PREVENTING GANG AND YOUTH VIOLENCE

A REVIEW OF RISK AND PROTECTIVE FACTORS

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Home Office

The Early Intervention Foundation was commissioned by the Home Office to produce this review.

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Executive summary

The Early Intervention Foundation (EIF) asked Cordis Bright to report on which risk and protective factors practitioners working with children and young adults should look out for when assessing the likelihood of young people becoming involved in youth violence and gangs.

This report is based on the findings of academic research concerned with young people living in community settings, with a focus on risk/protective factors in relation to youth violence and gang involvement. The studies reviewed were those that repeatedly measured the risk/protective factors of the same group of young people over a long period of time. The advantage of these studies is that they are able to measure risk/protective factors before youth violence or gang involvement has taken place, meaning that we can be more confident about the association between risk/protective factors and these behaviours. Therefore this review considers the question of the risk of future outcomes rather than the question of whether someone is currently in a gang or committing offences of youth violence.

The majority of findings presented in this review are from longitudinal studies based in the USA. However, these are complemented by longitudinal studies in the UK. Cross national comparisons of the findings of these longitudinal studies suggest that there are more similarities than differences in risk/protective factors for serious youth violence and gang involvement identified by studies in different national contexts. This suggests that we can have confidence in the generalisability of the findings presented in this review (see, for example, Farrington and Loeber, 1999).

There is also a growing body of evidence that as well as risk/protective factors being similar between nations for offending behaviour, they are also similar across generations, i.e. there are intergenerational similarities in risk factors for offending (see, for example, Farrington, Ttofi, Crago and Coid, 2015).

Key terms

Two key terms discussed in this report are **risk factors** and **protective factors**.

- **Risk factors** are variables which can usefully predict an increased likelihood of serious youth violence and/or gang involvement. For example, a young person who commonly mixes with delinquent peers may be more likely to be involved with youth violence and/or gangs.

- **Protective factors** are variables that reduce the likelihood of youth violence and/or gang involvement. For example, good family management could be associated with a reduction in the likelihood of a young person becoming involved with gangs.

It is important to be clear that when we use the terms risk/protective factor we do not mean that these are causal agents in the development of an outcome but rather that they are flags or signals of risk for the outcome. Just as a canary when used in a mine to indicate the release of carbon monoxide can be a useful signal of risk to miners but not the cause of the risk, so risk and protective factors are features of children, families and contexts that signal a heightened risk or degree of protection but do not in themselves indicate what the appropriate zone of policy action should be.

The report does in places differentiate between behavioural risk factors such as truanting school and risk factors that might be thought to be more clearly explanatory such as high impulsivity, weak family bonds or low sense of empathy. However, few studies are able to adequately identify and test causes or drivers of outcomes and so these issues are always controversial. The analysis presented here does not claim to test which factors are causal and which are not; the issue at hand is which are the factors that carry the most predictive power.

Which variables should be considered?

Overview

Practitioners working with young people are faced with a number of different risk/protective factors that they could consider when assessing the likelihood of young people becoming involved in youth violence and gangs.

This report is designed to provide practitioners with a list of the most powerful risk/protective factors to consider, broken down by age group. This is important because some risk factors are better predictors of behaviour than others. It is also the case that for some young people risk factors may be present from birth (or before) and other types of risk factors may grow more important as young people age.

It should also be noted that risk factors relating to past behaviour tend to be stronger predictors than explanatory risk factors, i.e. factors that may be associated with or "cause" behaviour. This report does not assess causes; it assesses the degree to which different features predict outcomes and therefore can be used as signals of risk or protection.

Five risk/protective factor domains

Researchers who have considered risk/protective factors have often grouped their findings into five different domains. These are set out in Figure 1.

Figure 1 Five domains of risk and protective factors

With these categories in mind, Figures 2 highlights the strongest risk factors to consider when trying to understand youth violence and gang involvement. These have been identified as the strongest risk factors during this review. There are, however, other risk factors which should be considered which are presented elsewhere in this report.

A number of interesting points are worth highlighting about the youth violence risk factors:

- Across the age groups 7-9, 10-12, 13-15 and 16-25, factors relating to individuals (see the individual domain in Figure 2, examples of individual characteristics include impulsivity and low self-esteem) are found to be the most powerful risk factors.

- Running away and truancy is found to be important across the age groups 7-9, 10-12, 13-15 and 16-25.

- Family-specific factors are particularly important amongst the younger age groups, but their importance appears to diminish as people grow older.

- Community-specific factors, while often included in studies of youth violence, are not identified as strong risk factors. However, it should be noted that community factors may influence individual, family, peer and school factors.

There are fewer studies available that have investigated risk factors associated with gang involvement than those that are available for youth violence. Several points are worth highlighting about Figure 2.

- Much like youth violence, individual-specific risk factors are found to be the most powerful risk factors.

- Family and peer group factors are not found to be as strongly associated with gang membership as individual factors.

- School and community factors both relate strongly to children aged 10-12.

As a more general point, it is important to note that:

- Based on existing evidence, some **risk factors are age specific** and their importance will change over time. For example, substance abuse is found to be a very significant risk factor for youth violence amongst children aged 7-9, but this issue diminishes in importance as people grow older, based on the evidence reviewed.

- The **time periods** over the life course in which people will be exposed to risk factors **will not remain static**. Some young people will be exposed to risk factors from birth (for example, living in an area of high social deprivation) while other risk factors will only begin in early adolescence (for example, gang membership).

- The risk factors identified were based on existing research. Different studies measure risk factors and behavioural outcomes in different ways. As such, the factors identified were the strongest **based on the evidence reviewed**. As the evidence base develops this picture is likely to continue to evolve. For instance, it may be the case that certain risk factors in certain studies have not been included at different points in relation to age.

*Figure 2 Risk factors **strongly** associated with youth violence and gang involvement[1]*

Factor	Strong risk factors for youth violence (age group)	Strong risk factors for gang involvement (age group)
Individual	- Troublesome (7-9; 10-12) - High daring (10-12) - Positive attitude towards delinquency (10-12) - Previously committed offences (7-9) - Involved in anti-social behaviour (10-12) - Substance use (7-9) - Aggression (7-9) - Running away and truancy (7-9; 10-12; 13-15; 16-25) - Gang membership (13-15; 16-25) - Low self-esteem (13-15) - High psychopathic features (13-15)	- Marijuana use (10-12) - Displaced aggression traits (13-15) - Anger traits (13-15) - Aggression traits (13-15)
Family	- Disrupted family (7-9; 10-12; 13-15) - Poor supervision (10-12)	None
School	Low commitment to school (13-15)	- Low academic achievement in primary school (10-12) - Learning disability[2] (10-12)
Peer group	Delinquent peers (7-9; 10-12; 13-15)	None
Community	None	- Marijuana availability (10-12) - Neighbourhood youth in trouble (10-12)

[1] This table includes risk factors for serious youth violence and gang involvement with a correlation coefficient greater than 0.3 and/or odds ratio greater than 2.5.

[2] Having a learning disability was found to increase the likelihood of being involved in youth violence or gangs. However, as with other risk/protective factors it is not clear why this should be the case, nor is the mechanism through which this finding operates. For instance, it could be through other risk factors such as low school attainment or indeed a range of other vulnerabilities.

Risk factors which predict both youth violence and gang involvement

Figure 3 presents risk factors which have been found in studies of both youth violence and gang membership. It should be stressed that only a minority of the factors included in this column will be strongly associated[3] with youth violence and gang membership. However, this table helps to highlight overlap between the risk factors that predict both youth violence and gang involvement.

Figure 3 Risk factors which predict both youth violence and gang involvement

Domain	Overlapping risk factors[4]
Individual	• Hyperactivity • Lack of guilt and empathy • Physical violence/aggression • Positive attitude towards delinquency • Previous criminal activity
Family	• Family poverty • Family violence and abuse • Broken home/change in the primary carer • Anti-social parents
School	• Low academic performance • Low commitment to school • Frequent truancy
Peer group	• Delinquent peers • Commitment to delinquent peers • Peer rejection
Community	• Neighbourhood disorganisation • Exposure to drugs

Protective factors

More recently, work has started to explore factors that could indicate protection (protective factors) for young people from involvement in youth violence and gangs. Figure 4 provides an overview of the strongest protective factors associated with

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[3] Risk factors in this review which are considered to be strongly associated with youth violence and/or gang involvement have a correlation coefficient greater than 0.3 and/or odds ratio greater than 2.5.
[4] These factors may not fall into the category of strongly associated with youth violence and/or gang involvement. The table provides risk factors that are common to both.

youth violence, broken down by the five domains. None of the studies reviewed as part of this research consider protective factors in connection with gang involvement.

Figure 4 Protective factors for youth violence

Domain	Protective factors for youth violence
Individual	• Belief in the moral order • Positive/prosocial attitudes • Low impulsivity
Family	• Good family management • Stable family structure • Infrequent parent–child conflict
School	• High academic achievement
Peer	• None
Community	• Low economic deprivation

Considerations

When risk assessing young people for whom there is a concern about youth violence and/or gang membership, practitioners should consider the following:

- The risk factors identified above have been selected because they have been found to be the **most powerful predictors of youth violence and gang membership**. But there are many other factors that practitioners may also want to consider. If a practitioner decides to include these factors as part of their assessment they should be aware that these factors have been found to have less predictive power, based on the evidence reviewed, than the factors identified in this summary.

- **Risk factors may have a cumulative effect** so that the greater the numbers of risk factors experienced by the young person, the greater the likelihood of gang involvement and/or youth violence. That being said, there may be occasions when a single risk factor, for example a history of involvement with serious violence, is sufficient to provide practitioners with cause for concern. Practitioners will need to use their professional judgement in developing risk assessment tools to determine whether a single risk factor provides sufficient cause for concern for action to be taken.

- **Risk factors** associated with gang membership and serious youth violence **often span all five risk factor domains**. It may be that, for example, young people who have high levels of aggression (an individual factor) also have delinquent peers (a peer factor) and come from households with poor parental supervision (a family factor).

- Linked to the point above, research has found that **risk factors in multiple developmental domains further increase the likelihood** of youth violence and gang membership.

- **Risk factors can coexist with protective factors.** For example, practitioners may find that the young person they are working with shows high levels of aggression

(an individual risk factor), while also living in an area of low economic deprivation (a community protective factor).

- The **impact of gang membership** on violent behaviour has been found to be **time specific**. Research has found that the impact of gang membership on violent offending is limited to periods of active gang membership.

Introduction

Aims and objectives

The Early Intervention Foundation (EIF) commissioned Cordis Bright to produce a clear articulation of what we know about early signals of risk (and protective factors) for involvement in youth violence or gangs from the academic evidence base. This report presents:

- An overview of risk (and protective factors) for involvement in youth violence and gangs, from the academic evidence base.

- A summary analysis based on the evidence reviewed of the most powerful predictors of involvement in youth violence and gangs.

Context

The EIF commissioned this report to assist commissioners, managers and practitioners to use the existing evidence base to help early intervention and prevention approaches to improve outcomes for young people at risk of involvement, or involved, in youth violence and gangs. Since its inception in 2011, the *Ending Gang and Youth Violence* programme has placed an emphasis on early intervention and prevention. Many of the 43 Ending Gang and Youth Violence areas are interested in how to identify risk of gang involvement or youth violence at the earliest possible stage, as the basis for further assessment and intervention.

Definitions

The EIF stipulated the following definitions for this review in terms of youth violence and gang involvement.

YOUTH VIOLENCE DEFINITION

EIF stipulated that "youth violence" in this study should refer to community/public space violence committed by young people under the age of 25.

GANG DEFINITION

EIF recognised that defining a "gang" and therefore gang involvement is difficult. However, the definition adopted by EIF at the time the review was commissioned (which may be different from some definitions used in the academic literature) is the

definition adopted by the Home Office *Ending Gang and Youth Violence* programme, i.e.:

"A gang is 'a relatively durable, predominantly street-based group of young people who:

- *See themselves (and are seen by others) as a discernible group;*
- *Engage in criminal activity and violence;*
- *and **may:***
- *Lay claim over territory (this is not necessarily geographical territory but can include an illegal economy territory);*
- *Have some form of identifying structural feature;*
- *Be in conflict with other, similar gangs'"*

These are the definitions that the EIF stipulated and as far as possible these have directed the review. However, the academic literature uses a range of outcome measures for youth violence and gang involvement and while these broadly overlap with the definitions provided by the EIF these variations should be considered when interpreting the findings of this review.

It should be noted that in addition, the Serious Crime Act 2015 updated the definition of a gang for the purpose of a gang injunction to reflect changes in the way gangs operate (e.g. removing references to names and colours, and making the links to serious and organised crime), and it expands the range of activities for which a gang injunction can be issued to include illegal drug dealing:

Section 34(5) of the Policing and Crime Act 2009 (updated by the Serious Crime Act 2015) defines gang-related violence as:

"Violence or a threat of violence which occurs in the course of, or is otherwise related to, the activities of a group that:

a) consists of at least 3 people; and,

b) has one or more characteristics that enable its members to be identified by others as a group."

Section 34(5) of the 2009 Act (updated by the Serious Crime Act 2015) defines gang-related drug dealing activity as:

"the unlawful production, supply, importation or exportation of a controlled drug which occurs in the course of, or is otherwise related to, the activities of a group that:

a) consists of at least 3 people; and,

b) has one or more characteristics that enable its members to be identified by others as a group."

Risk and protective factors

We recognise that there is an academic debate about how risk/protective factors can be conceptualised. Unless otherwise stated in this report we define them as follows:

- **Risk factors:** variables that can be used to predict a high probability of serious youth violence and/or gang membership.

- **Protective factors:** variables that reduce the probability of youth violence and/or gang membership.

As stated above the issue of prediction is different to the issue of cause and so the report tells readers about which features predict risk and so can be used as a signal that problems may ensue if further action is not taken. The report does not assess what should be the mechanism or key features of the subsequent intervention as this cannot be read off directly from the risk factor.

Approach and methodology

Literature review

This review was delivered in a three-week period. As such, it is not a systematic review, or indeed, an exhaustive review of all the academic evidence concerning risk and protective factors concerning involvement in youth violence or gangs.

It was agreed, with the EIF, that we would focus on prospective longitudinal studies of community cohorts for this study. Prospective longitudinal studies involve repeated measures of the same people (i.e., they involve at least two data collection points), in which the risk and protective factors are measured before the outcome (e.g. youth violence or gang involvement).

Risk factors, such as low socioeconomic status, predict a high probability of an undesirable outcome such as offending, whereas protective factors, such as warm parenting, predict a low probability of offending in the presence of risk.

This research focused on reviewing the evidence from prospective longitudinal studies of samples of individuals from a community setting (e.g. not an offender or clinical sample) beginning in childhood or adolescence with information about later official and self-report measures of offending. These prospective longitudinal studies of community samples are needed to study the early predictors of serious youth violence and gang membership. Studies such as the Surveying Prisoner Crime Reduction survey (Boorman & Hopkins, 2012) or the Longitudinal Study of Serious Adolescent Offenders (Mulvey, 2011) provide information about serious offenders, but not how individuals came to be serious offenders.

The main benefit of focussing on community-based samples is that we can examine the risk/protective factors that are associated with later youth violence or gang involvement. If we included studies that were cross sectional (where the risk factors and youth violence/gang involvement were assessed at the same point in time), we would be much less sure that the factor we were studying preceded gang

involvement or youth violence, and therefore was a viable risk factor to identify a child or young person at risk.

For example, a cross sectional study which found that gang members reported psychiatric issues such as major mental disorders (e.g. Coid et al., 2013) could equally be interpreted as suggesting that psychiatric issues contribute to choosing to join a gang or that being in a gang increases the risk of developing psychiatric issues, whether by having a causal effect or in signalling an underlying and hidden driver of risk.

Based on our pre-existing knowledge we focussed our searching on those prospective longitudinal studies where gang research has been conducted. This included the Seattle Social Development Study, the Pittsburgh Youth Study, the Denver Youth Study, the Rochester Youth Study and the Longitudinal Study of Adolescent Health. Because these were all American-based studies we agreed to specifically search UK longitudinal studies (Cambridge Study in Delinquent Development, Peterborough Adolescent Development Study and Edinburgh Study of Youth in Transitions and Crime) and to locate the highest quality UK academic evidence. Figure 5 shows a brief description of the main studies included.

Figure 5 Brief description of the main longitudinal studies included in the search

Principal Investigators	Study and samples
Hawkins, Catalano, Hill	Seattle Social Development Study: 808 grade 5 children in 18 schools in Seattle in 1985 followed-up to age 40.
Loeber, Stouthamer-Loeber, Farrington	Pittsburgh Youth Study: 1,517 boys in first, fourth, or seventh grades of Pittsburgh public schools in 1987-88.
Huizinga, Esbensen	Denver Youth Study: 1,528 children aged 7, 9, 11, 13, or 15 in high-risk neighbourhoods in Denver, Colorado in 1988.
Thornberry, Lizotte, Krohn	Rochester Youth Development Study: 1,000 seventh and eighth graders (age 13-14) in Rochester, New York public schools.
Resnick	National Longitudinal Study of Adolescent Health: 20,745 adolescents aged 13-18 in 1994-95 in the US.
Farrington, West	Cambridge Study in Delinquent Development: 411 boys aged 8-9 in 1961-62 from six schools in London.
McAra, McVie	Edinburgh Study of Youth in Transitions and Crime: about 4,300 children aged 11 in 1988 in Edinburgh.
Wikstrom	Peterborough Adolescent Development Study: 716 children aged 12-13 in 2004 in Peterborough.

Based on the above agreed approach, the search strategy involved for **gangs** research included:

- Searching the publications of the websites for each of the longitudinal studies for the word "gang".

- Searching the principal investigator(s) of the study and the word "gang" using Academic Search Premier, PsycINFO, Psychology and Behavioral Sciences Collection, PsycARTICLES, CINAHL Plus with Full Text, and eBook Collection (EBSCOhost).

- Searching relevant UK studies that were not community-based prospective longitudinal studies.

For **youth violence** the search strategy included:

- Searching the publications of the websites for each of the longitudinal studies for the terms "serious youth violence" + "risk" or "protective" or "predictor".

- Searching the principal investigator(s) of the study, and the words "serious youth violence" + "risk" or "protective" or "predictor" using Academic Search Premier, PsycINFO, Psychology and Behavioral Sciences Collection, PsycARTICLES, CINAHL Plus with Full Text, and eBook Collection (EBSCOhost).

- Searching relevant UK studies that were not community-based prospective longitudinal studies.

We also utilised a "snowball" approach for both approaches based on reviewing the literature that was produced as a result of the search and identifying relevant studies. In total, this review is based on evidence reviewed in over 40 academic books and peer-reviewed articles.

Reviewing a selection of risk assessment tools used in Ending Gang and Youth Violence areas

The EIF provided Cordis Bright with risk assessment tools used in three Ending Gang and Youth Violence areas. We conducted a desk-based review of these tools which is presented later in this report.

Challenges and limitations

In conducting a review such as this there are a number of challenges and limitations that the reader should be aware of, including (please note this is not an exhaustive list):

- **Measures of risk/protective factors**: The measures of risk/protective factors that were available and presented vary between studies. Some studies used individual risk factors (such as hyperactivity), whereas others combined variables to create risk factor scales. This can make it challenging to make comparisons across studies of the relative predictive power of risk/protective factors for youth violence and gang involvement. However, some studies employed the same risk

factors (measured in a similar manner) which allowed replicable findings to be identified. Replicability in terms of the scale of predictive relationship of the risk/protective factors across studies increased our confidence in their relation to youth violence and gang involvement outcomes.

- **Different measures of youth violence and gang involvement**: In this review, studies focussed on a range of different measures of youth violence and gang involvement. Some studies combined self-reports of violent acts (e.g., reporting assaulting someone or carrying an offensive weapon) to measure violence, whilst others included official records of violence. Other studies included a measure of the outcome which combined self-reports and official records. Measures of gang involvement varied similarly. This had an impact on the analytical approaches taken to assess relationships between risk factors and youth violence and gang involvement outcomes. This variation, in terms of risk/protective factors, and measures of youth violence and gang involvement, also had an impact on the measures of association (e.g. correlation, odds ratios) that studies reported.

- **Different samples and research approaches**: Studies have different sample sizes and took measures of risk/protective factors and the outcomes of interest (youth violence/gang membership) at different ages. In addition, researchers will have employed different research methods in the studies. Often this means that we might not be comparing like with like. However, it is true to say that overall the results of some studies demonstrated similar patterns in relation to risk/protective factors in relation to youth violence and gang involvement. This suggests that although there might be variation with respect to some key features of these studies, some of the risk/protective factors reported appeared important for understanding youth violence and gang involvement.

- **Different analytical approaches**: Studies will have used different analytical approaches and statistical tests when conducting analyses of risk/protective factors in relation to youth violence and gang involvement. This can make comparing the predictive power of risk/protective factors challenging. It is also the case that some studies will use more advanced statistical techniques to control for risk/protective factors. These models aim to identify which are the most important risk/protective factors influencing youth violence and gang involvement. Unless otherwise stated in this review we present risk/protective factors which have not been controlled for.

- **Availability of evidence**: In the UK context there is limited high quality quantitative research into risk/protective factors in relation to gang involvement. This is particularly the case in terms of prospective community-based longitudinal studies. Therefore, we have also reviewed cross sectional studies. However, there is a need for more research in this area in terms of both youth violence and studies concerning gang involvement.

Risk/protective factors and causality

As well as the above challenges and limitations in conducting this review there is also the issue of whether risk/protective factors can be considered to be causal.

Criminological research has shown a wide range of risk factors that are associated with violence and gang involvement. These risk factors are not necessarily direct causes in themselves, though.

> *A major problem of the risk factor paradigm is to determine which risk factors are causes and which are merely markers or correlated with causes.*

Farrington (2000)

This report does not make statements about causality and does not determine which risk/protective factors are causes. Rather we address the question of which factors predict outcomes and are therefore useful as signals of risk and/or protection.

Whether causal or not, research has shown that the interplay of risk/protective factors can be complex, for instance, risk factors may act together in terms of:

- **Threshold effects:** The presence of two risk factors may not be predictive of an individual's behaviour or performance but the operation and presence of an additional risk factor, or more, alongside the two risk factors may be predictive of an individual's outcomes (Sameroff et al., 1987).

- **Additive/cumulative effects:** Risk factors may operate cumulatively or additively to signal outcomes.

- **Interaction effects:** Interaction effects occur when the influence or signalling power of a risk factor on offending is dependent on the level and presence (or strength) of another risk factor.

> *In explaining the development of offending, a major problem is that most risk factors tend to coincide and tend to be interrelated. For example, adolescents living in physically deteriorated and socially disorganised neighbourhoods tend also to come from families with poor parental supervision and erratic parental discipline, and tend also to have impulsivity and low intelligence. The concentration and co-occurrence of these kinds of adversities makes it difficult to establish their independent, interactive, and sequential influences on offending and anti-social behaviour.*

Farrington (2002)

Therefore, the approach to using risk/protective factors in predicting outcomes is still developing and evolving. This review presents information on the range and relative strengths of risk/protective factors in terms of their associations with youth violence and gang involvement. The findings are aggregate, focussing on main sample relationships not complex interactions. Specific risk factors will carry more

weight for particular sub-groups whether by gender, ethnicity, class, place or other factors but this report does not explore these issues to this level of detail.

The review does not provide a general model in which all risk/protective factors are assessed and quantified in their unique and indirect contribution to risk to provide an overall risk score. The aim rather is to summarise this evidence, in order to help those involved in delivering early intervention and youth justice services to be able to use this evidence to identify and assess risk in young people early. More information is required in order to support practitioners to allocate specific interventions and resources in response to their understanding of who is most at risk.

Summary of the most important risk factors

Introduction

The identification of key risk/protective factors for youth violence and gang involvement should assist practitioners in creating tools to identify those most at risk of later violence/gang membership as well as to then provide effective preventive and rehabilitative interventions.

The risk/protective factor approach in social science was influenced by developments in the public health sector, which has successfully applied a risk factors approach to tackling illnesses such as cancer and heart disease.

Based on our review this section outlines the following:

- An overview of the criteria against which the strength of risk factors has generally been assessed in the academic literature in terms of their associations with youth violence and gang involvement.

- A summary in terms of degree of prediction of outcomes of:

    o the strongest risk factors associated with youth violence

    o the strongest risk factors associated with gang involvement

    o the overlap of risk factors for both youth violence and gang involvement

    o protective factors for youth violence and gang involvement.

Criteria for identifying the strength of risk/protective factors

Overview

Figure 6 provides a summary of the criteria against which the strength of risk factors has been assessed.

Figure 6 Strength criteria for risk factors – correlation coefficients and odds ratios

Strength	Correlation Coefficient[5]	Odds Ratio[6]
Strong	0.25 and above	3.0 and above
Medium	0.15-0.24	2.0-2.9
Weak	0.01-0.14	1.2-1.9

[5] See Hawkins et al., 2000, p. 97.
[6] Loeber et al., 2008, p. 175.

Explaining odds ratios

An odds ratio is a measure of effect centred around 1. This means that an odds ratio of 1 would indicate no effect of the risk/protective factor on later violence/gang membership. If the value of the odds ratio is greater than 1, this indicates that as the magnitude of the predictor increases (e.g. very high impulsiveness), the odds of the outcome occurring increase. Conversely, a value of less than 1 indicates that as the predictor increases, the odds of the outcome occurring decrease. For example, if we examine the likelihood of people becoming involved with youth violence, and compare (a) people who have already committed an offence with (b) people who have never committed an offence, an odds ratio of 1 would mean that a previous offence was not associated with an increased likelihood of youth violence. Alternatively, an odds ratio of 3 would mean that people who have already committed an offence were three times more likely than people who had never committed an offence, to later be involved in youth violence.

Explaining correlation coefficients

A correlation coefficient represents a measure of the strength of the linear association or relationship between two variables. The coefficient can take any value from -1 (as one variable changes, the other changes in the opposite direction by the same amount), through 0 (as one variable changes, the other does not change at all), to +1 (as one variable changes, the other changes in the same direction by the same amount).

About the risk/protective factors included in the summaries that follow

In the tables that follow risk factors that corresponded to the "strong" and "medium" categories have been included, with discussion of some of the weaker factors included where relevant.

Risk/protective factors that are identified as "strong" in the sections that follow have been highlighted in bold.

Youth violence and gang involvement risk/protective factors

Risk/protective factors in five domains

Within the existing literature, researchers predominately organise risk factors according to five domains:

- Individual
- Family
- School
- Peer group
- Community.

Figure 13, in Appendix one, provides an overview of each of the risk factors which have been included in existing studies. As will be demonstrated in the findings

below, research shows that risk factors in these five domains function as predictors of youth violence and gang involvement at different stages in social development. With so many risk factors now investigated it is important that practitioners invest time acquiring information pertaining to risk factors which can best predict the probability of youth violence and gang membership. This summary is designed to assist them in this task.

A number of studies have highlighted the importance of age-specific risk factors. These findings are reflected in the current analysis which considers risk factors within reference to six different age groups: 0-2; 3-6; 7-9; 10-12; 13-15; 16-19 (Howell, 2012; Howell and Egley, 2005; Loeber et al., 2008).

Individual

The individual domain has received considerable attention in the risk/protective factor literature. This category often includes both **behavioural** and **explanatory** risk factors.

- **Behavioural risk factors** include involvement in violent activity and exposure to and consumption of drugs and alcohol, for example.

- **Explanatory risk factors** can include psychological issues such as symptoms of ADHD, hyperactivity, self-esteem, levels of aggression, the amount of guilt that people experience, and refusal skills (for instance, an ability to say no in the face of pressure from peers). They can also include factors relating to the other domains, i.e. school, family, peers and community.

Youths who are impulsive and risk takers have often been theorised to be likely to engage in violent behaviour and to find violent behaviour and gangs attractive. Social isolation and emotional distress have also been found to be particularly relevant for gang members. Youths who do not think highly of themselves and/or who feel socially isolated may engage in externalising behaviours and/or find identity and acceptance in gangs (Esbensen et al., 2009).

Family

Family factors can impact on the individual factors mentioned above as well as creating the opportunity for offending, for example, through lack of parental supervision. As with all risk factors they can also signal risk by virtue of their ability to carry information about underlying and unmeasured factors with which they are correlated. This is why it is important not to over-determine risk factors and assume that they themselves are the causal agent determining outcomes. As we have emphasised above the question here is not which features cause outcomes but which features carry most information about likely outcomes.

Studies have generally focused on two particular issues when it comes to the influence of family members: attachment to parents and parental behaviour. Youths with weak attachments to parents are often considered to be more likely to engage in deviance because they lack important indirect controls on their behaviour. Parental behaviour is often considered significant because, according to self-control theory, parents play a pivotal role in establishing self-control within children

(Esbensen et al., 2009). The prominence of poor parental supervision in predicting gang involvement suggests the importance of highly structured family activities (Howell, 2012). Thus there are reasons to hypothesise that the relationship of these measures and outcomes is causal but these measures might also carry signalling information about likely outcomes for other unobserved and unexplained reasons. These issues and uncertainties occur for all domains of risk and protection.

School

The school domain has received relatively little attention from researchers investigating the influence of risk factors on outcomes such as youth violence and gang involvement. Traditionally school factors have tended to be focused on the issue of academic performance, although more recent studies have included individuals' attitudes towards school, using measures such as attachment to school and teachers (Esbensen et al., 2009).

In continuing a trend away from exclusively focusing on academic outcomes, studies have been conducted which consider measures such as "school climate" (Boxford, 2006) and "difficult" schools – typically characterised by higher levels of student victimisation, sanctions, and poor student–teacher relations (Howell, 2012).

Peer group

The study of crime and delinquency has produced few findings as enduring and robust as the relationship between delinquent peers and offending. Studies have traditionally focused on individuals' associations with peers who engage in delinquency or other problem behaviours, associations with aggressive peers and peer attitudes towards delinquent behaviour (Esbensen et al., 2009). Rejection by prosocial peers seems to be a key factor that pushes children into affiliations with delinquent groups and gangs (Howell, 2012). Again, our concern here is not with whether or to what extent there is causal explanation of the relationship between membership of peer groups and outcomes but with the degree to which membership of peer groups signals risk of later outcomes.

Community

Most gangs research suggests that gangs tend to cluster in high-crime and socially disadvantaged neighbourhoods. Existing studies have highlighted the importance of residence in a disadvantaged neighbourhood, a "culture of poverty", a high level of criminal activity, neighbourhood youths in trouble, and the ready availability and use of firearms and drugs. Additional undesirable community conditions include feeling unsafe in the neighbourhood and low neighbourhood attachment (Howell, 2012).

Summary of youth violence risk factors

Figure 7, below, provides an overview of the most powerful risk factors identified in the existing literature, broken down by age and domain. **Factors in bold have been identified as strong risk factors.**

Individual

Across the majority of age categories individual factors consistently represent the best predictors of youth violence. In particular, attributes such as aggression, risk taking and a lack of guilt are strongly correlated with violent behaviour. This domain also refers to particular behaviours such as running away from home, truancy and previous criminal acts. Amongst the older groups drug use is also found to be a strong predictor of youth violence. Information relating to individual factors is often collected through interviews and questionnaires carried out with individuals themselves as well as with teachers and parents.

Family

Family-specific factors are found to be particularly important amongst the earlier age groups, with their significance diminishing as people grow older. Amongst the youngest age group, 0-2 years, factors relating to the health of the mother are found to be important. Across the different age groups families' socio-economic standing is found to be important, along with family cohesion, which has often been assessed with reference to the frequency with which children's primary caregivers change. Parental approaches towards discipline, as well as attitudes towards violence and anti-social behaviour, are found to be somewhat important, although less so than individual and peer factors.

School

While in each of the school age categories education-related factors have been identified, specifically regarding academic attainment and commitment to teachers more generally, the predictive strength of these factors is generally weaker than those found in the individual and peer group domains.

Peer group

Peer-related factors, amongst those aged 7 and above, are consistently found to be a good predictor of youth violence. Factors predominately relate to levels of peer delinquency, commitment to delinquent peers and poor relations with peers.

Community

A limited number of community factors have been singled out as being strong predictors of youth violence, although there is likely to be some level of overlap between community and peer group factors. Community-specific factors here refer to neighbourhood disorganisation, housing provision and the perceived availability of and exposure to marijuana.

Figure 7 Risk factors for youth violence (risk factors highlighted in bold = strong predictors)

Domain						
Youth violence risk factors						
Domain	**Ages 0-2**	**Ages 3-6**	**Ages 7-9**	**Ages 10-12**	**Ages 13-15**	**Ages 16-25**
Individual	• Difficult temperament	• Conduct disorders • Lack of guilt and empathy • Low intelligence quotient • Physical violence/aggression	• **Troublesome** • **Previously committed offences** • **Substance use** • **Aggression** • **Running away and truancy**	• **Troublesome** • **High daring** • **Positive attitude towards delinquency** • **Running away and truancy** • **Involved in anti-social behaviour**	• Aggression • Previously committed violent crime • **Running away and truancy** • Self-reported nonviolent delinquency • **Gang membership** • Risk taking • **Low self-esteem** • **High psychopathic features**	• Previously committed violent crime • **Running away and truancy** • **Gang membership** • Marijuana use
Family	• Family violence • Having a teenage mother • Maternal drug, alcohol, and tobacco use during pregnancy • Parental criminality • Parental psychiatric disorder	• Family violence • Parental psychiatric disorder • Parental use of physical punishment/harsh and/or erratic discipline practices	• Family socioeconomic status • Anti-social parents • **Disrupted family**	• **Poor supervision** • **Disrupted family** • Family socioeconomic status • Anti-social parents	• Anti-social parents • **Disrupted family**	• Disrupted family

Youth violence risk factors						
Domain	**Ages 0-2**	**Ages 3-6**	**Ages 7-9**	**Ages 10-12**	**Ages 13-15**	**Ages 16-25**
	• Poor parent–child relations or communications • Pregnancy and delivery complications					
School	-	-	• Low school performance • Low commitment to school	• Low school performance • Low commitment to school	• Low school performance • **Low commitment to school**	• Low expectations of school • Expelled or suspended from school
Peer group	-	-	• Poor relationship with peers • **Delinquent peers**	• **Delinquent peers** • **Poor relationship with peers**	• **Delinquent peers** • Commitment to delinquent peers • Poor relationship with peers	• Poor relationship with peers • Delinquent peers
Community	-	-	-	• Neighbourhood disorganisation	• Perceived availability of and exposure to marijuana • Poor quality housing	• Perceived availability of and exposure to marijuana

Gang involvement risk factors

Figure 8, below, provides an overview of the most powerful risk factors identified in the existing literature, broken down by age and domain. Compared to studies which have investigated risk factors associated with serious youth violence, far fewer works have investigated risk factors associated with gang involvement. As will be shown, however, where factors have been identified there has often been considerable overlap with the risk factors associated with serious youth violence.

Individual

As with the youth violence-related risk factors, individual factors are often cited as the best predictors of gang membership. Attitudinal factors such as anti-social beliefs, aggression, a lack of guilt and empathy, as well as violent behaviours and high alcohol and drug use are associated with higher levels of gang involvement.

Family

Family factors have been found to be less significant than individual characteristics in predicting gang membership. Family poverty has been identified as significant in three of the age groups, while parents' attitudes towards violence have also been shown to be important. While the issues of parental supervision and discipline are routinely included in studies of risk factors, these are often weakly correlated with gang membership.

School

Much like the issue of youth violence, school-based factors are generally associated with poor academic attainment and low commitment to school, which in turn can manifest itself in high levels of truancy. Hill et al. (1999) identified children with learning disabilities as being vulnerable to joining gangs.

Peer group

Peer relations have been found to be strongly correlated with gang membership. Both a connection with peers associated with problem behaviours and a commitment to delinquent peers are found to predict gang involvement.

Community

While community factors are often included in studies of gang involvement, the majority of studies find a relatively weak association between community factors and gang involvement. Where correlations have been observed they often relate to the issues of drug availability and the extent to which people feel safe in their own communities.

Figure 8 Risk factors for gang involvement (risk factors highlighted in bold = strong predictors)

Risk factors for gang involvement						
Domain	**Ages 0-2**	**Ages 3-6**	**Ages 7-9**	**Ages 10-12**	**Ages 13-15**	**Ages 16-25**
Individual	• Conduct disorders • Hyperactivity	• Conduct disorders • Lack of guilt and empathy • Physical violence/aggression	• Anti-social beliefs • Lack of guilt/empathy • Aggression • High alcohol/drug use • Hyperactive	• Anti-social beliefs • **Marijuana use** • Previous violent activity	• **Displaced aggression traits** • **Anger traits** • **Aggression traits** • Low guilt	• Anti-social beliefs • Lack of guilt and empathy • Involvement in general delinquency • High alcohol/drug use
Family	• Family poverty	-	• Family poverty • Broken home/change in caretaker • Parent pro-violent attitudes • Poor parental supervision	• Family poverty • Siblings anti-social behaviour • Parent pro-violent attitudes	• Broken home/change in caretaker • Delinquent siblings • Socioeconomic status • Poor parental supervision	• Broken home/change in caretaker • Delinquent siblings • Socioeconomic status • Poor parental supervision
School	-	-	• Frequent truancy • Low academic aspirations • Low school achievement • Low school attachment	• Low school commitment • Low school attachment • **Low academic achievement in primary school**	• Low school commitment • Low school attachment	• Low academic aspiration • Low school attachment • Low parental aspirations for child

Risk factors for gang involvement						
Domain	Ages 0-2	Ages 3-6	Ages 7-9	Ages 10-12	Ages 13-15	Ages 16-25
				• **Learning disability**		• Low school achievement
Peer group	–	–	• Delinquent peers • Peer rejection	• Associates with friends who engage in problem behaviours	• Delinquent peers • Commitment to delinquent peers	• Delinquent peers • Association with gang-involved peers/relatives
Community	–	–	–	• **Marijuana availability** • **Neighbourhood youth in trouble**	• Exposure to drugs and alcohol	• Availability/use of drugs • Low neighbourhood attachment • Economic deprivation

Overlap between gang involvement and youth violence risk factors

Figure 9, below, shows the areas of overlap between the factors found to predict youth violence and gang involvement, broken down by domain. Figure 10, below, provides an overview of the factors found to predict both youth violence and gang involvement, broken down by domain and age.

The importance of individual characteristics and peers

Given the analysis above, which has highlighted the importance of peer- and individual-related risk factors, it should come as little surprise to learn that these two domains have the largest overlap. More generally, overlap has often arisen because of the same issues. The degree of overlap appears to be consistent across each of the age ranges.

Individual

Often studies concerned with youth violence and gang involvement have highlighted the importance of the equivalent factor, with violence associated with gang membership and vice versa. Underpinning these relationships appear to be similar attributes such as a lack of guilt and empathy, a history of physical violence and aggression, previous criminal activity and a positive attitude towards delinquency.

Family

The family attributes which have been found to predict both gang involvement and youth violence relate to socio-economic status, change in the primary carers and the extent of family abuse and violence.

School

In both cases issues to do with academic performance, commitment to school and the frequency of truancy are found to be significant predictors.

Peer group

Peer-related factors have consistently been identified as a strong indicator of both youth violence and gang involvement. Individuals with poor refusal skills and strong commitment to delinquent peers are often associated with violent crimes and involvement in gangs.

Community

Community factors were found to have a limited predictive impact, with the greatest overlap in risk factors found for the older age groups. This is likely to be because of the connection with the issue of drug exposure within the community.

Figure 9 Factors which explain both gang involvement and youth violence

Overlapping Factors	
Domain	**Factor**
Individual	• Hyperactivity • Lack of guilt and empathy • Physical violence/aggression • Positive attitude towards delinquency • Previous criminal activity
Family	• Family poverty • Family violence and abuse • Broken home/change in the primary carer • Anti-social parents
School	• Low academic performance • Low commitment to school • Frequent truancy
Peers	• Delinquent peers • Commitment to delinquent peers • Peer rejection
Community	• Neighbourhood disorganisation • Exposure to drugs

Figure 10 Overlap between gang involvement and youth violence risk factors, by age

Risk factors for both gang involvement and youth violence						
Domain	**Ages 0-2**	**Ages 3-6**	**Ages 7-9**	**Ages 10-12**	**Ages 13-15**	**Ages 16-25**
Individual	• Conduct disorders • Hyperactivity	• Conduct disorders • Lack of guilt and empathy • Physical violence/ aggression	• Anti-social beliefs • Lack of guilt/empathy • Aggression • High alcohol/drug use • Hyperactive	• Positive attitude towards delinquency • Previous criminal activity	• Aggression traits • High psychopathic features	• Involvement in general delinquency • Drug use
Family	• Family poverty	-	• Family poverty • Broken home/change in caretaker • Parent pro-violent attitudes • Poor parental supervision	• Family socioeconomic status • Anti-social parents	-	• Broken home/change in caretaker
School	-	-	• Frequent truancy • Low school achievement • Low school attachment	• Low school achievement • Low commitment to school	-	• Low academic aspirations
Peers	-	-	• Delinquent peers • Peer rejection	• Delinquent peers	• Delinquent peers • Commitment to delinquent peers	• Delinquent peers

Risk factors for both gang involvement and youth violence					
Domain	Ages 0-2	Ages 3-6	Ages 7-9	Ages 10-12	Ages 13-15	Ages 16-25
Community	-	-	-	• Neighbourhood disorganisation[7]	• Exposure to drugs	• Availability/use of drugs

[7] Amongst those identified as aggressive by their teachers.

Protective factors

Research on risk factors for youth violence and gang involvement has prompted discussion and investigation into factors that may provide a buffer between the presence of risk factors and the onset of and involvement in youth violence and gang involvement. These buffers are often known as protective factors (Shader, 2004). Hall et al. (2012) have defined protective factors as "*attributes, characteristics, or elements that decrease the likelihood that violence will be perpetrated*." Some researchers have understood protective factors to refer to the opposite of a risk factor, whereas others have used it in a more interactive sense. Recently, Krohn et al. (2010) have distinguished between "promotive" and "preventive" risk factors. Promotive factors are understood to "*reduce violent behaviour for the population as a whole*", while preventive factors are understood to "*reduce violent behaviour for those at the highest risk for violence.*" Krohn et al.'s study found that different protective factors existed depending on individuals' offending trajectories, with distinctions drawn between chronic, late bloomer, desisting, and non-offending groups. For the purpose of this review any factor identified as reducing the likelihood of later youth violence (either directly or indirectly) has been included.

Figure 11, below, provides an overview of some of the protective factors which have been identified in connection with youth violence, broken down by domain. None of the studies reviewed as part of this research consider protective factors in connection with gang involvement.

Figure 11 Protective factors for youth violence (factors highlighted in bold = strong protective factors)

Domain	Protective factors
Individual	• **Belief in the moral order** • **Positive/prosocial attitudes** • **Low impulsivity** • Intolerant attitude towards deviance • Perceived sanctions for transgressions • Low ADHD symptoms • Low emotional distress • High self-esteem
Family	• **Good family management** • **Stable family structure** • **Infrequent parent–child conflict** • Supportive relationships with parents or other adults • Parents' positive evaluation of peers
School	• **Academic achievement** • Commitment to school • School recognition for involvement in conventional activities • High educational aspirations • Bonding to school
Peer	• Friends who engage in conventional behaviour • Low peer delinquency • Prosocial bonding

Domain	Protective factors
Community	• **Low economic deprivation** • Neighbourhood interaction • Neighbour support

Further considerations

Recent research has produced a number of key findings which relate to risk factors associated with the likelihood of later gang involvement and youth violence.

- Risk factors associated with gang membership and serious youth violence often **span all five risk factor domains** (individual, family, peer group, school, and community conditions). In Seattle, risk factors measured at ages 10 to 12 in each of the five domains predicted gang joining at ages 13 to 18 (Hill et al., 1999).

- Risk factors have a **cumulative effect**; that is, the greater the number of risk factors experienced by the youth, the greater the likelihood of gang involvement. Youth in Seattle possessing seven or more risk factors were 13 times more likely to join a gang than were children with one or no risk factor indicators (Barnes and Jacobs, 2013; also see: Hill et al., 1999; Kurlychek et al., 2012).

- Risk factors being identified in **multiple developmental domains** appears to further enhance the likelihood of gang membership (Esbensen et al., 2009). For youth in the Rochester study a majority (61%) of the boys and 40% of the girls who exhibited elevated risk in all domains self-reported gang membership.

- The impact of gang membership can be **time specific**. Melde et al. (2013), for example, found that the impact of gang membership on the ratio of violent to non-violent offending was limited to periods of active gang membership and that the likelihood of violence after gang involvement was statistically equal to pre-gang levels. The relatively short-lived influence of gang membership on violent offending suggests that factors relating to the gang context, and not the individual gang member, account for increases in violence.

Appendix one: summary of the evidence

Please see the bibliography in appendix four for a full breakdown of the research included as part of this research.

Figure 12 provides a summary of qualitative, editorial, cross sectional quantitative and introductory studies, while Figure 13 presents an overview of the quantitative studies which have informed this document.

Figure 12 Overview of material reviewed

Summary
Aldridge, Judith, Jon Shute, Robert Ralphs, and Juanjo Medina. 'Blame the Parents? Challenges for Parent-Focused Programmes for Families of Gang-Involved Young People'. *Children & Society* 25, no. 5 (2011): 371–81. doi:10.1111/j.1099-0860.2009.00282.x. This article examines perceptions of parent-focused interventions, including the barriers to engagement and the ways in which they might be overcome.
Loeber, Rolf, and David P. Farrington. 'Advancing Knowledge about Direct Protective Factors That May Reduce Youth Violence'. *American Journal of Preventive Medicine* 43, no. 2 (1 August 2012): S24–27. doi:10.1016/j.amepre.2012.04.031. This article serves as an introduction to four studies which seek to advance knowledge about direct protective factors, which are defined as variables that predict a low probability of youth violence. It outlines differences between (a) linear relationship between a predictor and youth violence and (b) non-linear relationship between a predictor and youth violence.
Hall, Jeffrey E., Thomas R. Simon, James A. Mercy, Rolf Loeber, David P. Farrington, and Rosalyn D. Lee. 'Centers for Disease Control and Prevention's Expert Panel on Protective Factors for Youth Violence Perpetration: Background and Overview'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S1–7. doi:10.1016/j.amepre.2012.04.026. This paper summarises why independently defined direct protective factors and risk factors are important for the advancement of understandings of youth violence and its prevention. "*Risk factors have been defined consistently as elements that predict an increased probability of a person acting violently*". "*Protective factors include attributes, characteristics, or elements that decrease the likelihood that violence will be perpetrated*." Some researchers have understood protective factor to refer to the opposite of a risk factor, whereas other use it in a more interactive sense. The panel understood direct protective factors as "*factors that precede youth violence perpetration and predict a low probability of youth violence perpetration in the general population*".

Summary
Risk and protective factors are considered conceptually distinct, rather than simply opposites.
Allen, Daniel. 'Walk on the Wild Side: Gang Members Need Help Too'. *Mental Health Practice* 16, no. 9 (1 June 2013): 6–7. doi:10.7748/mhp2013.06.16.9.6.s8. This article discusses an innovative project which is providing therapy to young people, who notoriously do not engage with mainstream services.
Allen, Daniel. 'Why Girls Fall into Gang Culture'. *Nursing Children and Young People* 25, no. 8 (1 October 2013): 8–9. doi:10.7748/ncyp2013.10.25.8.8.s8. Summary of recent research conducted by the Centre for Mental Health, which involved screening young entrants to the criminal justice system for 28 different risk factors and health issues. The study identified poor self-esteem as the best indicator of gang-involvement among girls.
McAra, Lesley, and Susan McVie. 'Youth Crime and Justice: Key Messages from the Edinburgh Study of Youth Transitions and Crime'. *Criminology and Criminal Justice* 10, no. 2 (5 January 2010): 179–209. doi:10.1177/1748895809360971. This study article challenges the evidence-base which policy-makers have drawn on to justify the evolving models of youth justice across the UK. The authors argue that "*early identification of at-risk children is not a water-tight process*". Of particular relevance to this study, the authors highlight that recent works have focused on the longer term, damaging impact which system contact has on young people, with interventions being experienced as punitive and stigmatising. (See p. 184 for more details). The report argues that "*early contact seems to have done little to stem the involvement of these youngsters in offending. Indeed we would suggest that … those who are sucked into the juvenile justice system from an early age are not always the most serious and prolific offenders and, once in the system, this can result in repeated and amplified contact*". Drawing on the longitudinal Edinburgh Youth Transitions and Crime Study, which worked with 4,300 young people over 10 years, the study argues that rather than directing the gaze of criminal justice at the early preschool years "*policy-makers should focus more firmly on critical moments in the early to mid-teenage years*". The report found that "*the critical moments for youngsters in terms of conviction trajectory appear to be linked to truancy and school exclusion in the early years following the transition from primary to secondary school*". Significantly, the study found that social deprivation, broken and turbulent family relationships, an early history of agency contact, and high levels of self-reported serious offending and substance misuse could not predict with certainty which specific individuals were at risk of a later chronic conviction trajectory.
Shute, Jon. 'Family Support as a Gang Reduction Measure'. *Children & Society* 27, no. 1 (2013): 48–59. doi:10.1111/j.1099-0860.2011.00368.x. This paper argues that family support is an unexplored but potentially effective gang reduction tool. It calls for more "gang-sensitive" family support and a related research agenda. Recent reviews of the longitudinal study evidence-base suggest that a subset of the family-level variables independently predict gang membership. Studies have suggested that the most consistent family-level discriminator of gang involvement was a low level of parental supervision.

Summary
Parkes, Jenny, and Anna Conolly. 'Dangerous Encounters? Boys' Peer Dynamics and Neighbourhood Risk'. *Discourse: Studies in the Cultural Politics of Education* 34, no. 1 (1 February 2013): 94–106. doi:10.1080/01596306.2012.698866. This qualitative study examines how gendered subjectivities are shaped by the specific social context. The paper argues that "*the dynamics of peer relations operate in more complex ways than dichotomous pro-social/anti-social factors of some risk-resilience research*". It was argued that "*boys may deal with threat and fear through constructing a masculine ideal that suppresses any yearning for the childlike position of dependency and safety*".
Medina, Juanjo, Robert Ralphs, and Judith Aldridge. 'Mentoring Siblings of Gang Members: A Template for Reaching Families of Gang Members?'. *Children & Society* 26, no. 1 (2012): 14–24. doi:10.1111/j.1099-0860.2010.00307.x. This paper reviews the existing literature on mentoring and reports on a qualitative evaluation of a mentoring programme targeted at young people "at risk" of gang membership in an English city. Existing literature suggests that when done well, mentoring can have small to modest positive effects on some people.
Ralphs, Robert, Juanjo Medina, and Judith Aldridge. 'Who Needs Enemies with Friends like These? The Importance of Place for Young People Living in Known Gang Areas'. *Journal of Youth Studies* 12, no. 5 (1 October 2009): 483–500. doi:10.1080/13676260903083356. This qualitative study charts the experiences of non-gang-involved young people living in known gang areas. The paper shows that increasing official use of gang terminology impacts on the lives of non-gang-involved young people in their negotiations of the spaces where they live, in ways that are equally as (or more) damaging than peer-based negotiations of space. Living in known gang areas significantly limited the use of space for non-gang people involved in the research.
Howell, James C. 'Diffusing Research into Practice Using the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders'. *Youth Violence and Juvenile Justice* 1, no. 3 (7 January 2003): 219–45. doi:10.1177/1541204003001003001. This study calls for the diffusion of research and "best practice" into state and local prevention and intervention systems. The study argues that the chronic juvenile offenders' strategy, developed by the Office of Juvenile Justice and Delinquency Prevention in the early 1990s, is a useful framework for organising practical research and programme information and for diffusing this knowledge into practice. It is particularly praised for guiding communities in the development of system-wide reforms that deliver measurable outcomes in delinquency and other problem behaviours.
Howell, James C., and Arlen Egley. 'Moving Risk Factors into Developmental Theories of Gang Membership'. *Youth Violence and Juvenile Justice* 3, no. 4 (10 January 2005): 334–54. doi:10.1177/1541204005278679. This article synthesises risk factors for gang involvement in order to develop a theoretical explanation of youth gang membership.

Summary

Drawing on the findings of existing longitudinal surveys, the paper presents a developmental model of gang involvement which can be used to inform the selection of risk factors. This model incorporates four developmental stages: pre-school, school entry, childhood and adolescence. The following factors are identified as being significant at each stage:

Pre-school
Family variables
Low parental education
Broken home
Parental criminality
Poor family/child management
Abuse/neglect
Serious marital discord
Young motherhood

Individual variables
Difficult temperament
Impulsivity
Aggressive, inattentive and sensation-seeking behaviours

School Entry Stage
Individual variables
Aggressive and disruptive behaviours
Stubbornness
Defiance and disobedience
Truancy

Peer variables
Relationship with prosocial peers
Relationship with anti-social/deviant peers

Later Childhood Stage
Individual variables
Delinquency
Violence
Drug use
Displays of aggression in delinquent acts

Peer variables
Affiliation with aggressive, anti-social and deviant peers

School variables
Poor school performance
Learning disability
Commitment to school
Poorly organised schools

Adolescence Stage
Community variables
Availability or perceived access to drugs
Neighbourhood youth in trouble

Summary
Feeling unsafe in the neighbourhood Low neighbourhood attachment High community arrest rates High drug use Neighbourhood disorganisation Availability of firearms Family variables[8] Non-intact family (not living with both biological parents) Family bonds Parenting deficits Parent education Parental attachment to a child Parental supervision Child maltreatment Sibling anti-social behaviour Family financial stress Parents' pro-violent attitudes Teenage fatherhood School variables Academic aspirations Attachment to teachers College expectations of parent for the child Degree to commitment to school Labelling by teachers Feeling safe at school Peer variables Association with delinquent or anti-social peers Association with aggressive peers Individual variables[9] Involvement in delinquency and violent behaviour Use of alcohol or drugs Holding anti-social or delinquent beliefs Experience of life stressors Violent victimisation Early dating
Coid, Jeremy W., Simone Ullrich, Robert Keers, Paul Bebbington, Bianca L. DeStavola, Constantinos Kallis, Min Yang, David Reiss, Rachel Jenkins, and Peter Donnelly. 'Gang Membership, Violence, and Psychiatric Morbidity'. *American Journal of Psychiatry* 170, no. 9 (1 September 2013): 985–93. doi:10.1176/appi.ajp.2013.12091188. This cross sectional survey found that violent men and gang members had higher prevalence of mental disorders and use of psychiatric services than nonviolent

[8] These begin to fade in adolescence.

[9] More risk factors have been attributed to the individual domain than any other domain.

Summary
men, but a lower prevalence of depression. Gang members were significantly more likely than nonviolent men to have been victims of violence and to fear further violent victimisation.

Esbensen, Finn-Aage, Dana Peterson, Terrance J. Taylor, Adrienne Freng, D. Wayne Osgood, Dena C. Carson, and Kristy N. Matsuda. 'Evaluation and Evolution of the Gang Resistance Education and Training (G.R.E.A.T.) Program'. *Journal of School Violence* 10, no. 1 (20 January 2011): 53–70. doi:10.1080/15388220.2010.519374.

This paper investigates how changes made to the G.R.E.A.T programme as a result of the first evaluation have impacted on efforts to help youths (a) avoid gang membership, violence, and criminal activity; and (b) develop positive relationships with law enforcement. Significantly, five important differences did not emerge until 3 and 4 years after programme exposure; the earlier analyses conducted just 2 years after the start of the programme revealed no differences at all between the experimental and comparison groups. The current evaluation showed the programme was implemented as intended and was well-received by schools. Favourable views towards the G.R.E.A.T programme were positively correlated with the following factors:
Fear of crime in and around school (r =.16)
Positive views towards law enforcement (r =.55)
Positive views towards prevention programmes in school (r =.53)

The G.R.E.A.T. students compared to non-G.R.E.A.T. students were:
More likely to report positive attitudes about police (b = .070, p = .004)
Less positive in their attitudes towards gangs (b = .102, p = .001)
More frequent users of refusal skills (b = .043, p = .001)
More resistant to peer pressure (b = –.050, p = .014)
Less likely to be gang members (b = –.775, p = .001).
Students completing the G.R.E.A.T programme experienced a 54% reduction in odds of gang membership. Future work will need to be conducted to investigate the long-term effects of the programme on student attitudes and behaviour.

Shader, Michael. Risk Factors for Delinquency: An Overview. US Department of Justice, 2004. https://www.ncjrs.gov/App/publications/abstract.aspx?ID=207540.

This article defines what risk factors are, explains why they are important, and briefly discusses some of the major risk factors linked to delinquency and violence. See Figure for a breakdown of risk factors as reported by the Office of the Surgeon General.

Howell, James C. (Carlton). *Gangs in America's Communities*. Thousand Oaks, CA: SAGE Publications, Inc., 2012.

This work provides a useful summary of existing works, highlighting four seminal findings of recent work:

1. Risk factors for gang members span all five of the risk factor domains (family, peer group, school, individual characteristics, and community conditions)
2. Risk factors have a cumulative impact
3. Risk factors in multiple developmental domains appears to further enhance the likelihood of gang membership

Summary

4. General delinquency, violence, and gang involvement share a common set of risk factors.

The book presents collections of risk factors which have been identified for the 0-2; 3-5; 6-11; and 12-17 age groups. A helpful commentary is provided which elaborates the reasons given for the risk factors according to the age group. This commentary highlights gendered differences found in certain risk factors. Specifically, research suggests that seven categories of risk factors are associated with girls joining gangs:

1. Neighbourhood conditions
2. Child physical and sexual abuse
3. Running away
4. Drug and alcohol abuse
5. Mental health problems
6. Violent victimisation
7. Involvement with the juvenile justice system.

The chapter ends with a health warning regarding the application of a "risk factors" approach:

- It cannot be used to explain the existence of gangs
- It is not useful for examining juvenile and criminal justice system effects
- It does not provide a grand "action theory" that integrates the components of the social sciences into a single theoretical framework.

Wikström, Per-Olof H., and David Anthony Butterworth. *Adolescent Crime: Individual Differences and Lifestyles*. Cullompton: Willan, 2006.

This study draws upon cross sectional data relating to 14-15 year olds living in Peterborough; the work pays particular attention to the youths' behavioural contexts and their individual characteristics. The key arguments from the text are as follows:

- The most important individual differences are those relating to an individual morality and executive functions.
- The most important features of a behavioural setting are those relating to its moral context and the temptations and provocations they provide.
- It is the interplay between the individual morality and the moral in which the individual faces temptations and that determines what actions he or she will take.
    o Any successful crime prevention strategy has to build on an integrated approach
- The impact of gender on adolescent offending behaviour is quite modest when we take into account strong protective factors and high-risk lifestyles.
- The same factors displaying adolescent male variation explain equally adolescent female involvement in crime, suggesting there is no great need to develop gender-specific models.
- Family structural characteristics have only a modest impact on adolescent offending.
- Adolescents' individual and the related lifestyle risks are strong predictors of offending.

Summary

- Adolescents who are truant from school and encounter poor parental monitoring are more often involved in offending behaviour.
    - This highlights the important role that can be played by teachers and parents
    - "Strategies to influence the day-to-day activities of the family and the school should be the cornerstone of a local crime prevention strategy"

The work identifies a number of different types of offenders:

- Propensity-induced offenders: This small group refers to youths who are poorly individually adjusted and are likely to have a high level of offending regardless of lifestyle risks.
    - This group are less likely to be affected by situationally oriented prevention approaches
    - This group require support which addresses more fundamental problems arising from their developmental history
- Lifestyle-dependent offenders: This group run the biggest risk of offending, by having a high-risk lifestyle. Peer influence may be a major reason for this group's offending.
    - Lifestyle and situationally oriented prevention approaches may work best for this group
- Situationally limited offenders: This group consists of individually well-adjusted youths who, if they have a more risky lifestyle, may occasionally offend without any greater risk of developing into a "career criminal".

Figure 13 Summary of quantitative studies

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Gang Involvement: Psychological and Behavioral Characteristics of Gang Members, Peripheral Youth, and Nongang Youth	This cross sectional study involved 798 participants, aged 12-18, from five London schools. Participants completed questionnaires following a full verbal briefing regarding the purpose of the research.	The study compares gang members, peripheral and nongang youth in order to identify psychological factors that underpin gang membership and differentiate between levels of involvement.	Alleyne, Emma, and Jane L. Wood. 'Gang Involvement: Psychological and Behavioral Characteristics of Gang Members, Peripheral Youth, and Nongang Youth'. *Aggressive Behaviour* 36, no. 6 (December 2010): 423–36. doi:10.1002/ab.20360.	**Gang membership:** Participants were asked if they spent time with a certain group of friends. Of those who answered yes, four components, derived from the Eurogang research, were used to measure gang membership: • Youthfulness – all members of the group were under the age of 25 • Durability – the group had been together for more than three months • Street Orientation – spending time in public places • Criminality – extent to which criminality is integral to group identity **Delinquency:** Five point scale adopted (''never,'' ''once or twice,'' ''3–5 times,'' ''6–10 times,'' and ''more than 10 times.'') against which respondents scored 16 items, including: • Damaged or destroyed property • Break and enter to steal • Hit someone	• Anti-authority attitudes • Perceived importance of social status • Euphemistic language • Displacement of responsibility • Attribution of blame • Moral disengagement • Perceptions of out-group threat • Moral justification • Advantageous comparison • Diffusion of responsibility • Distortion of consequences • Dehumanisation	Factors found to significantly underpin gang involvement were identified using a MANCOVA, which included the factors below, adjusted for any age, gender, and ethnicity effects. All these factors have a $p<.05$ level of significance: • Minor offending • Crimes against the person • Overall delinquency • Anti-authority attitudes • Perceived importance of social status • Euphemistic language • Displacement of responsibility • Attribution of blame		These findings only relate to 12-18 years at a single moment in time.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
				• Attacked with a weapon • Used a weapon to get money • Gang fight				
Rumination and the Displacement of Aggression in United Kingdom Gang-Affiliated Youth	This cross sectional study involved 310 participants, aged 13-16, attending three comprehensive schools in or outside London. Participants completed questionnaires following a full verbal briefing regarding the purpose of the research.	Testing the hypotheses that youth affiliated with gangs, compared to non-affiliated youth, would be more likely to engage in ruminative thoughts following provoking incidents, and that rumination would be related to the tendency of engaging in displaced aggression.	Vasquez, Eduardo A., Sarah Osman, and Jane L. Wood. 'Rumination and the Displacement of Aggression in United Kingdom Gang-Affiliated Youth'. *Aggressive Behaviour* 38, no. 1 (February 2012): 89–97. doi:10.1002/ab.20419.	Participants were asked three questions to assess gang affiliation ("I have friends that are members of a gang"; "I spend time with people who belong in a gang"; "I consider myself as belonging to a gang").	• Displaced aggression traits • Anger traits • Aggression traits • Irritability traits • Hostility traits • Rumination	Gang affiliation was correlated (significant at $p < .01$) with: • Displaced aggression traits ($r = .44$) • Anger traits ($r = .43$) • Aggression traits ($r = .43$) • Irritability traits ($r = .28$) • Hostility traits ($r = .27$) • Rumination ($r = .23$) • Gender ($r = -.16$)	.	These findings only relate to 13-16 years at a single moment in time.
Predictors of Violent Young Offenders	Review of knowledge gained through two major prospective longitudinal	Presents overview of the literature and the findings of two studies	Farrington, David. 'Predictors of Violent Young Offenders' in *The Oxford Handbook of*	**Violent offences:** The main focus is on "*the most important violent crimes that are defined by the criminal law, namely homicide, assault, robbery, and forcible rape*". The	49 different risk factors were included: **Behavioural** • Troublesome • Dishonest • Difficult to discipline	**The following odds ratios correspond to the Cambridge study (significant at $p < .01$), aged 8-10, and relate to those convicted of violent offences:** **Behavioural** Troublesome – 4.8		The Cambridge and Pittsburgh Studies are both longitudinal

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	studies of offending: the Cambridge Study in Delinquent Development and the Pittsburgh Youth Study. The Cambridge Study is a longitudinal survey of over 400 London males from age 8 to age 48. The Study males have been interviewed and assessed nine times between ages 8 and 48. The Pittsburgh Study	into predictors of violent young offending.	*Juvenile Crime and Juvenile Justice*, Ed. Feld, Barry C., and Bishop, Donna M., Oxford University Press, Oxford: 2013.	article is not interested in "*domestic or within-family violence or sex offenses*".	• High risk score • Conduct disorder • Physical aggression • Covert behaviour **Individual** • High daring • Low concentration • Nervous • Few friends • Unpopular • Low nonverbal IQ • Low verbal IQ • Low attainment • Hyperactive • Attention deficit • High anxiety • Depressed • Low attainment (P) • Low attainment (CAT) **Family** • Convicted parent • Delinquent sibling • Harsh discipline • Poor supervision	Dishonest – 2.4 Difficult to disciple – 3.1 **Individual** High daring – 4.4 Low concentration – 2.9 Low nonverbal IQ – 3.0 Low attainment – 2.1 **Family** Convicted parent – 3.1 Delinquent sibling – 3.0 Harsh discipline – 3.4 Poor supervision – 3.6 Disrupted family – 3.7 Parental conflict – 2.8 Large family size – 2.5 **Socioeconomic** Low family income – 2.7 Poor housing – 2.1 **The following odds ratios correspond to the Pittsburgh study, age 10 (significant at P < .01), and relate to those convicted of violent offences:**[10] **Behavioural** High risk score – 2.6 Conduct disorder – 2.2 Physical aggression – 1.9 Covert behaviour – 3.4		and refer to different age groups. The Cambridge results in this paper refer to the ages 8-10, while the Pittsburgh results relate to individuals interviewed at the age of 10.

[10] ORs are also available for self-reported violent offences – these may be worth comparing.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	involved 500 boys from Pittsburgh public schools: half were identified as high risk and half were chosen at random. Boys were assessed at least once a year for 12 years, from age 7 to age 19 (youngest) and from age 13 to age 25 (oldest).				• Disrupted family • Parental conflict • Large family size • Young mother • Father behaviour problems • Parent substance use • Low reinforcement • Harsh discipline • Poor supervision • Disrupted family • Single mother • Parental conflict • Large family size • Young mother **Socioeconomic** • Low SES • Low family income • Poor housing • Family on welfare • Unemployed father • Unemployed mother	**Individual** High anxiety – 0.4 Low attainment (P) – 1.9 Low attainment (CAT) – 2.7 **Family** Low reinforcement – 1.8 Disrupted family – 3.4 Single mother – 2.0 Large family size – 2.4 Young mother – 2.7 **Socioeconomic** Low SES – 2.0 Family on welfare – 3.7 Unemployed mother – 2.1		
Temporal Linkages in Violent and Nonviolent Criminal Activity	This longitudinal research draws upon data relating to 727 males involved in the	Examining the link between previous criminal activity and the likelihood of	Brame, Robert, Shawn D. Bushway, Raymond Paternoster, and Terence P. Thornberry. 'Temporal Linkages in	**Violent Offences:** Self-reported violent offending is defined as "*any involvement in gang fights, assault (attacking someone), robbery, or sexual assault*". Officially reported violent crimes are defined as "*an*	• Prior behaviour	All of the analysis has been adjusted with sampling weights. The average probability of a self-reported violent crime was twice as likely for those who had committed a violent crime in the previous time period compared with those who had not (0.115 vs. 0.057).	.	The findings reported here relate to those over the age of 14.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	Rochester Youth Development Study. The original plan was to hold 9 interviews with a 6-month interval between interviews. In practice there was some individual variation in the exact length of time between waves.	violent reoffending.	Violent and Nonviolent Criminal Activity'. *Journal of Quantitative Criminology* 21, no. 2 (1 June 2005): 149–74. doi:10.1007/s10940-005-2490-7.	*official police contact or arrest for any violent offense*".		The average probability of a reported violent crime was only marginally more likely for those who had committed a violent crime in the previous time period compared with those who had not (0.017 vs. 0.015).		
Gangs and Violence: Disentangling the Impact of Gang Membership on the Level and Nature of Offending	This longitudinal study examines five waves of data, over three years, relating to 3,700 young Americans, aged 9-19, in 21 schools. These	The results highlight the importance of gang prevention and intervention programming for violence reduction.	Melde, Chris, and Finn-Aage Esbensen. 'Gangs and Violence: Disentangling the Impact of Gang Membership on the Level and Nature of Offending'. *Journal of Quantitative Criminology* 29, no. 2 (1 June	**Gang membership**: was measured on the basis of self-reporting – a measure that was considered to be a "*robust indicator*". Membership was measured at each of the five waves. **Delinquency**: 12 individual delinquency items that differed in both type and severity, ranging from ''*skipped classes without an excuse*'' to ''*used a weapon or force to*	• Entitlement to free or reduced lunch • Age • Previous violent offences	Those on free or reduced lunch were significantly more prone to general offending (coefficient = 0.20, *p*<.05). Offending was found to increase as youth aged (coefficient = 0.36, *p*<.05), whereby every year of aging after 11 was associated with a 43% increase in overall delinquency propensity. Periods of active self-reported gang membership were associated with a 592% increase		These findings relate to young people aged 9-18.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	schools were located in seven cities. The longitudinal nature of the data allows the study to differentiate patterns of criminal behaviour for youth before, during and after gang involvement.		2013): 143–66. doi:10.1007/s10940-012-9164-z.	*get money or things from people*'', were applied.		in delinquency propensity (coefficient = 1.93, *p*<.05). Periods of self-reported gang membership were associated with a 21% increase in the violent-to-non-violent offense ratio (coefficient = 0.19, *p*<.05). The impact of gang membership on the ratio of violent to non-violent offending is limited to periods of active gang membership (coefficient = 0.10, *p*<.05), as the likelihood of violence after gang involvement was statistically equal to pre-gang levels. Compared to non-gang youth, gang membership was associated with a 21% increase in the violent to non-violent offense rate ratio; however, the ratio of violent to non-violent offending is only elevated during periods of active membership. The relatively short-lived influence of the gang milieu on violent offending (remember gang membership is a transient state for most youth members) suggests that it is the gang context, and not the individual gang member, that accounts for the increased violence.		
Similarities and	This cross sectional research is	Investigates the	Esbensen, Finn-Aage, Dana Peterson,	**Self-reported violent offending**: attention was focused on the four	They fall within five major domains:	51.6% of gang members had 11 or more risk factors, compared with 14.4% in the total sample.		The cross sectional nature of

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Differences in Risk Factors for Violent Offending and Gang Membership	based on upon data relating to 5,395 13-15 year old students. This data was collected in 1995 and relates to 11 cities in the United States. These cities were located in large urban areas, medium sized cities, a small city, and a rural community.	following issues: (1) What are the effects of *cumulative* risk on youth violence and gang membership and to what extent are the patterns similar or different for youth violence and gang membership? (2) To what extent do risk factors exert independent effects when other factors are controlled in multivariate analyses, and are the risk factors for youth violence similar to or	Terrance J. Taylor, and Adrienne Freng. 'Similarities and Differences in Risk Factors for Violent Offending and Gang Membership'. *Australian & New Zealand Journal of Criminology* 42, no. 3 (1 December 2009): 310–35. doi:10.1375/acri.42.3.310.	following behaviours: (a) attacking someone with a weapon, (b) using a weapon or force to get money or things from people, (c) being involved in gang fights and (d) shooting at someone because you were told to by someone else. **Gang membership:** Respondents were asked two filter questions: "*Have you ever been a gang member?*" and "*Are you now in a gang?*"	**Individual** Impulsivity Risk-taking Low guilt Neutralisation Social isolation Low self-esteem **Family** Low parental attachment Low maternal attachment Low paternal attachment **Peer** Few prosocial peers Delinquent peers Low prosocial peer commitment Delinquent peer commitment Time w/o adults Time w/drugs/alc **School** Low school commitment Limited educational opportunities Negative school environment	There is a significant increase in odds ratios between six (9.46) and seven (19.68) risk factors, where the OR refers to the risk of joining a gang relative to youths who possess zero risk factors. Compared to youths with no risk factors, the odds of being a violent offender are more than 40 times greater (40.66) for those individuals with a risk factor in all four domains. With a statistical significance level of $p < .05$ the following attributes were predictive of both violent offending and gang membership: (# violent offending, # gang membership) **Individual (4/6)** Impulsivity (1.32, -) Risk-taking (1.22, -) Low guilt (1.41, 2.22) Neutralisation (1.65, 1.40) **Family (0/3)** **Peer (5/6)** Few prosocial peers (1.42, -) Delinquent peers (2.59, 2.63) Delinquent peer commitment (1.38, 2.32) Time w/o adults (1.50, -) Time w/drugs/alc (2.05, 2.60) **School (1/3)** Negative school environment (1.81, 1.81)		the study means that the results refer to any 13-15 year olds at a single moment in time.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
		different from those for gang membership? (3) Whether there is a "tipping point" at which the odds of youth violence increase dramatically.						
Risk versus Direct Protective Factors and Youth Violence – Seattle Social Development Project	This longitudinal panel study is based on 808 students from 18 Seattle public elementary schools followed since 1985 when they were in 5th grade. Data were collected annually, beginning in 1985, to age 16 years, and	The study is part of an ongoing effort to examine risk and direct protective factors for youth violence.	Herrenkohl, Todd I., Jungeun Lee, and J. David Hawkins. 'Risk versus Direct Protective Factors and Youth Violence: Seattle Social Development Project'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S41–56. doi:10.1016/j.amepre.2012.04.030.	Six violent acts were recorded: (1) hit a teacher, (2) picked a fight, (3) hit someone with intent of hurting him/her, (4) threatened someone with a weapon, (5) used force or threats of force to get things from others, and (6) beat someone so badly s/he required medical attention)	**Individual factors** Prior violence Truancy Running away from home Self-reported NV delinquency Lifetime alcohol use Lifetime marijuana use ADHD Depressive symptoms Religious attendance Refusal skills Risk-taking **Family** Involvement of child in family activities Physical punishment Poor family management Family conflict **School**	After controlling for gender and race, the following factors predicted violent behaviour at ages 13-14 years and 15-18. Below the respective odds ratios, statistically significant at $p < .05$, have been included. (# refers to 13-14, # refers to 15-18). **Individual factors (7/11)** Prior violence (2.51, 2.47) Truancy (1.97, 4.34) Running away from home (3.03, 2.23) Self-reported NV delinquency (1.97, 2.33) Lifetime marijuana use (2.50, 2.62) ADHD (1.95, 1.83) Refusal skills (3.01, 1.88) **Family (2/4)** Poor family management (-, 1.47)	Hierarchic logistic regression models were conducted for violence at ages 13–14 years and 15–18 years using all variables that were found to predict violence in the bivariate analyses for each violent outcome. The final model controlled for gender, poverty and race, and included individual, school, peer and neighbourhood. Predictors at ages 10-12 years of violence at ages 13-14 were as follows: Attention problems predicted increased risk of violence (OR = 1.98). Attachment to school predicted lower risk of future violence (OR =	The findings relate to young men aged between 16 and 18.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	then again at age 18 years.				Academic achievement: CAT Youth-reported low-grades Low expectations/aspirations toward school Low school commitment School attachment **Neighbourhood** Peer delinquency Peer prosocial behaviour Neighbourhood kids in trouble Low neighbourhood attachment Perceived availability and exposure to marijuana	Family conflict (1.47, 1.57) **School (3/5)** Youth-reported low-grades (1.75, -) Low expectations/aspirations toward school (-, 1.67) Low school commitment (1.64, 1.5) **Neighbourhood (4/4)** Peer delinquency (1.77, 1.72) Neighbourhood kids in trouble (1.65, 1.81) Low neighbourhood attachment (-, 1.87) Perceived availability and exposure to marijuana (2.29, 2.03)	0.58). Neighbourhood kids in trouble predicted higher risk of future violence (OR = 1.72). Perceived availability and exposure to marijuana predicted higher risk of future violence (OR = 2.45). Approximately 19% of variance in violence was explained in the final step of the regression. Predictors of violence at ages 15-18 were as follows: Coming from a family in poverty increased risk for future violence (OR = 1.71). Attention problems predicted increased risk of violence (OR = 1.77). Having delinquent peers predicted increased risk for future violence (OR = 1.51). Coming from a neighbourhood where kids were in trouble predicted increased risk of future violence (OR = 1.55). Perceived availability and exposure to marijuana predicted higher risk of future violence	

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
							(OR = 1.93). Approximately 17% of variance in violence was explained in the final step of the regression.	
Delinquent youth groups and offending behaviour: findings from the 2004 Offending, Crime and Justice Survey	This cross sectional study draws upon data collected through the 2004 Offending, Crime and Justice Survey, whose respondents were aged 10-19.	This report examines the extent of young people's involvement in "delinquent youth groups" and the delinquent and criminal behaviour of members of such groups.	Sharp, Clare, Judith Aldridge, and Juanjo Medina. *Delinquent Youth Groups and Offending Behaviour: Findings from the 2004 Offending, Crime and Justice Survey*. Home Office, 2006. http://dera.ioe.ac.uk/8472/1/rdsolr1406.pdf.	Membership of delinquent youth group. This was defined as: • Young people who spend time in groups of three or more (including themselves). • The group spend a lot of time in public places. • The group has existed for three months or more. • The group has engaged in delinquent or criminal behaviour together in the last 12 months. • The group has at least one structural feature (either a name, an area, a leader, or rules).	• Been drunk more than once a month in the last year • Been arrested • Perceptions of parents • Has been expelled or suspended from school • Friends been in trouble with the police • Would continue to spend time with friends who are getting you into trouble at home and/or with police • Has run away from home	• While 16.4% of young people with 3-4 risk factors were members of delinquent youth groups, this number jumped to 40.0% amongst those with 5-9 risk factors • Statistically significant odds ratios, with regard to being a member of a delinquent youth group, were found to produce the following results: Been drunk more than once a month in the last year – 2.2 Been arrested – 1.9 Perceptions of parents (relaxed attitude towards delinquent activities) – 2.2 Has been expelled or suspended from school – 2.5 Friends been in trouble with the police – 3.5 Would continue to spend time with friends who are getting you into trouble at home and/or with police – 2.1 Has run away from home – 4.1 Separate models were produced for males and females. These models found that drinking behaviour (6.7) and attitudes to certain delinquent acts (2.4) were		Risk factors referred to respondents aged 10-19.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
						found to be associated with group membership in males, but not for females (OR = for males). Perception of school in terms of teaching and discipline (3.1) were found to be associated with group membership in females, but not males (OR = for females).		
Risk and Direct Protective Factors for Youth Violence: Results from the National Longitudinal Study of Adolescent Health	Data from participants in the National Longitudinal Study of Adolescent Health were analysed, aged 13 years at Wave 1 [1995], the Wave 3 cohort [2001-2002] included people aged 18-20 years old.	Analysis of the National Longitudinal Study of Adolescent Health, with particular interest in matters related to youth violence.	Bernat, Debra H., J. Michael Oakes, Sandra L. Pettingell, and Michael Resnick. 'Risk and Direct Protective Factors for Youth Violence: Results from the National Longitudinal Study of Adolescent Health'. *American Journal of Preventive Medicine*, Protective Factors for Youth Violence Perpetration: Issues, Evidence, and Public Health Implications, 43, no. 2, Suppl 1 (August 2012):	Violence involvement was defined as carrying out any of the following behaviours one or more times in the past 12 months (with the exception of getting into a serious fight, which required three or more times): (1) pulled a knife or gun on someone (2) shot or stabbed someone (3) used a weapon in a fight since Wave 1 (yes/no) (4) got into a serious physical fight (5) used a weapon in a fight (number of times) (6) hurt someone badly enough to need bandages or care from doctor or nurse	Risk factors were defined as factors in the lives of adolescents that increase the likelihood of violence, whereas direct protective factors decreased the likelihood of violence (S58) (1) Gender; (2) Race/ethnicity; (3) Public assistance. **Individual factors** (4) ADHD symptoms; (5) Emotional distress; (6) Prosocial behaviour; (7) Religious attendance. **Family factors** (8) Activities with parents; (9) Activities with parents. **School factors** (10) School connectedness;	**Wave 2** Compared to the neutral group, participants in the highest 25th percentile on ADHD symptoms (OR = 1.70, 95%) and peer delinquency (OR = 2.59, 95%) had higher odds of engaging in violent behaviour at Wave 2 [1996]. Participants in the lowest 25th percentile on school connectedness (OR = 2.26, 95%) and grade-point average (OR = 1.59, 95%) had higher odds of violence at Wave 2, compared to the neutral group. Direct protective effects were found for low ADHD symptoms and low emotional distress, high educational aspirations, and high grade-point average as follows: • Compared to the neutral group, participants in the lowest 25th percentile on ADHD symptoms (OR = 0.46, 95%) and emotional distress (OR = 0.58, 95%) had lower odds of	A model including demographic, individual characteristics, school factors, and peer and neighbourhood factors. This located effects for gender and ethnicity. A risk effect was found for high peer delinquency. Participants in the highest 25th percentile on peer delinquency had higher odds of violent behaviour at Wave 2 compared to the remaining sample (OR = 2.49, 95% CI). None of the individual characteristics or school factors was associated with violent behaviour in this model.	Age-specific factors were not identified.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
			S57–66. doi:10.1016/j.amepre.2012.04.023.		(11) Grade-point average; (12) Educational aspirations. **Peer/Neighbourhood factors** (13) Friend contacts; (14) Friend caring; (15) Neighbour attachment; (16) Peer delinquency.	engaging in violent behaviour at Wave 2. Participants in the highest 25th percentile on educational aspirations (OR = 0.57, 95%) and grade-point average (OR = 0.44, 95%) had lower odds of violence at Wave 2, compared to the neutral group. **Wave 3** Bivariate analyses showed a direct protective effect for low peer delinquency, whereby participants in the lowest 25th percentile on peer delinquency, compared to participants in the neutral group, had lower odds of violence at Wave 3 (OR = 0.55, 95%).		
Shelter during the Storm: A Search for Factors That Protect At-Risk Adolescents from Violence	Data from the Rochester Youth Development Study was analysed. This study consisted of interviews with a panel of youth from their early teenage years through to 31. This	This study investigates whether trajectories of past violence predict future violence better than other more traditional measures of risk.	Krohn, Marvin D., Alan J. Lizotte, Shawn D. Bushway, Nicole M. Schmidt, and Matthew D. Phillips. 'Shelter during the Storm: A Search for Factors That Protect At-Risk Adolescents from Violence'. *Crime & Delinquency*, 28 November 2010, 0011128710389585.	**Violence outcomes:** This study includes: attacking someone with a weapon; other assault; gang fighting; throwing objects at people; robbery; rape; gun or weapon carrying.	Potential protective factors are grouped into three domains: **Individual**: • Self-esteem • Academic achievement • Educational aspirations **Family** • Attachment to parent • Parental supervision • Parental involvement in conventional activities • Parental support	There were no significant interactions for the school domain. Of the 240 equations estimated, only eight of the risk-promotive factor interactions were statistically significant, these related to: • Self-esteem (-0.008) • Total cumulative protection (-0.000) • Cumulative protection across domains (-0.000) • Educational aspirations (-0.002) • Self-esteem (-0.004) • Enrolled in or completed high school/GED (-0.005) • Peer-related self-esteem (-0.006)	Models consisting of 20 promotive factors were created to predict the two violent outcomes at Wave 8. Different models were constructed for each of the offending groups. The **Chronic Group** had the highest starting probability of offending (74%) which fell to 41% by Wave 7. Alternatively, the **Late Bloomer Group** went from a probability of violence of 10% in Wave 1 to a probability of 72% by Wave 7. Amongst the Chronic Group the following	Rather than looking at the impact of risk factors on age, this study considers the impact of risk factors according to four trajectory groups, defined according to offending patterns.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	paper uses data from the first 8 waves of data collection, when respondents were, on average, between the ages of 14-17.5. The study started in 1988 at which time 1,000 students in Rochester (New York) Public School System and one of their parents or guardians were interviewed.		doi:10.1177/00 1112871038958 5.		• Parent partner status • Parent harmonious partner **Environmental** • Commitment to school • Attachment to teacher • Enrolled in or completed high school or a General Education Degree (GED) • Involvement in conventional activities • Peer involvement in conventional activities • Group conventional behaviour • Parenting support from others • Parent support from family • Parent support from friends • Parent support from neighbours	• Group conventional behaviour (-0.006)	protective factors were identified: • Cumulative protection – family domain (-0.009) • Cumulative protection across domains (-0.006) • Educational aspirations (-0.140) • Self-esteem (-0.240) • Parental supervision (-0.365) • Parent partner status (-0.372) Amongst the **Late Bloomer Group** the model identified the following protective factors: • Academic achievement (-0.315) • Group conventional behaviour (-0.635) This model also found that promotive factors did not reduce the risk for violence among the non-offender group. This is not surprising, but it also supports the basic enterprise of looking for the impact of promotive factors on those people at risk for violence.	
Protection from Risk: An	This study uses longitudinal	This research explores the	Kurlychek, Megan C., Marvin D.	Violent incidences reported by the respondents at wave nine (1991).	**Personal**		This paper uses hierarchical linear modelling. HLM allows a	The risk factors identified

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Exploration of When and How Neighborhood-Level Factors Can Reduce Violent Youth Outcomes	data from Waves 1–9 of the Rochester Youth Development Study. Begun in 1988 the Study followed a panel of juveniles from their early teenage years through age 31, completing 14 interviews with the respondents. Subjects' primary caregivers (most often the biological mother) were also interviewed.	ability of neighbourhood-level factors to serve as either promotive or protective factors to reduce the risk of violent outcomes among adolescents.	Krohn, Beidi Dong, Gina Penly Hall, and Alan J. Lizotte. 'Protection from Risk: Exploration of When and How Neighborhood-Level Factors Can Reduce Violent Youth Outcomes'. *Youth Violence and Juvenile Justice* 10, no. 1 (1 January 2012): 83–106. doi:10.1177/1541204011422088.		• Self-reported levels of depressive • Self-reported exposure to stressful life events **Family risks** • Maltreatment of respondents by any perpetrator • Parental discipline • Hostility within the home **Peer risks** • Peer delinquency • Peers' delinquent values • Time spent engaged in risky behaviours **School factors** • Truancy from school • Index of measures including standardised test scores and attainment in core subjects **Risk propensity**		researcher to isolate contextual effects and to examine cross-level interaction effects by estimating the impact of a community-level characteristic on an individual-level outcome. Two models are constructed. Model 1 includes person level and neighbourhood control variables. Interestingly, none of the neighbourhood control variables representing traditional social disorganisation constructs achieves statistical significance. Model 2 presents results from several models which introduced our domain-specific and cumulative person-level risk factors. Five of the six domains and cumulative measures were significantly related to violent incidence: Family risk: .041 Peer risk: .000 School risk: .048 Total risk: .000 Propensity for violence: .000 Further analysis has examined the moderating	here refer to juveniles from their early teenage years to 31.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					• As measured by the predicted value of the incidence of violence based on the four domain-specific cumulative risk measures described above, along with the prevalence of self-reported gang violence and violence from Wave 1, as independent variables **Neighbourhood factors** • Collective efficacy • Reciprocal exchange • Social integration • Neighbour support • Neighbour integration • Home ownership • Percentage poverty		effects of variables by specific domain of risk: **Personal domain**: only neighbourhood integration was found to interact with personal risk (-.003). In the **family domain** none of the neighbourhood-level factors examined in this study offered a buffering effect as either promotive or protective influences. In the **peer domain** (a) social interaction was found to have a protective effect (-.010) as was (b) neighbourhood interaction (-.008). In the **school domain** similar results were observed with the following factors found to have a protective effect: (a) social interaction (-.008), (b) neighbourhood interaction (-.008), and (c) neighbour support (-.006). A cumulative analysis was also carried out. None of the neighbourhood-level contextual factors were able to serve as promotive factors. The measure of neighbourhood integration (-.015).	

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Early Adolescent Predictors of Youth Violence as Mediators of Childhood Risks	This longitudinal study draws upon three waves of data from the Seattle Social Development Project. Measurements were taken at ages 10 and 14 and 18. Participants were from 18 Seattle public elementary schools serving predominantly high-crime neighbourhoods. A total 808 youth consented to take part in the study.	This study examines whether risk factors for youth violence measured at 10 years of age influenced later violence directly or indirectly through predictors measured in early adolescence (14 years of age).	Herrenkohl, Todd I., Jie Guo, Rick Kosterman, J. David Hawkins, Richard F. Catalano, and Brian H. Smith. 'Early Adolescent Predictors of Youth Violence as Mediators of Childhood Risks'. *The Journal of Early Adolescence* 21, no. 4 (11 January 2001): 447–69. doi:10.1177/0272431601021004004.	Violent behaviour at 18: Youth were asked to indicate whether they had • Hit a teacher • Picked a fight • Hit someone with the intent of hurting him/her • Threatened someone with a weapon • Used force or threats of force to get things from others • Beat someone so badly he or she required medical attention • Hit a parent.	Risk factors at 10 years • Teacher rated hyperactivity/low attention • Teacher-rated antisocial behaviour • Parental attitudes favourable to violence • Low academic performance • Involvement with antisocial peers • Low family income • Availability of drugs • Low neighbourhood attachment. Risk factors at 14: Family • Low bonding to parents • Youth-reported poor family management • Youth-reported family conflict. School • Low academic performance • Low school commitment		The results below show the total reduction of childhood risks on violence, as measured at age 10, taking into account all of the variables included in the four domains at age 14. • Hyperactivity/low attention (-30%) • Antisocial behaviour (-34%) • Parental attitudes favourable to violence (-30%) • Low academic performance (-38%) • Involvement with antisocial peers (-27%) • Low family income (-27%) • Availability of drugs (-45%) • Low neighbourhood attachment (-4%). The results below relate to the added proportion of variance explained in violent behaviour at 18 years of age when all predictors from the family, school and peer domains, were added simultaneously to each regression model: • Hyperactivity/low attention (+8.2%)	The explanatory power of risk factors identified at the age of 10, which are used to predict violent behaviour at 18 years of age, was increased by including additional information collected at 14. The most important mediators to childhood risk factors in this study fall in the school and peer domains, rather than the family.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					• Low educational aspirations. Peer • Involvement with antisocial peers • Involvement with gang membership.		• Antisocial behaviour (+7.8%) • Parental attitudes favourable to violence (+9.2%) • Low academic performance (+9.6%) • Involvement with antisocial peers (+8.4%) • Low family income (+9.7%) • Availability of drugs (+9.2%) • Low neighbourhood attachment (+10.2%).	
A Comparison of Social Development Processes Leading to Violent Behaviour in Late Adolescence for Childhood Initiators and Adolescent Initiators of Violence	This paper draws upon longitudinal data collected as part of the Seattle Social Development Project which followed a panel of children since they entered the fifth grade in 1985 (average age 10). Data	This work compares social developmental mechanisms predictive of violence at age 18 for youth who initiated violence in childhood and those who initiated violence during adolescence.	Herrenkohl, Todd I., Bu Huang, Rick Kosterman, J. David Hawkins, Richard F. Catalano, and Brian H. Smith. 'A Comparison of Social Development Processes Leading to Violent Behaviour in Late Adolescence for Childhood Initiators and Adolescent Initiators of Violence	Violence at 18 was measured with reference to four indicators of self-reported behaviour in the past year. These indicators referred to the number of times in the past year youths had (1) picked a fight, (2) hit someone with the intent of hurting him/her, (3) beaten someone so badly he or she required medical attention, or (4) threatened someone with a weapon. The number of people contributing information to these indicators increased over time.	Age 14: • Prosocial/anti-social opportunities • Prosocial/anti-social involvement • Skills for interaction • Prosocial/anti-social rewards • Prosocial/anti-social bonding. Age 16 • Belief in the moral order • Influences from different domains (community, school, family		The final constrained multiple- group structural equation model revealed that the following factors, relating to the childhood initiator group, were statistically significant at predicting violence at 18. Anti-social opportunities (.22) Anti-social involvement (.38) Prosocial rewards (-22) Anti-social rewards (.20) Prosocial bonding (-.22) Belief in the moral order (-.29). The final constrained multiple- group structural equation model revealed that the following factors,	The risk factors relate to those aged 10-18.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	analysed related to 635 participants.		Violence'. *Journal of Research in Crime and Delinquency* 38, no. 1 (2 January 2001): 45–63. doi:10.1177/002242780103800 1003.		and peer) were combined in a single indicator to provide greater consistency.		relating to the adolescent initiator group, were statistically significant at predicting violence at 18, note the high level of overlap with the childhood group. Anti-social opportunities (.35) Anti-social involvement (.29) Skills for interaction (-27) Prosocial rewards (-.19) Anti-social rewards (.30) Prosocial bonding (-.21) Anti-social bonding (.18) Belief in the moral order (-.29).	
Protective Factors against Serious Violent Behaviour in Adolescence: A Prospective Study of Aggressive Children	This paper draws upon longitudinal data collected as part of the Seattle Social Development Project which followed a panel of children since they entered the fifth grade in 1985 (average age 10). Data	This work examines factors in adolescence that affect the probability of violent behaviour at age 18 among youths who receive high teacher ratings of aggression at age 10.	Herrenkohl, Todd I., Karl G. Hill, Ick-Joong Chung, Jie Guo, Robert D. Abbott, and J. David Hawkins. 'Protective Factors against Serious Violent Behaviour in Adolescence: A Prospective Study of Aggressive Children'. *Social Work Research* 27, no. 3 (9 January 2003): 179–91.	Violent age 18 was recorded according to whether youths had (1) picked a fight, (2) hit someone with the intent of hurting him/her, (3) threatened someone with a weapon, (4) used force or threats of force to get things from others, (5) beat someone so badly he or she required medical attention, or hit a parent.	Childhood aggression: as based on teacher ratings from 10 items on the Child Behaviour Checklist. Factors considered at age 15: **Community:** • Prosocial neighbourhood opportunities • Neighbourhood attachment • Religious services attendance • Neighbourhood disorganisation **Family** • Bonding to family	Both boys and girls at highest risk of later violence scored three or higher on the childhood aggression measure. The following protective factors were identified: Religious services attendance (OR = 0.47) Good family management (OR = 0.29) Bonding to school (OR = 0.37) High academic achievement (OR = 0.42). The following were identified as risk factors: Neighbourhood disorganisation (OR = 2.41) Antisocial peer opportunities (OR = 2.48) Antisocial peer involvement (OR = 3.25).	Amongst all those exposed to risk factors, protective factors were found to make a difference. For example, those exposed to one risk factor who reported no protective factors had a 42% probability of violence at 18, compared with 11% amongst those receiving three protective factors.	The risk factors relate to those aged 10-18.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	analysed related to 635 participants.		doi:10.1093/swr /27.3.179.		• Positive family involvement • Good family management **School** • Bonding to school • Positive school involvement • High academic achievement **Peer** • Prosocial peer involvement • Antisocial peer opportunities • Antisocial peer involvement **Individual** • Prosocial beliefs	No differences between boys and girls in protection or risk at age 15 were detected.		
Childhood Risk Factors for Adolescent Gang Membership: Results from the Seattle Social Development Project	Longitudinal data has been collected from the Seattle Social Development Project (n=808) which followed a single cohort from the ages of 10-18.	This study uses longitudinal data to predict gang membership in adolescence from factors measured in childhood. Data relating to ages 10-12 is used to assess likelihood of joining a gang	Hill, Karl G., James C. Howell, J. David Hawkins, and Sara R. Battin-Pearson. 'Childhood Risk Factors for Adolescent Gang Membership: Results from the Seattle Social Development Project'. *Journal of Research in Crime and Delinquency* 36,	Gang membership was measured from age 13-18 by the question "Do you belong to a gang?" followed by "What is the name of the gang?"	**Neighbourhood** • Marijuana availability • Neighbourhood youth in trouble • Low neighbourhood attachment **Family** • Poverty • Parents drinking • Siblings anti-social behaviour • Poor family management • Parent pro-violent attitudes • Low attachment to parent(s)	**The following risk factors were found to be statistically significant at *p* < .05 and less, with OR presented in the brackets** **Neighbourhood (3/3)** Marijuana availability (3.6) Neighbourhood youth in trouble (3.0) Low neighbourhood attachment (1.5) **Family (4/6)** Poverty (2.1) Siblings anti-social behaviour (1.9) Poor family management (1.7)	Results below show the cumulative effect of risk factors, identified at ages 10-12, with statistically significant OR, relative to 0-1 risks, presented in the brackets: 2-3 risk factors (3.0) 4-6 risk factors (4.7) 7+ risk factors (13.2)	Risk factors were identified between the ages of 10-12.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
		between ages 13-18.	no. 3 (8 January 1999): 300–322. doi:10.1177/002242789903600 3003.		**School** • Low academic aspirations • Low school commitment • Low school attachment • Low academic achievement in elementary school • Learning disability **Peer** • Associate with friends who engage in problem behaviours **Individual** • Religious service attendance • Anti-social beliefs • Respondent drinking • Respondent marijuana initiation • Violence **Personality/individual difference** • Externalising • Internalising • Hyperactive • Poor refusal skills	Parent pro-violent attitudes (2.3) **School (5/5)** Low academic aspirations (1.6) Low school commitment (1.8) Low school attachment (2.0) Low academic achievement in elementary school (3.1) Learning disability (3.6) **Peer (1/1)** Associate with friends who engage in problem behaviours (2.0) **Individual (4/5)** Anti-social beliefs (2.0) Respondent drinking (1.6) Respondent marijuana initiation (3.7) Violence (3.1) **Personality/individual difference (3/4)** Externalising (2.6) Internalising (1.4) Hyperactive (1.7) Poor refusal skills (1.8) Results from logistic regressions indicated substantial similarities among males and females in the risk factors associated with gang participation.		

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Early Prediction of Violent and Non-Violent Youthful Offending	This study uses data collected as part of the Cambridge longitudinal study which examined the development of offending and antisocial behaviour in London males (n=411). Interviews were first held with the participants when they were 8-9, and were begun in 1961-62.	This study investigates the accuracy of measures to predict violence, using data collected in the Cambridge study in delinquent development.	Farrington, David P. 'Early Prediction of Violent and Non-Violent Youthful Offending'. *European Journal on Criminal Policy and Research* 5, no. 2 (1 June 1997): 51–66. doi:10.1007/BF02677607.	Self-reported violent offending included assault and using a weapon in physical fights (robbery was not included). Nine further non-violent measures were recorded.	At ages 8-10 the following factors were considered: **Education** • Combined primary school "troublesomeness" as reported by teachers and peers. **Background** • Low family income • Large family size (4 or more children) • Convicted parent • Low non-verbal intelligence • Poor parental child-rearing behaviour. **Behaviour variables** • Troublesomeness • Conduct disorder • Acting out. **Non-behavioural measures** • Social handicap (low family income, large family size, poor housing, low social class, physical neglect of the boy)	Troublesomeness was found to be best predictor of violence at a later age, with a statistically significant OR of 4.1.		The risk factors relate to those between the ages of 8-10.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					- Convicted parent - Low non-verbal intelligence - Poor parental child-rearing behaviour.			
Proximal Adolescent Outcomes of Gang Membership in England and Wales	This paper draws upon longitudinal data from the Offending Crime and Justice Survey. This survey was conducted between 2003-2006, and involved interviewing people aged 10-19 living in private households in England and Wales. The focus is on those who became gang members during 2005 compared	The study explores the impact of gang membership on offending, victimisation, and a number of attitudinal and experiential outcomes that have been theorised to mediate the relationship between gang membership and offending.	Ariza, Juan Jose´ Medina, Andreas Cebulla, Judith Aldridge, Jon Shute, and Andy Ross. 'Proximal Adolescent Outcomes of Gang Membership in England and Wales'. *Journal of Research in Crime and Delinquency*, 22 July 2013, 0022427813496791. doi:10.1177/0022427813496791.	Gang membership was accessed using a variant of the Eurogang network measure. Gang respondents were expected to say they: - Had a stable group of friends (for the last 3 months or more) - that is composed primarily of young people (mostly under 25), - who spends a lot of time together in public places - and that their group (as such) both accepts and engages in illegal behaviour. Offending was measured using a count of offences committed in the previous 12 months, including 2 items on violence (assault with or without injury).	- Fear of and crime - Serious victimisation - Moral neutralisations - Peer socialisation - Location of socialisation - Commitment to deviant peers - Police trust - Unwanted police contact	The two most influential variables predicting gang membership are indicators of past problem behaviours: Number of times trouble with teachers (*R* influence = 14.09); Count of offending (*R* influence = 12.29).	Analyses were conducted to estimate the effects of gang membership, these adjusted for offending during the previous 12 months, extent of peer socialisation and hanging out in the street. Compared with nongang youth, respondents who joined a gang in 2005 reported an increase in the following variables when re-interviewed in 2006 (# = β Coefficient): Frequency of offending (1.30) Anti-social behaviour (1.04) Drug use (0.87) Injurious victimisation (0.40) Commitment to deviant peers (0.23) Unwanted police contact (0.87)	The risk factors relate to those aged 10-19.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	to nongang members (n = 1,214).							
The Impact of Bullying Perpetration and Victimization on Later Violence and Psychological Distress: A Study of Resilience among a Scottish Youth Cohort	This study draws upon data derived from the Edinburgh Study of Youth Transitions and Crime. This study was conducted between 1998 and 2004 and involved a cohort of young people between the ages of 12-17 (n = 3,861).	This article examines the impact of bullying between ages 13-16 on negative outcomes at age 17, taking into account various resilience factors at the individual, family, and community levels.	McVie, Susan. 'The Impact of Bullying Perpetration and Victimization on Later Violence and Psychological Distress: A Study of Resilience among a Scottish Youth Cohort'. *Journal of School Violence* 13, no. 1 (2 January 2014): 39–58. doi:10.1080/15388220.2013.841586.	Violence at 17: Respondents were asked if they had committed any of the following acts: • "Hit or picked on someone because of their race or skin colour" • "Hit, kicked, punched or attacked someone with the intention of really hurting them" • "Stolen money or property that someone was holding, carrying or wearing using threats or actual force or violence" • "Hurt or injured any animals or birds on purpose" • "Carried a knife or other weapon for protection or in case it was needed in a fight." Psychological distress at age 17: measured using a reduced version of the Hospital Anxiety and Depression Scale.	The following resilience measures were recorded: Bullying measure Victim measure Individual • School attainment • Teacher rated, positive attributes and prosocial behaviour • Low impulsivity • Low social alienation • High self-esteem Family • Stable family structure • Good socioeconomic status • Low eligibility to free meals • Parental supervision • Infrequent parent–child conflict • Parental interest in education Community • Low economic deprivation		The following factors were found to influence resilience to violence at 17. (All were significant at least $p < 0.05$) Bullying measure: 0.93 Individual (2/5) Positive/prosocial attitudes (-0.43) Low impulsivity (-0.64) Family (3/6) Parental supervision (-0.69) Stable family structure (-0.35) Infrequent parent–child conflict (-0.44) Community (1/3) Low economic deprivation (-0.30). The following statistically significant factors were found to impact upon long-term mental health: Bullying measures (1.14) Individual (2/5) Low social alienation (-0.80) High self-esteem (-0.-0.67) Family (0/6) Community (1/3) Low economic deprivation (-0.25). It was found that young women were more	The risk factors related to people between the ages of 13-16.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					• High neighbourhood stability • Low neighbourhood crime rate		resilient than young men, with regard to engaging in violence in late adolescence. Alternatively, young men were more resilient to developing symptoms of anxiety and depression during this time period.	
Genetic Risk for Violent Behaviour and Environmental Exposure to Disadvantage and Violent Crime: The Case for Gene–Environment Interaction	Data for this study were drawn from the National Longitudinal Study of Adolescent Health. Beginning with students who were enrolled in middle and high school during the 1994-1995 academic year, this study only draws on wave 1 data (n=1,078).	This study investigates how neighbourhood structural factors interact with an individual's genetic propensity towards violent behaviour. By way of background, dopamine genes have been linked to deficits in inhibition and conduct disorder. Dopaminergic genes are also connected with illicit drug use,	Barnes, J. C., and Bruce A. Jacobs. 'Genetic Risk for Violent Behaviour and Environmental Exposure to Disadvantage and Violent Crime: The Case for Gene–Environment Interaction'. *Journal of Interpersonal Violence* 28, no. 1 (January 2013): 92–120. doi:10.1177/08 8626051244884 7.	Violence: respondents were asked how often they had: • used a weapon to get something from someone • gotten into a group fight • gotten into a serious fight • hurt someone badly enough that they required medical attention • used a weapon in a fight • taken a weapon to school	Dopamine risk: information relating to three dopamine polymorphisms, *DAT1*, *FRD2*, *DRD4*, was collected. **Environmental variables** • Neighbourhood disadvantage: the percentage of Black residents, the percentage of female-headed households, the percentage of residents with an income under US$15,000, the percentage of residents on public assistance, and the unemployment rate. • Violent crime rate: a		Model 1 analysed the interaction between dopamine risk and the neighbourhood disadvantage scale: The coefficient estimate for the dopamine risk scale was positive (0.08) and statistically significant at $p = .05$. The multiplicative interaction term was moderately ($p < .10$) significant and the effect was positive (.07). As the environmental risk increases (i.e., gets more positive), the effect of the dopamine risk also increases. Model 2 presents the interaction between dopamine risk and violent crime rates. Dopamine risk was positively related to the respondent's self-reported violent behaviour (.07) ($p < .10$).	The findings relate to children aged 6-12.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
		which in turn is often linked with neighbourhood disadvantage. Dopamine imbalances have been implicated in addictive drug use.			composite variable reflecting the number of robberies, aggravated assaults, rapes, and homicides per 100,000 residents in each county		The effect of dopamine risk on violent behaviour is practically non-existent for respondents living below the 75th percentile on the neighbourhood disadvantage scale. Cumulative impacts were observed with regards to dopamine risks. Respondents with one risk allele were predicted to report 1.16 violent acts while respondents with six risk alleles were predicted to report 3.60 violent acts.	
Violence and Gangs: Gender Differences in Perceptions and Behaviour	This study draws on data collected through the Gang Resistance Education and Training (GREAT) programme. This programme included a multi-site, multi-state cross-sectional survey of eighth-grade	This paper examines gender differences in violent offending and tests the relative contribution of factors from various theoretical models that may account for this relationship. The study finds that despite some	Deschenes, Elizabeth Piper, and Finn-Aage Esbensen. 'Violence and Gangs: Gender Differences in Perceptions and Behaviour'. *Journal of Quantitative Criminology* 15, no. 1 (1 March 1999): 63–96. doi:10.1023/A:1007552105190.	Violent crime included the following behaviours: 1. Carried a hidden weapon for protection. 2. Hit someone with the idea of hurting them. 3. Attacked someone with a weapon. 4. Used a weapon or force to get money or things from people. 5. Been involved in gang fights. 6. Shot at someone because you were told to by someone else. Victimisation measure included the following: 1. Been hit by someone trying to hurt you.	**Demographic** • Gender • Age • Parental educational attainment • Race • Ethnicity • Family composition **Attitudinal** • Perceptions of school environment • Maternal attachment • Parental monitoring • Impulsivity • Risk-taking	Frequency rates of overall violent behaviour (# = male, # = female) Total: (1.25, 0.67) Nongang: (0.89, 0.52) Gang: (3.88, 2.66) In all cases significant differences between males and females within each subgroup were observed using the χ-square measures of association. The numbers below refer to the amount of variance attributed to the following factors: Social bond (0.214) Self-control (0.237) Social learning (0.321) Gang (0.340) Environmental factors (0.403) The following statistically significant variables (at $p < 0.05$)		The findings relate to those aged between 13 and 14.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
	students (13-14) conducted during the Spring of 1995.	similarities, different factors account for male and female rates of violent behaviour. Specifically, results suggest that among males the peer group is extremely important, whereas for females school achievement and commitment provide a strong bond. Males were more likely than females to accept physical fighting and were less likely to feel guilt about committing crimes than females.		2. Had someone use a weapon or force to get money or things from you. 3. Been attacked by someone with a weapon or by someone trying to seriously hurt or kill you. 4. Had some of your things stolen from you.	• Commitment to negative peers • Commitment to • Positive peers • Neutralisation • Guilt • Self-esteem • School commitment • Prosocial peer behaviour • Peer violence **Behavioural** • Self-reported delinquency • Victimisation • Self-reported gang membership	were identified (# = male, # = female): School commitment (-0.3) Commitment to negative peers (0.2, -) Prosocial peers (-0.3, -0.4) Risk seeking (0.3, 0.3) Self-esteem (0.2, 0.3)		

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
Gang Membership and Teenage Offending	This study draws on findings from the Edinburgh Study of Youth Transitions and Crime, a longitudinal research programme exploring pathways into and out of offending for a cohort of around 4,300 young people who started secondary school in the City of Edinburgh in 1998.	This paper explores the influence of gang membership on teenage offending and substance use (alcohol, cigarettes, and illicit drugs).	Smith, David J., and Paul Bradshaw. *Gang Membership and Teenage Offending*. Edinburgh: Edinburgh Youth Social Inclusion Partnership, 2005.	Self-identified gang membership. Criminal activity.	• Neighbourhood deprivation • Alcohol consumption • Smoking • Drug taking • Parental supervision • Conflict with parents • Risk-taking • Risky spare-time activities • Impulsivity	The results below all refer to the sixth round of interviewing. The proportion of gang members in the most deprived neighbourhoods was nearly three times higher than in the least deprived area (9.3 compared with 3.2). Gang membership was more closely related to the social class mix of the neighbourhood than to the social class of the individual family. Volume of delinquency was eight times higher among members of gangs having both a name and sign/saying. The link between gang membership and delinquency increased as people became older. Relationship observed between smoking, alcohol consumption, drug taking and gang membership. However, relationship weakens over time.		
Predictors of Youth Violence		This study describes the strength and duration of changeable risk and protective factors for youth	Hawkins, J. David, Todd I. Herrenkohl, David P. Farrington, Devon Brewer, Richard F. Catalano, Tracy W. Harachi, and Lynn Cothern.		**Individual factors:** • Pregnancy and delivery complications. • Low resting heart rate. • Internalising disorders. • Hyperactivity, concentration	See Figure 174 for a breakdown of the statistical strength of factors identified at key ages. Below are the most powerful factors according to category: **Individual** • Hyperactivity or attention deficits at age 10, 14, or 16 doubled the risk of		

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
		violence drawing on the findings of 66 studies.	'Predictors of Youth Violence. Juvenile Justice Bulletin.' Juvenile Justice Bulletin (April 2000). http://eric.ed.gov/?id=ED440196.		problems, restlessness, and risk taking. • Aggressiveness. • Early initiation of violent behaviour. • Involvement in other forms of antisocial behaviour. • Beliefs and attitudes favourable to deviant or antisocial behaviour. **Family factors** • Parental criminality. • Child maltreatment. • Poor family management practices. • Low levels of parental involvement. • Poor family bonding and family conflict. • Parental attitudes favourable to substance use and violence. • Parent–child separation. **School factors**	violent behaviour at age 18. • Sensation seeking and involvement in drug selling at ages 14 and 16 more than tripled the risk of involvement in violence. **Family** • Parental attitudes favourable to violence when subjects were age 10 more than doubled the risk that subjects would engage in violence at age 18. • Poor family management practices and family conflict when subjects were age 10 were not significant predictors of later violence. However, poor family management practices when subjects were age 14 doubled the risk for later involvement in violence. • Parental criminality when subjects were age 14 (not assessed at age 10) more than doubled the risk for involvement in violence at age 18. • When subjects were age 16, parental criminality, poor family management, family conflict, and residential mobility at least doubled the risk for		

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					- Academic failure. - Low bonding to school. - Truancy and dropping out of school. - Frequent school transitions. **Peer-related factors** - Delinquent siblings. - Delinquent peers. - Gang membership. **Community and neighbourhood factors** - Poverty. - Community disorganisation. - Availability of drugs and firearms. - Neighbourhood adults involved in crime. - Exposure to violence and racial prejudice.	involvement in violence at age 18. **School** - Low academic performance at ages 10, 14, and 16 predicted an increased risk for involvement in violence at age 18. - Behaviour problems at school (as rated by teachers) when subjects were age 10 significantly predicted involvement in violence at age 18. - Low commitment to schooling, low educational aspirations, and multiple school transitions at ages 14 and 16 predicted a significantly increased risk for involvement in violence at age 18. **Peers** - Having delinquent friends at ages 10, 14, and 16 predicted an increased risk for later involvement in violence. - Gang membership at age 14 more than tripled the risk for involvement in violence at age 18. - Gang membership when subjects were age 16 more than quadrupled the risk for involvement in violence at age 18.		

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
						Community and neighbourhood • Community disorganisation, the availability of drugs, and knowing adults involved in criminal activities at ages 14 and 16 all were associated with an increased risk for later involvement in violence.		
Violence and Serious Theft	This book draws upon data collected through the Pittsburgh Youth Study. The present volume refers to first and seventh grade cohorts (*N* = 503, *N* = 506), who were aged 7-19 and 13-25 respectively.	This book examines factors that explain why some young males become involved in serious forms of delinquency and others do not.	Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008.	Violence was divided according to moderate and serious violence: Moderate: Gang fighting Serious violence: forcible robbery, attacking with intent to injure, sexual coercion, rape	**Individual** • Truancy • Running away • Self-aspirations • Attitudes towards delinquency • Victimisation • ADHD symptoms • Anxiety • Prosocial behaviour • Psychopathic features • Depressed mood • Interaction to interview **Family** • Child maltreatment • Parental behaviour • Parent police contact • Relationship with siblings	See Figure 3 which provides a breakdown of relationships on the basis of domain and age.		Figure 3 highlights the age-specific nature of particular factors.

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					- Family structure - Family on welfare - Attitude towards discipline - Parental reinforcement - Parental attitudes - Parent aspirations for child - Parental stress - Physical punishment - Supervision levels - Youth involvement in family activities - Family socioeconomic status **Education** - Repeating a grade - Academic achievement - Attitude towards school **Community** - Neighbourhood impression - Housing quality **Peers** - Peer delinquency			

Name of study	Type of study	Description of study	Reference (author and publication date)	Outcomes measured, i.e. gang involvement/youth violence	Risk factors included	Uncontrolled risk factor relationships	Controlled risk factor relationships	Risk factors' relations with age
					• Relationship with peers			

Figure 14, below, provides an overview of the risk factors considered for gang membership in prospective longitudinal studies.

Figure 24 Howell et al. 2005: 339 and Shader 2004: 5-7.

Risk Factors for Gang Membership in Prospective Longitudinal Studies
Community or neighbourhood risk factors Availability of or perceived access to drugs Neighbourhood youth in trouble Community arrest rate Feeling unsafe in the neighbourhood Low neighbourhood attachment Neighbourhood residents in poverty or family poverty Availability of firearms Neighbourhood disorganisation Neighbourhood drug use
Family risk factors Family structure Family poverty Family transitions Family financial stress Sibling antisocial behaviour Low attachment to parents or family Child maltreatment Low parent education level Parent prevalent attitudes Family management: low parent supervision, control, or monitoring Teenage fatherhood Parental conflict
School risk factors Low achievement in elementary school Negative labelling by teachers Low academic aspirations Low school attachment Low attachment to teachers Low parent college expectations for participant Low degree of commitment to school Low maths achievement test score Identified as learning disabled School discipline policies
Peer group risk factors Association with peers who engage in delinquency or other problem behaviours Association with aggressive peers Peer approval of delinquent behaviour
Individual risk factors Violence involvement General delinquency involvement Aggression or fighting Conduct disorders Externalising behaviours Early dating Precocious sexual activity Antisocial or delinquent beliefs Hyperactive Alcohol or drug use

Risk Factors for Gang Membership in Prospective Longitudinal Studies
Early marijuana use and early drinking
Depression
Life stressors
Poor refusal skills
Prenatal and perinatal factors
Risk taker
Attention problems

Figure 15 Cited in Shader 2004, adapted from Office of the Surgeon General, 2001

Risk and Protective Factors, by Domain			
Domain	**Early Onset (ages 6-11) risk factors**	**Late Onset (ages 12-14) risk factors**	**Protective factors***
Individual	General offenses	General offenses	Intolerant attitude toward deviance
	Substance use	Restlessness	High IQ
	Being male	Difficulty concentrating**	Being female
	Aggression**	Risk taking	Positive social orientation
	Hyperactivity	Aggression**	Perceived sanctions for transgressions
	Problem (anti-social) behaviour	Being male	
	Exposure to television violence	Physical violence	
	Medical, physical problems	Anti-social attitudes, beliefs	
	Low IQ	Crimes against persons	
	Anti-social attitudes, beliefs	Problem (anti-social) behaviour	
	Dishonesty**	Substance use	
		Low IQ	
Family	Low socioeconomic status/poverty	Poor parent–child relationship	Warm, supportive relationships with parents or other adults
	Anti-social parents	Harsh or lax discipline	Parents' positive evaluation of peers
	Poor parent–child relationship	Poor monitoring, supervision	Parental monitoring
	Harsh, lax, or inconsistent discipline	Low parental involvement	
	Broken home	Anti-social parents	
	Separation from parents	Broken home	
	Abusive parents	Low socioeconomic status/poverty	
	Neglect	Abusive parents	
		Family conflict**	
School	Poor attitude/performance	Poor attitude/performance	Commitment to school
		Academic failure	Recognition for involvement in conventional activities

Risk and Protective Factors, by Domain			
Domain	**Early Onset (ages 6-11) risk factors**	**Late Onset (ages 12-14) risk factors**	**Protective factors***
Peer group	Weak social ties	Weak social ties	Friends who engage in conventional behaviour
	Anti-social peers	Anti-social, delinquent peers	
		Gang membership	
Community		Neighbourhood crime, drugs	
		Neighbourhood disorganisation	
* Age of onset not known. ** Males only.			

Figure 3: Loeber et al. 2008, 183–187

Violence Risk-Factors				
Domain	**Middle to Late Childhood 7-9**	**Late Childhood to Early Adolescence 10-12**	**Early to Middle Adolescence 13-15**	**Middle to Late Adolescence 16-19**
Individual	High truancy (3.9**) Running away (2.7**) Positive attitude towards delinquency (1.9*) High psychopathic features (2.7*) Low psychopathic features (18.9***) High depressed mood (2.6*) No depressed mood (3.0*)	High truancy (2.4***) Running away (3.0**) Positive attitude towards delinquency (2.9***) Child maltreatment by 12 (2.0**) High theft victimisation (1.8**) High number of serious injuries (1.8**) Low anxiety (2.0*) High psychopathic features (3.6***) Low psychopathic features (4.0***) No depressed mood (1.9*)	High truancy (2.6**) Running away (2.6**) Positive attitude towards delinquency (3.6***) Child maltreatment by 12 (2.2*) High violence victimisation (3.7***) Low ADHD symptoms (3.5*) Low anxiety (6.5*) High prosocial behaviour (3.0*) High psychopathic features (4.3*) Low psychopathic features (6.3**) High depressed mood (2.7**)	High truancy (3.0***) Child maltreatment by 12 (2.2**) Low psychopathic features (3.1*) No depressed mood (3.0*)

Violence Risk-Factors

Domain	Middle to Late Childhood 7-9	Late Childhood to Early Adolescence 10-12	Early to Middle Adolescence 13-15	Middle to Late Adolescence 16-19
Family	Father behaviour problems (2.2*) One or no biological parents (4.2***) Two or more changes in caretaker by age 10 (2.8***) Low parental stress (2.4*) Low physical punishment (2.4*)	One or no biological parents (3.7***) Two or more changes in caretaker by age 10 (2.2***) Family on welfare (2.8***) Low physical punishment (1.9*) Good supervision (3.0*) High parental stress (1.8*) Low parental stress (2.0*) High family socio-economic status (2.7**)	One or no biological parents (4.6***)	Father behaviour problems (2.5*) One or no biological parents (2.6***) High family socio-economic status (2.8**)
School	Repeating a grade (2.7***) Low academic achievement (1.9*) High academic achievement (9.0***)	Repeating a grade (2.5***) Low academic achievement (2.8***) High academic achievement (7.9***) Negative attitude towards school (1.8*)	Repeating a grade (4.1***) Low academic achievement (2.7***) Negative attitude towards school (3.8***) Positive attitude towards school (2.8*)	Repeating a grade (4.1***)
Peer group	High peer delinquency (3.6***) Low peer delinquency (3.6***) Poor relationship with peers (2.1*) Good relationship with peers (4.2**)	High peer delinquency (5.3***) Low peer delinquency (4.6***) Poor relationship with peers (3.2*) Good relationship with peers (3.9**)	High peer delinquency (8.4***) Low peer delinquency (12.6**) Poor relationship with peers (3.0***)	High peer delinquency (2.5**) Low peer delinquency (4.8***) Poor relationship with peers (2.6**)
Community	Good neighbourhood impression (3.0*) Good quality housing (5.4**)	Good neighbourhood impression (2.2**) Good neighbourhood census (1.7*) Poor quality housing (2.2**)	Good neighbourhood impression (3.7*) Poor quality housing (2.9**) Good housing quality (6.4**)	Poor quality housing (2.0*)

Violence Risk-Factors				
Domain	**Middle to Late Childhood 7-9**	**Late Childhood to Early Adolescence 10-12**	**Early to Middle Adolescence 13-15**	**Middle to Late Adolescence 16-19**
		Good housing quality (2.5**)		
*p < .05 ** p < .01 *** p < .001				

Figure 174: Hawkins et al. 2000

Ranking of Ages 6–11 and Ages 12–14 Predictors of Violent or Serious Delinquency at Ages 15–25	
Predictors at Ages 6–11	**Predictors at Ages 12–14**
Rank 1 Group	
General offenses (.38) Substance use (.30)	Social ties (.39) Antisocial peers (.37)
Rank 2 Group	
Gender (male) (.26) Family socioeconomic status (.24) Antisocial parents (.23)	General offenses (.26)
Rank 3 Group	
Aggression (.21) Ethnicity (.20)	Aggression (.19) School attitude/performance (.19) Psychological condition (.19) Parent–child relations (.19) Gender (male) (.19) Physical violence (.18)
Rank 4 Group	
Psychological condition (.15) Parent–child relations (.15) Social ties (.15) Problem behaviour (.13) School attitude/performance (.13) Medical/physical characteristics (.13) IQ (.12) Other family characteristics (.12)	Anti-social parents (.16) Person crimes (.14) Problem behaviour (.12) Problem behaviour (.13)
Rank 5 Group	
Broken home (.09) Abusive parents (.07) Anti-social peers (.04)	Broken home (.10) Family socioeconomic status (.10) Abusive parents (.09) Other family characteristics (.08) Substance abuse (.06) Ethnicity (.04)

Appendix two: identifying and assessing risk

Introduction

Having reviewed risk/protective factors in relation to youth violence and gang involvement, this section presents:

- The findings of a desk-based review of three "risk assessment" tools designed by local areas and provided to Cordis Bright by the Early Intervention Foundation (EIF).
- A summary of key issues to think about when designing risk assessment tools for youth violence and gang involvement.
- Some suggestions for how practitioners may go about capturing information about risk/protective factors for young people.

Approach

The tools from three *Ending Gang and Youth Violence* areas were provided to Cordis Bright by the EIF and broadly fit into the following categories:

- An evidence-based life mapping profile of 12 known gang members;

- A gangs screening risk assessment tool;

- A crime mapping exercise to inform offending-related geographical profiling.

We conducted a desk-based review of these tools in the light of the academic review of the literature.

Review of tools and suggestions for the future

A review of the tools shows:

- Areas are including relevant behavioural risk factors in the identification and assessment of young people likely to be involved in gangs. For instance, one of the tools asks questions including:
  - Are there gangs where you live or where you spend most of your time?
  - Have you been a victim of a gang or group of people?
  - Do gangs affect your daily life?
  - Have you ever been part of a gang?
  - Have you ever been friends with someone in a gang?
  - Is anyone in your family involved with a gang either past or present?

This assessment tool addresses gang involvement, previous victimisation, peer associations, and family history in relation to gang involvement. These can all be considered risk factors for gang involvement and youth violence.

The area using this tool also includes a pathways/agreement screening tool which outlines reasons for referral and also includes open-ended questions linked to a range of explanatory factors outlined in the review in the section "Which variables should be considered?" above. These factors include:

o   Living arrangements
o   Family/personal relationships
o   Education/training/employment
o   Neighbourhood
o   Lifestyle
o   Substance use (behavioural factor)
o   Physical health
o   Perception
o   Thinking/behaviour
o   Attitudes
o   Motivation

These open responses will provide a basis for understanding the nature of the issues facing the young people involved, which may then help focus appropriate interventions.

- The questions included in the tools above are used to identify those involved in gangs and help to inform which interventions may be appropriate. However, these tools in their current form appear unlikely to assist with the early identification of young people at risk of involvement in youth violence or gangs.

- One of the tools provided to us by the EIF takes an evidence-based risk factor approach to profile 12 young people who were known gang members. This tool helps to reinforce the importance of some of the risk factors outlined in the review in the section "Which variables should be considered?"

- One area is beginning to geographically map previous incidences of offences to locate criminal activity hot-spots. This may help to target prevention and intervention resources geographically to where offending occurs.

Early identification and assessing risk: key considerations

This review identifies the following key areas for consideration in designing tools for the early identification and assessment of risk of youth violence and gang involvement:

- **In developing an early identification risk assessment tool it is very important to determine its purpose, i.e. why is it needed and what does it hope to achieve?** For instance, is the tool to identify (this list of questions is not exhaustive):

- o Young people "at risk" of involvement in gangs?
- o Young people "at risk" of being involved in youth violence?
- o Young people who could be involved in a specific targeted intervention, for example, Cognitive Behavioural Therapy?
- o The membership or territory of local gangs?

The answers to questions like the above will determine how the risk assessment/identification tool(s) should be designed and what risk/protective factors they may include. For example, a device to evaluate the likelihood of being "at risk" of being involved in a gang might ask the individual how aware they are of local gangs and their feelings about the activities of these gangs. However, a device to evaluate the likelihood of future serious violence should focus on past aggression and violence.

- **Once the focus of the identification/assessment tool is agreed, it should be constructed around the key risk/protective factors that are the strongest predictors of the outcomes that you are considering, i.e. youth violence or gang involvement.**

- **Depending on what the tool is for (e.g. early identification and assessment of risk, referral, determining eligibility or exit criteria for intervention, measuring change over time for monitoring and evaluation purposes etc.), you may wish to consider using scoring and weighting risk/protective factors.** For example, areas commonly use the SafeLives Domestic Abuse, Sexual and Honour-Based Violence (DASH) risk assessment tool in referring to Multi-Agency Risk Assessment Conferences (MARACs) in relation to domestic abuse and violence. Areas often use a "14 tick" and over threshold with this tool to make a decision to refer to MARAC. For more information about this tool please see: http://www.safelives.org.uk/sites/default/files/resources/Dash%20with%20guidance%20FINAL.pdf.

- **It is important to understand that risk assessment tools may help to identify and assess risk. However, they are not perfect for predicting future involvement in youth violence and gang membership.** As this review highlights, the interplay of risk/protective factors that may lead to young people being involved in youth violence and gangs is complex: it is about risk identification and assessment not prediction.

However, this review shows that some risk/protective factors are likely to be much more helpful than others in identification and assessment of risk. For instance, risk factors concerning actual past behaviours are generally stronger predictors of future behaviour than explanatory factors, i.e. factors which seek to explain the causes of behaviour.

Practitioners will need to exercise professional judgement in relation to the use of risk/protective factors. For instance, in some cases the presence of a single risk

factor (for instance, previous violence) may be enough to intervene. Similarly, some risk factors may be present in young people from birth (or even before birth) whilst some risk factors may only begin at later stages in life, for instance, adolescence.

- **It is important to consider the level of professional expertise needed to complete a risk identification/assessment tool.** For example, it is relatively easy to assess whether someone reports currently being in a gang (an established risk factor for youth violence), but it might be more difficult to adequately assess a young person's level of impulsivity (an established risk factor for gang membership/youth violence). It is desirable to have a comprehensive risk identification/assessment device but this needs to be balanced with the amount of time available to conduct the assessment.

- **It is important to differentiate between behavioural risk factors such as truanting school, being gang-involved or previous offending, and explanatory risk factors, i.e. factors that may be seen as theoretically explaining outcomes such as high impulsivity, weak family bonds, low sense of empathy and guilt.** Behavioural risk factors are very useful for identifying who best to work with and will tend to provide higher levels of predictive power than explanatory factors, but do not in themselves necessarily provide information about how best to intervene.

  Explanatory risk factors can be used to create a formulation to explain the young person's behaviour and construct interventions likely to reduce youth violence and gang involvement. For this reason it may be beneficial to develop a two-tiered risk assessment approach. The first tier should be based on behavioural factors associated with the outcome of interest, and these could be weighted. For example, if the device was to predict future violence, an incident of past violence would be weighted highly (as past violence is a strong predictor of future violence). If the young person passes a threshold score they could then be more thoroughly assessed for explanatory risk factors. Explanatory risk factors (e.g. impulsivity) provide an evidence-informed target for intervention which has the potential to reduce the likelihood of future violence.

- **Appreciating the importance of risk and protective factors can play an important role in informing commissioning decisions about preventive programmes**. Commissioners may wish to encourage evidence-based programmes which seek to reduce the probability of future violence and/or gang involvement through addressing known causal factors which are strongly predictive of offending outcomes and have good evidence of addressing causes and drivers of violence. However, the specification of the causal dynamics in any specific case requires good local knowledge and careful assessment informed by, but not determined by, the wider evidence on causes.

- **Reviewing the performance of early identification and assessment tools**. Practitioners should embed regular review and evaluation of how effectively their risk identification and assessment tools are working. For instance, are the tools helping to improve outcomes for young people and the communities in which they are being used?

- **In developing or referring to interventions, practitioners should consider young people's risk/protective factors**. For instance, practitioners should consider risk/protective factors when thinking about which interventions may support young people most appropriately. For example, interventions for young people involved, or at risk of involvement, in violence who are also highly impulsive might usefully work on reducing levels of impulsivity. If impulsivity is a key causal factor in violence for some young people (which it may not be for some young people who are violent), reducing levels of impulsivity may have the impact of reducing levels of violence for young people in the future.

Sources of information to help identify and assess risk

It is important for practitioners to accurately collect and assess data relating to young people who are thought to be at risk of youth violence and gang membership.

A recent review of social care assessments outlined the key features observed in both high and low quality assessments.[11] This review found that the following features characterised poor quality assessments:

- Gaps and inaccuracies in the information collected (or included in the file record).

- Description rather than analysis of the information presented.

- Little or no indication of service users' (including the child's) views.

Conversely, good quality assessments are characterised by:

- A process which ensures that the young person remains central.

- Full, concise, relevant and accurate information.

- A chronology and/or family and social history.

- Analysis that makes clear links between the recorded information and plans for intervention (or decisions not to take any further action).

- A good use of information from a range of sources.

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[11] Turney, Danielle, Dendy Platt, Julie Selwyn, and Elaine Farmer. *Social Work Assessment of Children in Need: What Do We Know? Messages from Research*. University of Bristol, 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182302/DFE-RBX-10-08.pdf, p. 13.

It may also be important to recognise that there is a difference in identifying levels of risk of future offending behaviours and identifying the causes of offending. As such practitioners should consider the causes of behaviour (risk/protective factors may provide a useful framework for this) in providing interventions that aim to reduce the likelihood of future offending.

This section outlines examples of ways in which information can be collected which may assist practitioners to identify and assess risk:

- Information provided by the **young person themselves (self-report).** The majority of the research cited in this report has relied upon information collected through self-report questionnaires and interviews with young people. One advantage of using questionnaires completed by young people themselves is that the results can provide a more accurate assessment of issues such as gang membership and involvement in youth violence. Several of the tools provided to Cordis Bright, as part of this review, show that current assessment tools are seeking to collect information on issues such as gang involvement, previous victimisation, peer associations and family history.

- Information provided by **parents and carers.** A number of the studies included in this report collected information from parents and carers. This can be helpful in providing a more complete picture of some of the key risk/protective factors to consider when assessing and identifying risk. Parents and carers, for example, could be asked to comment on the levels of aggression shown by their children. Indeed, a recent review found that "*good assessment is grounded in a thorough understanding of the child and family's situation, needs and strengths, and to gain this knowledge, practitioners need to work directly with the child and their family.*"[12]

- Referrals from **other stakeholders.** Practitioners may also find it helpful to consult with agencies responsible for referring young people to them. These agencies and organisations might include: police, schools, social workers, third sector organisations, faith groups, children's services, probation service, community rehabilitation groups, colleges, health agencies, youth services, care home staff, community representatives etc. Practitioners could consider using existing, building on existing, or developing new referral forms which encourage referrers to identify young people's risk/protective factors to inform their early identification and risk assessment process.

- This should help to provide a more complete picture of the young person's circumstances. It should be noted that some of the risk factors that have been

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[12] Turney, Danielle, Dendy Platt, Julie Selwyn, and Elaine Farmer. *Social Work Assessment of Children in Need: What Do We Know? Messages from Research*. University of Bristol, 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182302/DFE-RBX-10-08.pdf, p. 10.

identified as important in this review, for example "high psychopathic features", may be more accurately identified with the support of independent professionals such as clinical psychologists.

- **Information held in case management systems.** Case management systems used by organisations (for instance, used by social services, youth offending teams etc.) may already hold risk/protective factor information about young people. Practitioners should consider which organisations may have been in contact with young people and seek to share information. This may require information sharing protocols to be in place. Further information about information sharing can be accessed here: http://informationsharing.org.uk/ .

- **Official sources of information.** These sources of information can be useful for profiling risk/protective factors at both a population and an individual level. Examples of official sources of information include:

  o   School records concerning issues such as:
      -   Truancy
      -   Unauthorised absence
      -   Bullying
      -   Achievement
      -   Learning disability

  o   Police data from the Police National Computer covering issues such as:
      -   Previous offending behaviour

  o   Data from health agencies, which may include:
      -   Information about substance misuse
      -   Incidents of victimisation

  o   Office for National Statistics (see https://neighbourhood.statistics.gov.uk).
      This can include information on:
      -   Community risk/protective factors such as deprivation etc.

Figure 18 provides examples of risk factors to be considered, and what sources of information can be used to assess them. Appendix one provides further detail about the risk factors included in this table.

Figure 19 provides similar information concerning examples of protective factors. Much of the information can be sourced from the young person themselves.

Figure 18 shows that many of the risk factors (for example, having a history of anti-social behaviour) can be measured with reference to a number of different sources of information. Where this is the case, practitioners will need to use their professional judgement to decide whether to invest time in gathering data from a number of different sources, or whether sufficient information can be obtained from a more limited number of sources. For example, practitioners may want to consider whether it is necessary to consult all five sources of information in order to ascertain whether or not a young person is a member of a gang.

These tables highlight the importance of ensuring good working relationships with a wide range of stakeholders in order to develop a comprehensive understanding of a young person's relationship with particular risk/protective factors.

Figure 18 Possible sources of information for measuring risk/protective factors

Measurement source → Risk factor↓	Young person	Parents and carers	Other stakeholders	Case management system	Official sources of data
Individual					
Troublesomeness[13]		✓	✓		
High daring	✓	✓	✓		
Positive attitude towards delinquency	✓	✓	✓		
Previously committed offences	✓	✓	✓	✓	✓
History of anti-social behaviour	✓	✓	✓	✓	✓
Substance abuse	✓	✓	✓	✓	✓
Aggression	✓	✓	✓		
Running away and truancy	✓	✓	✓	✓	✓
Gang membership	✓	✓	✓	✓	✓
Low self-esteem	✓	✓	✓		
High psychopathic features			✓		
Marijuana use	✓	✓	✓	✓	✓
Anger and aggression	✓	✓	✓		
Hyperactivity	✓	✓	✓		

[13] See Appendix one for a definition of this and other terms.

Measurement source → Risk factor↓	Young person	Parents and carers	Other stakeholders	Case management system	Official sources of data
Lack of guilt and empathy	✓	✓	✓		
Family					
Disrupted family	✓	✓	✓	✓	✓
Family management[14]	✓	✓	✓	✓	
School					
Low commitment to school	✓	✓	✓	✓	
Low academic achievement in primary school	✓	✓	✓	✓	✓
Learning disability	✓	✓	✓	✓	✓
Peer Group					
Delinquent peers	✓	✓	✓	✓	✓
Community					
Marijuana availability	✓	✓	✓		✓
Neighbourhood youth in trouble	✓	✓	✓		✓

[14] Practitioners might find it helpful to consult the following guidance: NSPCC, Assessing parenting capacity, NSPCC Factsheet, February 2014,
http://www.nspcc.org.uk/globalassets/documents/information-service/factsheet-assessing-parenting-capacity.pdf

Figure 19 Possible sources of information for measuring protective factors

Measurement source → Protective factor ↓	Young person	Parents and carers	Other stakeholders	Case management systems	Official sources of data
Individual					
Belief in the moral order	✓	✓	✓		
Positive/pro-social attitudes	✓	✓	✓		
Low impulsivity	✓	✓	✓		
Family					
Good family management	✓	✓	✓		
Stable family structure	✓	✓	✓	✓	
Infrequent parent–child conflict	✓	✓	✓	✓	
School					
Academic achievement	✓	✓	✓	✓	✓
Community					
Low economic deprivation					✓

Appendix three: definition of risk factors

Key terms

Figure 20 provides a list of key risk factors, definitions and ways in which they can be integrated into working practices. Practitioners may be interested in the following document which provides a number of assessment tools similar to the ones referred to in the table below: Youth Violence: Measuring Violence-Related Attitudes, Behaviors, and Influences Among Youths: A Compendium of Assessment Tools.[15]

Figure 20 Table of risk factors and definitions

Key term	Explanation
Individual	
Troublesomeness	This indicator was compiled by asking the child's teachers and peers to identify *"who gets in trouble the most".* The children that were in the top quarter in comparison to their peers were considered troublesome. Practitioners today could replicate this measure by asking teachers and other children to describe the behaviour of the child they are investigating. The results of this discussion could be rated from 0-10, with scores over a certain threshold considered to represent particularly concerning behaviour. Depending on how detailed the information collection process is, this indicator has the advantage of improving practitioners' knowledge of a range of related risk factors.[16]

[15] Dahlberg, Linda, Susan Toal, Monica Swahn, and Christopher Behrens. *Youth Violence: Measuring Violence-Related Attitudes, Behaviors, and Influences Among Youths: A Compendium of Assessment Tools*. 2 edition. National Center for Injury Prevention and Control, 2005. http://www.cdc.gov/violenceprevention/pdf/yv_compendium.pdf

[16] Farrington, David. 'Predictors of Violent Young Offenders'. Edited by Barry C. Feld and Donna M. Bishop. *The Oxford Handbook of Juvenile Crime and Juvenile Justice*, 19 September 2013.

Key term	Explanation
High daring	This characteristic relates to a person's attitude to risk. Information connected with this indicator could be collected by asking the child, family or stakeholders a series of questions about the child's attitude towards risk. Practitioners might also be interested in making use of an Adolescent Risk-Taking Questionnaire to assess the extent of high daring.[17]
Positive attitude towards delinquency	This measures relates to children's attitudes towards criminal behaviour. Previous studies have measured it with reference to an "Attitude to Delinquent Behaviour Scale". This gauges young people's attitudes on a 5-point scale about the acceptability of 15 delinquent and substance-using acts.[18]
Previously committed offences	Previous studies have measured this through self-reporting, which has been found to provide the most accurate information. However, practitioners may also want to consult with staff in the criminal justice sector, such as police and Youth Offending Team (YOT) workers.[19] Where feasible they may also like to consider accessing data held on the Police National Computer.
History of anti-social behaviour	Previous studies have measured this through self-reporting, which has been found to provide the most accurate information. However, practitioners may also want to consult with staff in the criminal justice sector, such as police and YOT workers.[20] Where feasible they may also like to consider accessing data held on the Police

[17] See, for example, Gullone, Eleonora, Susan Moore, Simon Moss, and Candice Boyd. 'The Adolescent Risk-Taking Questionnaire Development and Psychometric Evaluation'. *Journal of Adolescent Research* 15, no. 2 (3 January 2000): 231–50. doi:10.1177/0743558400152003.

[18] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, p. 43.

[19] Brame, Robert, Shawn D. Bushway, Raymond Paternoster, and Terence P. Thornberry. 'Temporal Linkages in Violent and Nonviolent Criminal Activity'. *Journal of Quantitative Criminology* 21, no. 2 (1 June 2005): 149–74. doi:10.1007/s10940-005-2490-7; McVie, Susan. 'The Impact of Bullying Perpetration and Victimization on Later Violence and Psychological Distress: A Study of Resilience Among a Scottish Youth Cohort'. *Journal of School Violence* 13, no. 1 (2 January 2014): 39–58. doi:10.1080/15388220.2013.841586.

[20] Ariza, Juan José Medina, Andreas Cebulla, Judith Aldridge, Jon Shute, and Andy Ross. 'Proximal Adolescent Outcomes of Gang Membership in England and Wales'. *Journal of Research in Crime and Delinquency*, 22 July 2013, 0022427813496791. doi:10.1177/0022427813496791.

Key term	Explanation
	National Computer. Local authorities and Residential Social Landlords may also hold information.
Substance abuse	Previous studies have measured this through self-reporting, which has been found to provide the most accurate information. However, practitioners may also want to consult with staff in the criminal justice sector, such as police, substance misuse workers and YOT workers[21]. They may also like to consider accessing data held on the Police National Computer.
Anger and aggression	Previous studies have measured childhood aggression on the basis of teachers rating a child against a list of 10 items on the Child Behaviour Checklist. These items included behaviours such as: • Argues a lot • Gets in many fights • Swears or uses obscene language Responses were summed across the 10 items to form a composite measure of aggression.[22] Alternatively, studies have also used questionnaires which are completed by the young person to measure their levels of anger and aggression.[23]
Running away and truancy	Earlier studies have used a mixture of different indicators to measure these issues, including youth, carer, and teacher reports.[24]

[21] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, pp. 56-58.
[22] Herrenkohl, Todd I., Karl G. Hill, Ick-Joong Chung, Jie Guo, Robert D. Abbott, and J. David Hawkins. 'Protective Factors against Serious Violent Behavior in Adolescence: A Prospective Study of Aggressive Children'. *Social Work Research* 27, no. 3 (9 January 2003): 179–91. doi:10.1093/swr/27.3.179.
[23] Vasquez, Eduardo A., Sarah Osman, and Jane L. Wood. 'Rumination and the Displacement of Aggression in United Kingdom Gang-Affiliated Youth'. *Aggressive Behavior* 38, no. 1 (February 2012): 89–97. doi:10.1002/ab.20419.
[24] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, p. 60; Herrenkohl, Todd I., Jungeun Lee, and J. David Hawkins. 'Risk versus Direct Protective Factors and Youth Violence: Seattle Social Development Project'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S41–56. doi:10.1016/j.amepre.2012.04.030.

Key term	Explanation
Gang membership	Previous studies have measured this through self-reporting, which has been found to provide the most accurate information. This approach is thought to be particularly good at estimating the often short-term impact of gang membership on youth violence.[25] However, practitioners may also want to consult with staff in the criminal justice sector, such as police and YOT workers. They may also wish to get information from case files or from the Police National Computer.
Low self-esteem	Previous studies have gathered data relating to self-esteem via a questionnaire consisting of statements such as, "*I am a useful person to have around*".[26]
High psychopathic features	Previous studies have made use of the revised Diagnostic Interview Schedule for Children, which has been developed as a measure of youth psychopathology which can be administered by lay interviewers. It covers most forms of youth psychopathology contained in the Diagnostic and Statistical Manual of Mental Disorders.[27]
Marijuana use	Previous studies have measured this through self-reporting, which has been found to provide the most accurate information. However, practitioners may also want to consult with staff in the criminal justice sector, such as police, substance misuse workers and YOT workers.[28]
Hyperactivity	Previous studies have gathered data relating to hyperactivity by asking teachers to complete a checklist of statements such as "*Fails to finish things he/she starts*"

[25] Melde, Chris, and Finn-Aage Esbensen. 'Gangs and Violence: Disentangling the Impact of Gang Membership on the Level and Nature of Offending'. *Journal of Quantitative Criminology* 29, no. 2 (1 June 2013): 143–66. doi:10.1007/s10940-012-9164-z.

[26] Esbensen, Finn-Aage, Dana Peterson, Terrance J. Taylor, and Adrienne Freng. 'Similarities and Differences in Risk Factors for Violent Offending and Gang Membership'. *Australian & New Zealand Journal of Criminology* 42, no. 3 (1 December 2009): 310–35. doi:10.1375/acri.42.3.310.

[27] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, p. 43; see, for example, http://www.cdc.gov/nchs/data/nhanes/limited_access/interviewer_manual.pdf

[28] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, pp. 56–58.

Key term	Explanation
	and "*Inattentive, easily distracted*".[29] Depending on the relationship formed with the child, practitioners may feel able to complete this questionnaire themselves.
Lack of guilt and empathy	Previous studies have gathered data relating to this measure via a questionnaire, delivered to the young person. The questions asked how guilty a person would feel if they did such things as "*hit someone with the idea of hurting them*".[30]
Family	
Disrupted family	This indicator has been measured by talking with caregiver(s) to find out the number of people caring for the young person from the time of their birth to their 10th birthday, although the finding is based on males only.[31]
Family management	This term refers to practices such as setting clear expectations for children's behaviour, monitoring and supervision, and approaches to discipline. Social workers can monitor this issue through talking with parents/carers and their children.[32]
School	
Low commitment to school	Previous studies have measured this factor through a questionnaire to be answered by the children. This includes asking children how far they agree with

[29] Herrenkohl, Todd I., Jie Guo, Rick Kosterman, J. David Hawkins, Richard F. Catalano, and Brian H. Smith. 'Early Adolescent Predictors of Youth Violence as Mediators of Childhood Risks'. *The Journal of Early Adolescence* 21, no. 4 (11 January 2001): 447–69. doi:10.1177/0272431601021004004.
Practitioners may want to consult materials, such as the Achenbach scale, which have been used in earlier studies. Further details can be found at: http://www.aseba.org/

[30] Deschenes, Elizabeth Piper, and Finn-Aage Esbensen. 'Violence and Gangs: Gender Differences in Perceptions and Behavior'. *Journal of Quantitative Criminology* 15, no. 1 (1 March 1999): 63–96. doi:10.1023/A:1007552105190; Esbensen, Finn-Aage, Dana Peterson, Terrance J. Taylor, and Adrienne Freng. 'Similarities and Differences in Risk Factors for Violent Offending and Gang Membership'. *Australian & New Zealand Journal of Criminology* 42, no. 3 (1 December 2009): 310–35. doi:10.1375/acri.42.3.310.

[31] Loeber, Rolf, David P. Farrington, Magda Stouthamer-Loeber, and Helene Raskin White, eds. *Violence and Serious Theft: Development and Prediction from Childhood to Adulthood*. 1 edition. Routledge, 2008, p. 71.

[32] Hawkins, J. David, Todd I. Herrenkohl, David P. Farrington, Devon Brewer, Richard F. Catalano, Tracy W. Harachi, and Lynn Cothern. 'Predictors of Youth Violence. Juvenile Justice Bulletin.' Juvenile Justice Bulletin (April 2000). http://eric.ed.gov/?id=ED440196. Practitioners might find it helpful to consult the following guidance: NSPCC, Assessing parenting capacity, NSPCC Factsheet, February 2014, http://www.nspcc.org.uk/globalassets/documents/information-service/factsheet-assessing-parenting-capacity.pdf

Key term	Explanation
	statements such as *"School is boring"* and *"Homework is a waste of time"*.[33]
Low academic achievement in primary school	These scores have been measured using a children's exam scores and self-reported grades.[34]
Learning disability	This has been identified by consulting with school records.[35]
Peer Group	
Delinquent peers	This has been recorded by asking the child to identify the behaviour of first-, second-, third-, and fourth-best friends. Children indicated for each friend whether he/she got in trouble with a teacher and whether he/she had experimented with or used alcohol.[36]
Community	
Marijuana availability	This has been measured by asking the child whether they know someone who has tried marijuana, if he/she has ever had a chance to try marijuana, and if he/she believed that they could buy marijuana if wanted.[37]
Neighbourhood youth in trouble	This has been measured by asking the child whether or not lots of children in their neighbourhood are in trouble.[38]

[33] For an example of such a questionnaire see: https://cyfernetsearch.org/sites/default/files/-Commitment%20to%20School%20%287th-8th%29_0.pdf

[34] Herrenkohl, Todd I., Jungeun Lee, and J. David Hawkins. 'Risk versus Direct Protective Factors and Youth Violence: Seattle Social Development Project'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S41–56. doi:10.1016/j.amepre.2012.04.030.

[35] Hill, Karl G., James C. Howell, J. David Hawkins, and Sara R. Battin-Pearson. 'Childhood Risk Factors for Adolescent Gang Membership: Results from the Seattle Social Development Project'. *Journal of Research in Crime and Delinquency* 36, no. 3 (8 January 1999): 300–322. doi:10.1177/0022427899036003003.

[36] Herrenkohl, Todd I., Jungeun Lee, and J. David Hawkins. 'Risk versus Direct Protective Factors and Youth Violence: Seattle Social Development Project'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S41–56. doi:10.1016/j.amepre.2012.04.030.

[37] Herrenkohl, Todd I., Jungeun Lee, and J. David Hawkins. 'Risk versus Direct Protective Factors and Youth Violence: Seattle Social Development Project'. *American Journal of Preventive Medicine* 43, no. 2 Suppl 1 (August 2012): S41–56. doi:10.1016/j.amepre.2012.04.030; Hill, Karl G., James C. Howell, J. David Hawkins, and Sara R. Battin-Pearson. 'Childhood Risk Factors for Adolescent Gang Membership: Results from the Seattle Social Development Project'. *Journal of Research in Crime and Delinquency* 36, no. 3 (8 January 1999): 300–322. doi:10.1177/0022427899036003003.

[38] Hill, Karl G., James C. Howell, J. David Hawkins, and Sara R. Battin-Pearson. 'Childhood Risk Factors for Adolescent Gang Membership: Results from the Seattle Social Development Project'. *Journal of Research in Crime and Delinquency* 36, no. 3 (8 January 1999): 300–322. doi:10.1177/0022427899036003003.

Appendix four: bibliography

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