour was also found to be higher for males than for females (males: OR = 1.8 (95 % CI 1.3 to 2.6), $p < 0.01$; females: OR = 1.4 (95 % CI 0.9 to 2.4), $p > 0.05$) following parental incarceration [Murray et al., 2012]. In terms of parental incarceration, there was also an increased risk of antisocial behaviour (all types) (OR = 1.6 (95 % CI 1.4 to 1.9), $p < 0.01$) and a similar small increased risk of crime (OR = 1.6 (95 % CI 1.3 to 2.0), $p < 0.01$) [Murray et al., 2012]. A small association was found between witnessing parental intimate partner violence and dating violence ($r = 0.13$ (95 % CI 0.04 to 0.21), $p < 0.01$) [Spencer et al., 2019]. Finally, a narrative synthesis examining weapon-related crime and violence found young people aged between ten and twenty-four years were at greater risk, as were young people with high levels of wanting power, status, and to demonstrate masculinity [Haylock et al., 2020].

4. Discussion

The aim of the present research was to identify constructs associated with youth crime and violence amongst 6-18 year olds by conducting a systematic review of systematic reviews. From 4819 identified hits, 30 systematic reviews were included. Constructs with more consistent evidence of protective association in relation to recidivism were rejection or absence of drug or alcohol use, positive family relationships and support, and education and employment opportunities. Prosocial attitudes and values, conflict resolution skills, moral reasoning, shame, emotional intelligence, and prosocial positive peer relationships also showed protective association albeit less consistently.

Constructs with more consistent evidence of being a need were low empathy (in relation to crime and violence outcomes), dating abuse (both perpetration and victimisation) (in relation to dating abuse outcomes), and bullying perpetration (in relation to violence outcomes), with the latter showing a moderation effect as a younger age of bullying was more strongly associated with violence or aggression. Substance use; antisocial beliefs, attitudes, or behaviour; externalising behaviours; maltreatment; adverse childhood experiences; peer groups involved in antisocial or criminal activities; education or employment problems; and economic disadvantage also showed evidence of being needs albeit less consistently.

The findings of the present review build on previous reviews that have focussed on limited categories of violence. By including categories such as aggression, cyber dating abuse, and related constructs, the findings provide a more holistic picture of the needs that should be addressed to give all young people equal opportunities and resources to achieve positive outcomes. The constructs identified in this review show the breadth of needs and protective factors at multiple levels of the ecological model, which further strengthens the call for public health approaches to intervene at each of these levels. The findings reinforce the importance of the Child-First philosophy (Case & Browning, 2021) to build on the strengths of all children and young people, with positive family relationships and support, education and employment opportunities, and prosocial attitudes and values for example being candidate priority areas for prevention and intervention work. This review has identified key constructs that highlight areas of strength and need that can provide a foundation on which to support children and young people and protect them from involvement in crime and violence. Future research should involve qualitative studies that seek to understand children and young people's lived experiences and the extent to which they describe similar or different strengths and needs. Future studies should also include the measurement of structural discrimination and intersecting social inequalities to better understand their role in young people's involvement in crime and violence, as the current review found weaker associations in community- and global-level factors (Heimer, 2019).

Enabling the network around a child or young person to be effective in identifying and supporting the needs of children and young people requires resources, training, and tools, in addition to the efficient bringing together of multi-agency perspectives. Given the multiplicity of protective factors that could be enhanced, and needs that could be addressed, as part of a public health approach to youth crime and violence, a practical implication of the findings of the present review is that programmes should address multiple levels of the ecological system. For example, targeting factors with more consistent evidence of protective association would involve individual-levels programmes on the rejection or absence of drug or alcohol use, family-level programmes on positive family relationships and support, and education/employment-level programmes on education and employment opportunities. The importance of education and employment opportunities, highlighted in the finding of the present review, reinforces the turning point exclusions from school can play in the pathway to involvement in crime and violence (Hemez et al., 2020). In addition, targeting for example factors with more consistent evidence of being a need would

involve individual-level programmes on empathy and peer/social environment-level programmes on dating abuse (both perpetration and victimisation) and bullying perpetration. A crucial precursor to such a multiplicative approach requires an appropriate understanding of the specific strengths, needs, and context for a child or young person. Such assessments should be co-produced with children and young people to ensure their perspective of their specific strengths, needs, and context is taken into account.

4.1. Limitations of this review

The broad range of conceptualisations, definitions, and measures used for both constructs and youth crime and violence is a limitation of the present research. In particular, a number of systematic reviews aggregated different indicators, making it hard to disentangle what was the central construct(s). The decision to focus on systematic reviews limited our ability to include qualitative data, which is of central importance to understand how not meeting a young person's needs culminates in youth crime and violence. It also meant that qualitative and case study evidence on Child-First did not meet the inclusion criteria (Case & Browning, 2021). We attempted to capture and reflect a strengths-based approach, but unsurprisingly the predominance of the deficit-model in the literature limited our ability to do so. Future research should further examine the effect of being identified as at risk of youth crime and violence and how to provide equity in opportunities and resources, by meeting the different needs of young people, without the risk of the harmful effects of criminal labelling.

5. Conclusion

When considering constructs associated with youth crime and violence, it must be acknowledged that causal inference cannot be assumed: Not everyone with a need present will experience youth crime and violence. Moreover, the relationship between needs and youth crime and violence has been shown to be bi-directional (McAra & McVie, 2010). According to the Child-First philosophy, if a young person becomes involved in youth crime and violence, it is because the network has not identified, acknowledge, or met a young person's needs. Hence, it is the duty of adults in the network around young people (e.g., parents/carers, educators, professionals) to meet their different needs. Nevertheless, this is predicated on the assumption that adults in the network know the relevant needs for a child or young person. There is an urgent need for routine, ongoing, and co-produced assessment of children and young people's strenghts and needs in order to achieve equity and positive outcomes for all children and young people.

Author contributions

The study was conceived by Deighton and Edbrooke-Childs and designed by Ullman, Lereya, Deighton, and Edbrooke-Childs. Ullman was the lead reviewer/analyser with Lereya and Edbrooke-Childs the additional reviewers/analysers, under the supervision of Deighton. All authors drafted and revised the manuscript and approved the final submitted version.

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Roz Ullman: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Suzet Tanya Lereya:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Freya Glendinnin:** Conceptualization, Writing – original draft. **Jessica Deighton:** Conceptualization, Writing – review & editing. **Angelika Labno:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Shaun Liverpool:** Methodology, Writing – original draft. **Julian Edbrooke-Childs:** Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing.

Declaration of competing interest

Data availability

No data was used for the research described in the article.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.avb.2023.101906.

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