EVIDENCE REVIEW

Evidence Review on Poverty and Youth Crime and Violence

Prepared by

Caitlin Clemmow, Bettina Rottweiler, Cigdem Unal, Phil Doherty, Amber Seaward, Zoe Marchment, Paul Gill

August 2025

YOUTH ENDOWMENT FUND

UCL

Table of Contents

Executive Summary

Systematic Review and Meta-analysis

To investigate the relationship between poverty and youth crime and violence, we conducted a systematic review and meta-analysis of 31 published research papers, spanning data covering over half a million children and families, reporting 82 effect sizes.

What is the strength and nature of the relationship between poverty and violence?

Overall, the results suggest that poverty has a small[1] relationship with youth crime and violence. Different individual- and neighbourhood-level experiences of poverty demonstrated slightly different strengths of the relationship with youth crime and violence. **Financial problems** and **low income** demonstrated the largest effect sizes; however, these were still small bordering moderate.

Our results do not show that poverty causes youth crime and violence. Our results show that poverty is associated with an increased risk of youth crime and violence. This doesn't mean that poverty doesn't cause youth crime and violence (or that it is does), just that the results of the meta-analysis can't say either way.

This is due to both the types of studies we included (i.e. cross-sectional studies which cannot establish causality), and the fact that causality is difficult to infer. Isolating the effects of poverty from its socio-structural consequences is challenging. Even where studies control for external influences, detangling the effects of poverty from its potential causes and consequences is difficult. We meta-analysed effect sizes from direct relationships between poverty and a youth crime and violence outcome and so we did not control for any potential confounders. We examined some *moderators* of this relationship (sex, household type, country), however, there weren't enough, (or sometimes any) effect sizes to analyse any other moderators. This means that the meta-analysis did not account for any potential confounders of this relationship.

The results of our meta-analysis show that poverty is a risk factor for youth crime and violence. A risk factor is something that is associated with an increased risk of an outcome. Risk factors can be causal, but many are not. While non-causal risk factors can't **explain** an outcome, they can **identify** a population at greater risk to target for intervention. Evidence-based risk factors can also be used to design interventions.

[1] For the purposes of the meta-analysis, using Fishers Z, we define the thresholds for effect sizes as negligible when z is less than 0.1, small when z falls between 0.1 and 0.29, moderate when z falls between 0.3 and 0.49. and large when z is greater than 0.5

Does poverty have a different relationship with crime and violence depending on the specific offence type?

Different experiences of poverty are risk factors for both violent and non-violent crime, however the strength of the relationship is different. For non-violent crime the strongest relationship was with neighbourhood deprivation. For violent crime, the largest effect size was found for low income.

How much does the extent and persistence of poverty matter across childhood for predicting involvement in violence?

It was not possible to answer this research question with meta-analysis, due to a lack of extractable effect sizes in the included studies. Instead, in six studies we conducted qualitative coding (Jahanshahi et al., 2022; Mazza et al., 2016, 2017; Pagani et al., 1999; Pi-Sunyer et al., 2023; Kleinepier & van Ham, 2018). These studies suggested that persistent poverty is associated with a higher risk of youth crime and violence compared to no poverty exposure. However, evidence about particularly sensitive periods was mixed. Some studies indicated that adolescence may be a vulnerable period, especially when young people perceive themselves as worse off than their peers, while others highlighted early childhood, particularly the first three years of life, as critical for the development of physically aggressive behaviour.

What is the relationship between poverty at the individual- and area-level in predicting violence?

Two of the included studies presented results which specifically looked at the relationship between individual- and area-level deprivation (Bernburg et al., 2009; Jahanshahi et al., 2022). The studies present a complicated and somewhat conflicting picture of these relationships and so we did not find enough evidence to conclusively answer this research question.

What are the key factors that affect the relationship between poverty and youth crime and violence? Do these factors interact differently for different types of children and/or families?

We looked at how sex, different types of families, and geographical location affected the relationship between poverty and youth crime and violence.

In terms of sex, our results show that boys and girls can experience the relationship between poverty and youth crime and violence differently. We found no difference in how boys and girls experience the relationship between SES, income, and neighbourhood deprivation, and youth crime and violence. However, the relationship between financial issues and youth crime and violence was moderated by sex. Samples with more boys relative to girls were more likely to report larger effect sizes of financial problems on youth

crime and violence. **This means that, across our included studies, boys living in families experiencing financial problems were more at risk of engaging in youth crime and violence than girls.**

Sex also moderated the relationship between income and neighbourhood deprivation, and non-violent crime. We found that samples with more boys were significantly more likely to show a protective effect of higher income than girls. The relationship between neighbourhood deprivation and non-violent crime was also stronger among boys than girls. Finally, the relationship between SES and violent crime was also moderated by sex. We found that among boys, the protective effects of SES on violence are weaker compared to girls.

In terms of different types of families, we found that for families with a single parent or caregiver, higher SES has a greater protective effect against engagement in youth crime and violence, than for two parent families. The inverse was also true, where low SES had a stronger risk effect for children living in single parent families than children living in two parent families.

We also found a significantly weaker relationship between neighbourhood deprivation and youth crime and violence among single-parent families compared to families with two parents. **This means that, across our included studies, children living in single parent families experienced less of a risk effect from neighbourhood-level deprivation than children living in two parent families.** This may be because children living in single parent families experience more family- and/or individual level poverty-related risk factors (such as lower family income due to a single parent household) and so the risk effects of neighbourhood deprivation are less impactful overall, compared to children who live in two parent families.

Family household type did not moderate the effects of income on youth crime and violence. However, when we disaggregated the outcome measure into violent versus non-violent crime, family household type did moderate the effects of income on non-violent crime. **This means that, across our included studies, for children living in single parent families the protective effect of higher income was greater than for children living in two parent families. The inverse was also true, where children living in single parent families experienced greater risk effects from low income than children living in two parent families.**

For geographical location, we compared studies that included participants from different countries to see if children and families living in different places experience the relationship between poverty and youth crime and violence, differently. Overall, no significant effects of geographical location 'European vs non-European' and 'UK vs non-UK' emerged for income and neighbourhood on youth crime and violence.

However, we did identify significant differences in terms of SES. We found significantly stronger protective effects of high SES on youth crime and violence in the UK compared to non-UK countries, across our included studies. **This means that children living in the UK**

experienced a greater protective effect of higher SES than children living in other countries. The inverse was also true in that children living in the UK experienced greater risk effects of lower SES than children living in other countries.

Scoping review of interventions on poverty impacting on youth crime and violence

Having established that poverty is associated with youth crime and violence, the next step is develop data to test for any causal relationship. This would involve designing and evaluating interventions and seeing if they work, or not. Our review suggests that there are not enough studies examining any single 'type' of poverty-based intervention for children and young people that also report a consistent crime or violence outcome to support a more targeted evidence review. However, an alternative aim of a systematic review can be to identify promising interventions to inform investment in future pilots to build an evidence base. We believe this would be the best next step.

We systematically scoped the size, quality, and coverage of the evidence for interventions on poverty which impact upon crime and violence. Because this was a scoping exercise, we did not limit our search strategy to children and young people. We only excluded interventions which exclusively looked at populations younger than 5 years old, or older adults.

We aimed to answer the following questions:

1. What is the scope and range of interventions that aim to reduce poverty **and** impact upon crime and violence?
2. What is the quality of the evidence?
3. Is there scope and direction for future systematic reviews?

From 69 papers, we developed a searchable web database as well as an evidence and gap map summarising our findings, here. Table 1 summarises the intervention types by outcome, colour-coded by the quantity of evidence (number of studies).

We grouped interventions by the following higher-level categories:

1. **Income** – interventions on 'income' included studies which looked at the effects of cash payments, welfare/benefit payments, wage supplements, and tax credits
2. **Housing** – interventions on 'housing' included studies which looked at the effects of housing redeployment, affordable housing, secure housing, and housing vouchers
3. **Employment** - interventions on 'employment' included studies which looked at the effects of internships, job/skills training, and work incentives

4. **Community/ Neighbourhood** - interventions on 'community/ neighbourhood' included studies which looked at the effects of community-level investment, urban upgrading, and business development districts
5. **Education** - interventions on 'education' included studies which looked at the effects of investment in education, and school finance

Most of the evidence focussed on the effectiveness of employment interventions on criminal justice, crime and violence, and positive outcomes, followed by the effectiveness of housing interventions on criminal justice outcomes, and community and neighbourhood interventions on the effectiveness of crime and violence outcomes.

Table 1. Crosstab of aggregated intervention-types by outcomes for all included studies (n = 69)

	Income	Housing	Employment	Community/ Neighbourhood	Education
Crime & violence outcomes	9	8	14	10	2
Criminal justice outcomes	6	14	19	1	1
Non-criminal outcomes	10	7	8	1	1
Positive outcomes	8	9	11	1	1

We used a previously designed Critical Appraisal Tool to assess the quality of the evidence (White et al., 2021). Most of the included studies scored High (51), 13 scored Medium, and just 5 scored Low. However, given the scoping aim of WP2, we did not undertake a rigorous appraisal of intervention and evaluation research standards. Any future systematic review should appraise aspects of executing and reporting an intervention, specifically.

We also found that while some types of intervention met our inclusion criteria, the mechanism via which they 'work' (or not), might not necessarily be by intervening on poverty,. For instance, we included employment interventions in Table 1, however our scoping review did not identify how the intervention worked (or not). While it is true that employment interventions can provide income or skills training to generate income, the mechanism via which they reduce engagement in crime and violence might actually be related to reducing opportunities to engage in crime and violence. In other words, it may be that being in work for most of the day is what decreases the risk of engaging in crime and violence, rather than the increase in income from employment.

A more targeted systematic review should aim to detangle the mechanisms via which interventions work, for whom, and under what circumstances, to identify interventions which target poverty, specifically, as the mechanism for change.

Evidence Review on Poverty and Youth Violence

Background

Many studies find that poverty is correlated with crime and violence (Hsieh & Pugh, 1993; Webster & Kingston, 2014). However, most people who grow up in poverty do not go on to engage in criminal or violent behaviour (Crutchfield & Wadsworth, 2003). Valdez et al. (2007) suggest that this is because any link between poverty and crime and violence **"involves a complex interrelationship among mediating individual and community-level variables."** In other words, experiencing poverty might be one of many risk factors for crime and violence which interact to drive involvement in crime and violence – poverty in and of itself is unlikely to be the sole driver. As such, how poverty impacts upon youth crime and violence is not well understood. Evidence suggests there may be a relationship, but the nuances of **how** and **when** poverty is relevant to children and young people is unclear. The purpose of this report is to outline the results of a programme of research which systematically reviewed and evaluated the evidence for any relationship between poverty and youth crime and violence. It also includes a scoping review of interventions on poverty, which impact crime and violence to identify potential for a future systematic review.

Research Design & Objectives

The programme of research was organised into two work packages: Work Package 1 (WP1) - a systematic review and meta-analysis of the evidence for any relationship between poverty and youth crime and violence, and Work Package 2 (WP2) - a scoping review of interventions which impact on crime and violence. The objectives for each work package were as follows:

WP1 aimed to address the following research questions:

1. What is the strength and nature of the relationship between poverty and violence?
    a. How much does the extent and persistence of poverty matter across childhood for predicting involvement in violence?
    b. What is the relationship between poverty at individual level and area level in predicting violence?
    c. Does poverty have a different relationship with crime and violence depending on the specific offence type?

2. What are the key mediators and moderators of this relationship?
    a. What are the key factors that affect the relationship between poverty and youth violence?
    b. Do these factors interact differently for different types of children/families?

WP2 aimed to address the following research questions:

1. What is the scope and range of interventions that aim to reduce poverty and impact upon crime and violence?
2. What is the quality of the evidence?
3. Is there scope and direction for future systematic reviews?

Before commencing the research, it was necessary to define the scope of the project and our key terms.

Defining the scope

To define poverty, we engaged with subject matter experts, practitioners, families with children and young people with lived experience, and YEF's youth advisory board. First, we conducted a rapid scoping exercise of the relevant literature to identify different ways people define and operationalise poverty. This was not a comprehensive or systematic search, but rather a starting point to enable engagement with stakeholders. The results of this rapid scoping exercise can be found in Appendix A.

We next consulted with three subject matter experts (SMEs) via informal online interviews. The SMEs provided feedback and offered considerations when defining poverty. For instance, one commented on the Irish government's definition of poverty[2]:[summarised comments not verbatim]

This takes us into a different space of minimum income standards and consensus building with the public. It takes us too far away from poverty into public perceptions of necessities e.g. holidays, cars etc. It's useful but maybe not so much as a risk factor or for search terms for the project.

SMEs were also helpful in highlighting the importance of the consideration of social exclusion as a key element when defining poverty. After an iterative process of consultation and feedback we proposed adopting the Joseph Rowntree Foundation's definition of poverty – "When a person's resources (mainly their material resources) are not sufficient to meet their minimum needs (including social participation)."

Next, we consulted with two practitioners delivering statutory services to children and young people living in the UK, again via informal online interviews. Through their professional experience, they have had extensive contact with children and families experiencing poverty in the UK. Our aim was to understand how stakeholders see poverty manifesting in the UK. The purpose of this elicitation was to ensure our proposed definition aligned with the everyday experiences of professionals working in the UK.

[2] See http://www.socialinclusion.ie/poverty.html#:~:text=People%20are%20living%20in%20poverty,acceptable%20by%20Irish%20society%20generally.

For instance, the professionals highlighted how they see poverty impacting on the children and young people they work with as follows:

- Grooming to gangs
    - Lack of material resources (e.g., lack of money)/ access or lack of access to material goods seem to be a key factor explaining vulnerability
    - Access to newest phones/ tech products, nice clothes/ shoes (material goods) can be used to groom young people
- Access to sanitary products, adequate clothes for PE lessons – creates situations of vulnerability which can have detrimental effects on young people
- Food insecurity is a real issue for kids in the UK
- Unable to buy materials/ equipment for school, especially noticeable are the effects of 'digital poverty' (e.g., kids not having laptops or computers to do their schoolwork etc) during the COVID-19 pandemic

This again highlighted the importance of considering social exclusion in any definition of poverty. The commentary was reviewed across the team, and it was agreed that the Joseph Rowntree definition of poverty was again most suitable for our purposes.

Finally, we were keen to embed lived experience and the voices of children and young people into the project. We did this in two ways. First, we conducted an anonymous online survey via the survey platform Prolific with people living in the UK. We asked 50 people if they felt they'd had enough material resources (food, clothes, money etc) in the last 12 months, or not. Those who reported that they had not were subsequently invited to share their experiences of how poverty affects their everyday lives. Eleven people from all over the UK agreed to participate in an online survey and shared their experiences on the context of their lives and how experiences of poverty impact their thoughts, feelings, emotions, and behaviours. For instance, people shared the following insights:

"People struggle to make friends because they struggle to go out and spend money and try make money"

"It has affected a lot, mentally, socially, and spiritually. Mentally, always having a mental breakdown because of lack of basic amenities, socially, relating with people has been difficult because you will be addressed the way you dress. Spiritually, losing faith because you feel neglected by God"

The research team collated the insights and discussed how our working definition of poverty reflects the lived experiences of people in the UK. Again, it was agreed that the Joseph Rowntree's definition of poverty was most suitable.

Second, we consulted with YEF's Youth Advisory Board (YAB). The board were provided with our working definition of poverty and asked to consider the following three questions:

1. **Do you agree with this definition? If not, what adjustments would you suggest?**
2. **What do you think should be included as part of 'resources'?**

3. **What do you think should be included as part of 'minimum needs'?**

YEF's YAB provided valuable insights into how children and young people in the UK conceptualise poverty, for instance providing the following examples of 'minimum needs':

- Access to basic healthcare
- Nutritious food
- Safe and affordable housing
- Access to education
- Basic clothing and personal care items
- Access to transportation or public transit
- Access to technology and internet to support learning and employment opportunities
- Mental health support and counselling services
- Minimum needs should include basic necessities such as clean water, food, shelter, clothing, and medical care. These are essential requirements that ensure physical well-being and survival for individuals. Along with these, access to education, information, and communication can enable individuals to develop their knowledge and skills and be part of a productive society. Additionally, social and emotional needs like love, belonging, and self-esteem should be met to maintain mental and emotional stability
- Reminding young people they are valid and have purpose, especially to those who have a lived experience of poverty

Again, input was triangulated and fed back into the research team. Of note was that across all channels of input the importance of social exclusion was highlighted, either explicitly by SMEs or implicitly by the responses of children and young people and people in the UK with lived experience. This was key in finalising our decision to adopt the following definition of poverty:

"When a person's resources (mainly their material resources) are not sufficient to meet their minimum needs (including social participation)" – Joseph Rowntree Foundation

Next, we considered how to define other key terms. For 'youth', we used YEF's definition of children as those aged over 5 years old and younger than 18 years old.

Finally, for crime and violence we consulted YEF's primary outcomes framework (here) to define the scope of what would be included as follows:

1. Non-violent crime - Criminal behaviours that do not involve violence against another person (e.g., shoplifting, graffiti, non-violent bullying)
2. Violent crime - Criminal acts involving harm against another person (e.g., assault, robbery using threat or force, weapons carrying, homicide)
3. Sexual violent crime – sexual assault (including rape) and sexual harassment

Violent extremism and terrorism were not included.

We then proceeded with WP1, the systematic review and meta-analysis.

It's important to note that much of the included literature uses terms such as 'delinquency' which are now considered outdated. We chose to report the findings of such studies using the same language to be clear about what measurement instruments and operationalisations of the outcome measures were used, only.

WP1: Systematic Review and Meta-analysis

A common problem in the social sciences is conflicting theories or findings about complicated problems. The impact of poverty on youth crime and violence is one example. Synthesising conflicting results is challenging, however a systematic review and meta-analysis is one way to do just that. Such approaches bring together data across lots of different studies identified through a systematic review, to synthesise what we know about a particular problem.

To identify relevant literature, a systematic search protocol was developed.

Developing the search protocol

Typically, search protocols are designed by research teams. A series of keyword and search terms are suggested to produce a search protocol. However, identifying search terms in this way can be subject to bias. For instance, researchers will be limited by the extent of their own knowledge and understanding of a topic – no one can know everything. As such researcher-generated search terms may be limited.

An alternative is to use automated learning, alongside human judgements to produce a more comprehensive search protocol. Given the breadth and complexity of the literature, we implemented automated text-mining and keyword co-occurrence networks alongside expert judgements to generate keyword search terms for the search protocol. The quasi-automated approach was conducted in *R* (an open-source programming software) via the *litsearchr* program. The search strategy included terms elicited through consultation with children and young people, practitioners, and people living in the UK with lived experience (as described previously). Once generated, the search strategy was then subject to expert-review (beyond the research team). The final search terms represent a synthesis of this consultation and feedback.

Conducting the review

Pre-registration

The review protocol was prospectively registered on Prospero, ID number CRD42023416868, here.

Database searches

Literature searches were conducted across relevant electronic databases including Web of Science, Medline, PsycINFO, Pro Quest, and International Bibliography of the Social Sciences (IBSS). The following search terms were used:

Violence

(abus* OR aggress* OR "antisoci* behavio?r" OR “externali?s* behavio?r*” OR arrest OR assault OR bully* OR burglary OR crime OR criminal OR delinqu* OR devian* OR exploit* OR firearm OR gang OR gun OR homicid* OR "justice involv*" OR "justice system" OR offend* OR perpetr* OR prison* OR violence OR violent OR weapon OR knife OR knives OR robbery OR murder OR vandal* OR recidivis* OR rape OR "sexual harass*" OR theft OR steal* OR shoplift* OR fraud OR “stop and search” OR “gender-based violence” Or stabbing OR reoffend* OR unlawful OR convict* OR “hot spot” OR court OR lawbreaking)

AND

Youth

(adolesc* OR boys OR child* OR girls OR juvenile OR minor OR student OR teen* OR young OR "early years" OR “school-age” OR youth)

AND

Poverty

("adverse childhood experiences" OR "built environment" OR "social class" OR depriv* OR disadvantage* OR dispar* OR earn* OR “child benefit*” OR econom* OR financ* OR “universal credit” OR “employment and support allowance” OR “personal independence pay*” OR "food insecurity" OR hardship OR homeless OR housing OR impoverish* OR income OR money OR "neighbo?rhood characterist*" OR "neighbo?rhood condit*" OR "neighbo?rhood context" OR "neighbo?rhood disadvantage" OR "neighbo?rhood effect" OR "neighbo?rhood factor" OR "material resources" OR "social disorgan*" OR "social exclusion" OR "socio-econom*" OR sociodemograph* OR socioeconom* OR unemploy* OR welfare OR employ* OR destitu* OR salar* OR debt OR cash OR money OR "standard* of living" OR "living standard" OR "cost of living" OR expense* OR "free school meals" OR poverty OR inequality)

Grey literature searches are an important source of information for systematic reviews. Particularly in this space, there are many examples of relevant work ongoing which would not necessarily be captured by scientific database searches. Therefore, it was necessary to attend equally to devising a grey literature search protocol. Three different searching strategies were incorporated: 1) grey literature database searches, 2) customised Google search engine queries, and 3) targeted website searches.

The grey literature search strategy is described in Appendix B.

Inclusion criteria and data extraction

Full text versions of identified studies were obtained through one of the following means (in order of preference): electronic copies via UCL’s e-journals service, electronic copies of

studies available from elsewhere on the internet, paper copies, electronic/paper copies requested through the inter-library loan system (which sources most materials from the British Library), and electronic/paper copies requested from the authors themselves. When any of the full text versions contained insufficient information to determine their eligibility for inclusion according to our coding strategy (described below), where possible the corresponding author was contacted to retrieve this information.

Once the search results were identified, we reviewed the potential studies against our inclusion criteria.

Below we present the inclusion/ exclusion criteria, followed by a brief rationale where relevant. To be eligible for inclusion the following criteria were met:

1. **Reports an explicit aim of understanding how poverty impacts upon youth crime and violence**
   Rationale: Many studies studying crime and/or violence report some measure of 'poverty', such as SES or income, as a descriptive statistic or sociodemographic factor that is controlled for, **where the study does not have an explicit aim of understanding how poverty impacts on youth crime and violence**. For instance, studies which examine the impact of poor mental health on youth crime and violence might report a measure of 'poverty', such as SES, as a descriptive statistic, and even control for it in analyses. However, the main aim of the study is not to understand the relationship between **poverty** and the outcome. Studies where the aim is not explicitly to examine the relationship we are interested in might be more likely to report significant effects than non-significant effects, given that this is not the primary focus of the study. To avoid introducing unnecessary bias, we therefore limited our search to studies where the abstract reported a clear aim of trying to understand the relationship between poverty and youth crime and violence, specifically.
2. **Meets the agreed upon definition of 'poverty'**
3. **Meets the agreed upon definition of 'crime and violence'**
4. **Meets the definition of 'youth'**
   Rationale: Samples with a mean age 18 years and over were excluded. For longitudinal studies at least one measurement must be between ages 5 and < 18 years old to be included
5. **Contains quantitative measurements**
6. **Includes participants from a comparable country to the UK. Include UK, Canada, Australia, New Zealand, W Europe. Exclude USA and developing countries**
   Rationale: After careful consideration we decided to exclude studies from the USA for several reasons. First, the literature is dominated by studies from the US and their inclusion would have heavily biased any findings towards the US context. Second, the US context differs substantially, both in terms of poverty, and crime and violence. For instance, with no universal healthcare or welfare system, poverty in the US has very different real-world consequences than in the UK or Europe. Equally, the availability and opportunity to access firearms means gun crime is

prevalent in the US on a scale incomparable with the UK. Therefore, to ensure the generalisability of our findings (as much as possible), to youth crime and violence in the UK, US studies were excluded

7. **Was available in English**
8. **Was published since 1990**

Eligible references were imported into EPPI 4 Reviewer – a web-based tool for managing and conducting systematic reviews. Our initial searches identified 111,322 potential hits, 64,189 were removed as they were duplicates. First, seven researchers sifted an equal number of eligible studies on title and abstract. 10% of all search results were double screened for title and abstract by the senior members of the research team. An inter-rater reliability assessment was conducted, whereby a minimum of 80% agreement was required, however, we aimed to reach 90%. Discussions were conducted on disagreements and a form of understanding was developed to minimise discrepancies. The senior members of the team then read each included study (after title and abstracts were screened) in its entirety to assess whether the study should be included for data extraction. The systematic sift concluded in August 2023. We identified 31 studies eligible for inclusion. All 31 studies were included for systematic review, however for 5 studies, it was not possible to extract an effect size due to unreported data, hence 26 studies were included in the meta-analysis.

The results of our search strategy are summarised by Figure 1.

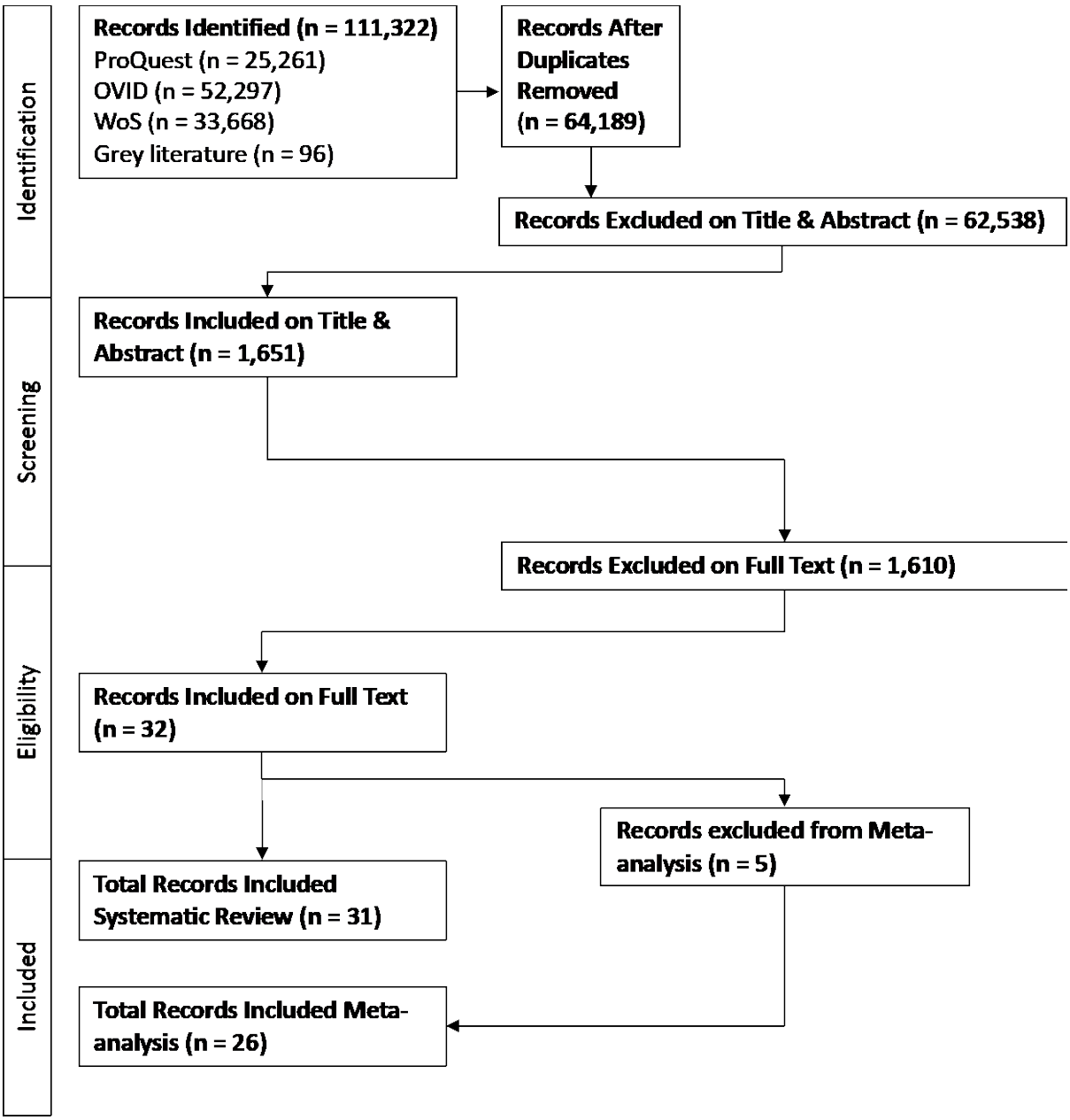


Figure 1. PRISMA flow chart of systematic review

Data extraction

Three investigators extracted the relevant study information and effect sizes into a predefined codebook in Excel. All coders received extensive data extraction and data coding training and received detailed codebooks as well as coding guidance documents. Further, all coders coded independently, while 80% were double coded by a senior researcher. An inter-rater reliability assessment was conducted. A minimum of 80% agreement was expected for the data extraction, however, similarly to the study selection process, we aimed to reach 90% to ensure robustness of the data extraction process. Again, disagreements were resolved by consensus. Had a consensus not been met, the PI would have used all available information and would have made the final decision. During the data extraction process, the three coders and supervisor regularly discussed and

refined the categorisation of variables based on the pre-defined framework. Upon completion of this sifting process, we were left with a total of 26 studies and 82 effect sizes to be included in the meta-analysis.

Next, two of the senior researchers on the team coded outcomes and the different operationalisations of poverty for each included study, independently.

As anticipated, 'poverty' and 'youth crime and violence' were operationalised in research in many different ways. To meta-analyse the results of our included studies, we had to make decisions about how to aggregate the different measures to synthesise learning across our included studies. We coded the following outcome measures:

Full coding and a meta-analysis were conducted for the following **violence** measures, where 'youth violence' includes: (1) Intimate Partner Violence (IPV)/dating/family violence, (2) weapon (knife/gun) crime, (3) delinquency (violent), anti-social behaviour (ASB) (violent).

Full coding and a meta-analysis were conducted for the following **non-violent** crime measures, where 'non-violent youth crime' includes: (1) Non-violent crime, (2) delinquency (non-violent), (3) ASB (non-violent).

At least two effect sizes are required to conduct a meta-analysis on an outcome. However, at least four studies are required to conduct moderator analyses on an outcome. Hence, it was not possible to meta-analyse all outcomes. Where we could not include an outcome in the meta-analysis, we extracted the respective effect sizes. This includes studies describing the following outcomes: (1) physical aggression, (2) recidivism, (3) gang involvement, (4) bullying, (5) sexual offending.

We coded the following measures of poverty:

Full coding and a meta-analysis were conducted for the following poverty measures: (1) socioeconomic status (individual/family level), (2) income (individual/family level), (3) financial problems (food insecurity, debt, difficulty paying bills, housing/ homelessness, economic/ financial worries, receipt of welfare/ benefit)

As above, we only extracted the respective effect sizes for all other operationalisations of poverty.

Calculation of Effect Sizes

We report Fisher's *z* as the final standardised meta-analytic effect size. We estimated the respective variances and converted Pearson's *r* from correlational studies to Fisher's *z* using the Campbell Collaboration online Effect Size Calculator (Wilson, 2001). This enabled us to approximate a normal sampling distribution and to achieve a more stable variance across different values (Borenstein et al., 2009). Relatedly, one of the advantages of the Fisher's *z* coefficient's is the fact that its standard error is determined solely by the sample

size avoiding effects appearing more precise due to their standard errors being a function of the magnitude of the effect. After the meta-analytic effect sizes were calculated, we converted them into their equivalent Pearson's *r* effect sizes for ease of interpretability.

Risk of Bias Assessment

To assess the risk of bias (RoB) of included studies, we used an amended version of the Appraisal Tool for Cross-Sectional Studies (AXIS). The risk of bias was assessed by two independent coders.

The answer options for the twenty individual RoB questions were (1) yes, (2) partially, and (3) no.[3] Studies which scored 'no' to any item of the RoB questions were coded as '1'. Those studies which scored 'partially' or 'yes' on all items were coded as '2' and those which scored 'yes' on all items were coded as '3'.

First, we assessed the overall aim of the study. Here, we were interested in determining whether (1) the purpose of the research adequately described, and whether (2) the study clearly states why this research was conducted and what was the aim of the study.

Second, we assessed the studies' research methodology. This allowed us to determine whether the overall research methodology and specific steps of the data analysis were clearly described (i.e., data collection approach, statistical/ data analysis approach, measures operationalised).

Third, we examined whether the study and sample characteristics were adequately described. Here, we assessed whether the study clearly states key characteristics, i.e., sample size and sociodemographic variables (age, gender, ethnicity) of the sample.

Fourth, we examined the study's reporting of the results. This allowed us to determine whether the study clearly stated all the findings of the research (including effect sizes for non-significant effects).

Meta-analytic Procedure

We conducted a random-effects meta-analysis in R using the package '*metafor*'. For factors which had less than four studies ($k < 4$), we applied robust variance estimation with small-sample adjustment from the '*robumeta*' package (Fisher et al., 2017) in the software programme R instead of the random-effects approach.

Heterogeneity of Effect Sizes and Between-study Variance

We calculated the level of heterogeneity for individual effect sizes, i.e., a low heterogeneity is indicative of non-varying or consistent effects. We report the I^2 statistic, which suggests

[3] For a full list of the questions see https://bmjopen.bmj.com/content/bmjopen/6/12/e011458/DC2/embed/inline-supplementary-material-2.pdf

that 0% to 40% heterogeneity might not be important, I^2 = 30% to 60% may represent 'moderate heterogeneity', I^2 = 50% to 90% may represent 'substantial heterogeneity', and I^2 =75% to 100% may represent 'considerable heterogeneity' (Higgins & Thompson, 2002). We further estimated the tau-squared statistic (τ^2) to quantify the heterogeneity of the obtained meta-analytic effect size, i.e., the between-study variance as well as the Cochran's Q and its associated χ^2 *p* value. For effect sizes that showed a substantial or considerable level of heterogeneity, we examined potential moderation effects. More specifically, we tested whether there are certain variables that explain the heterogeneity between effects sizes for one factor.

Moderator-Analysis and Meta-Regressions

We extracted the following variables for potential moderator analyses:

(1) sex (female/ male %)
(2) family structure (single parent families) (yes/ no %)
(3) geographical location Europe (Europe vs non-Europe)
(4) geographical location UK (UK vs non-UK)

Initially, we had planned to also analyse the potential differential effects of ethnicity (white/ other %) and immigrant status (yes/ no %). However, these characteristics were largely missing within the included studies and so we were not able to assess the moderating effects of these.

Lastly, we examined whether the strength and nature of the effects of the poverty measures differ depending on what types of outcomes are assessed:

(5) non-violent crime vs. violent crime outcomes

For instance, does SES show a stronger or weaker relationship when comparing its effects on violent vs. non-violent crime?

We created two dummy variables (i.e., dichotomous variables) for geographic location: 1) European vs non-European samples (0 = non-European, 1 = European), 2) UK vs non-UK (0 = non-UK, 1 = UK), and 3) outcome type (0 = non-violent outcome, 1 = violent outcome). For these variables, we ran moderator-analyses. For the potential moderating effects of sex and single parent household, we ran meta-regressions. These variables were treated as continuous variables on a scale from 0 – 100 percent. We entered the moderator variables separately as predictors of the effect size in the respective models.

Results

Description of included studies

We identified 31 studies published between 1999 – 2023, including 82 effect sizes and analysing data from approximately half a million children and families. Five studies

included children and families from the UK, most used data from European countries (20), six used data from Canada, and one used data from New Zealand. All studies had longitudinal or cross-sectional designs. Other designs were eligible for inclusion, including impact evaluations examining whether a causal relationship exists between a poverty reduction intervention and the outcomes of crime and violence. However, we did not find any intervention studies which met the our inclusion criteria. Table 2 summarises the included studies.

Table 2. Summary of included studies

Author	Year	Population	Age	Sample size	Country	Study design	Poverty measure	Crime/violence measure	Data source	Included in meta-analysis
Abada & Gillespie	2007	Children	5 - 7 years old	4,173	Canada	Longitudinal	Household income, parental education (SES)	Physical aggression (violent & verbal); Property offences (nonviolent)	Canadian National Longitudinal Survey for Children and Youth	Y
Bernburg et al	2009	Adolescents in school	15 - 16 years old	5,491	Iceland	Cross-sectional	Economic deprivation (household and school-community)	Nonviolent delinquency; violence	National population survey if Icelandic adolescents	Y
Chau et al	2013	Middle school students	13.5 years old (mean)	1,559	France	Cross-sectional	Insufficient income (family), low parents' education (SES)	Violence (mixed)	All students attending 3 middle schools in Northern France	Y
Contreras & Cano	2014	Young offenders	16 - 17 years old	90	Spain	Cross-sectional	Income (family)	Adolescent-parent abuse, other offence (nonviolent)	Young offenders from the Service of Juvenile Justice in Jaen (plus 30 adolescents with no criminal charge)	Y
Contreras et al	2011	Young offenders	15.84 years old (mean)	456	Spain	Cross-sectional	Low income (family); deprived neighbourhood	Recidivism	Young offenders from the Service of Juvenile Justice in Jaen	N
Dupéré et al	2007	Youth	12 - 15 years old	3,522	Canada	Longitudinal	Neighbourhood Disadvantage, Family SES	Gang affiliation	Nationally representative sample of Canadian youth (subset of)	N
Estévez & Emler	2010	Adolescents	10 - 16 years old	2,528	UK	Cross-sectional	Disadvantaged local area	ASB (nonviolent), property offences, personal offences (mixed)	2005 Offending Crime and Justice Survey	Y

Fontaine et al	2019	Adolescents	15 - 17 years old	1,515	Canada	Longitudinal	Family SES	Delinquency (non-violent and violent), conduct problems (mixed)	Quebec Longitudinal Study of Child Development	Y
Hoeve et al	2016	Adolescents	17.8 years old (mean)	3,392	Holland	Longitudinal	Financial problems, family SES (social class)	Delinquency (mixed)	Utrecht Longitudinal Study of Adolescent Development	Y
Ibabe & Jaureguizar	2010	Adolescents	14 - 15 years old	103	Spain	Cross-sectional	Family economic situation (financial problems)	Child-to-parent violence, All offences (mixed)	File review	Y
Jahanshahi et al	2022	Children	6 - 12 years old	5,217	UK	Longitudinal	Neighbourhood poverty, Household deprivation	Child offending (mixed)	Growing Up in Scotland	Y
Kleinepier & van Ham	2018	Birth cohort	0 - 19 years old	168,645	Holland	Longitudinal	Neighbourhood disadvantage, household income, parental education (SES), parental labour force participation	Delinquency (nonviolent)	System of Social statistical Datasets	Y
Magklara et al	2012	Adolescents in school	16 - 18 years old	2,427	Greece	Cross-sectional	Financial problems, parental unemployment	Bullying	Epirus School Project	N
Mazza et al	2016	Children	1.5 - 8 years old	2,120	Canada	Longitudinal	Maternal education (SES), exposure to poverty (income)	Physical aggression (violent)	Quebec Longitudinal Study of Child Development	Y
Mazza et al	2017	Adolescents	0 - 13 years old	2,120	Canada	Longitudinal	Poverty (income)	Physical aggression (violent)	Quebec Longitudinal Study of Child Development	Y
Norstrom et al	2018	Adolescents	15 - 17 years old	9,853	Norway	Cross-sectional	Parental education (SES), family income	Violence	Survey of school children	Y

Paalman et al	2011	Child offenders (male)	10.68 years old (mean)	97	Holland	Longitudinal	Family financial problems	General offending	Interviews with children and parents	Y
Pagani et al	1999	Boys	10 - 16 years old	497	Canada	Longitudinal	Poverty (income), maternal education (SES)	Delinquency (mixed), theft, fighting	Montreal Longitudinal-Experimental Study	Y
Pi-Sunyer et al	2023	Young people	11 - 14 years old	12,995	UK	Longitudinal	Perceived and objective family income	Bullying, externalising behaviour	Millennium Cohort Study	N
Rekker et al	2017	Adolescents	12 - 18 years old	824	Holland	Longitudinal	SES	Non-violent crime		Y
Sandahl	2021	School children	15 years old	4,608	Sweden	Cross-sectional	School disadvantage, parental unemployment	Violent and general offending (mixed)	The SSS and the STS	Y
Sariaslan et al	2013	Adolescents	15 - 20 years old	297,752	Sweden	Longitudinal	Neighbourhood deprivation	Violent criminality	Swedish Total Population Register; MultiGeneration Register; Medical Birth Register; Primary School Register; National Crime Register; Patient Register; LISA register	Y
Savolainen et al	2018	Adolescent	15 - 21 years old	21,513	Finland	Longitudinal	Income support	Drunk driving (nonviolent), property offences, violence	1987 Finnish Birth Cohort	Y
Schepers	2016	Adolescent	11.9 - 16.2 years old	1421	Germany	Longitudinal	Social disadvantage (economic situation/financial problems)	Delinquency (mixed)	Chances and Risks in the Life Course	Y
Tippett & Wolker	2015	Children	10 - 15 years old	4,237	UK	Cross-sectional	Financial stress, material deprivation (SES),	Sibling aggression (physical and non-physical)	Wave 1 of Understanding Society	Y

							household income, income poverty			
van Minde et al	2021	Children	Not reported	3565 neighbourhoods	Holland	Longitudinal	Neighbourhood deprivation	Delinquency (mixed)	Neighbourhood analysis	Y
van Oort et al	2011	Youth	8 - 16 years old	708	Holland	Longitudinal	SES	Delinquency (nonviolent); Aggression	Random sample	Y
Veenstra et al	2006	Children	11 years old	2,230	Holland	Longitudinal	SES	Anti-social behaviour	TRacking Adolescents' Individual Lives Survey	N
Vogel et al	2020	Adolescents	12 - 16 years old	843	Holland	Longitudinal	Parental unemployment, neighbourhood local and local disadvantage	General (mixed) and violent offending	Study of Peers, Activities, and Neighbourhoods	Y
Weijters et al	2009	Youth	12 - 17 year olds	11 cities	Holland	Cross-sectional	Neighbourhood disadvantage	Delinquency (mixed)	Secondary analysis	Y
Wikstrom et al	2016	Youth	12 - 16 years old	456	UK	Longitudinal	Family SES; Neighbourhood disadvantage; Combined disadvantage	Crime (mixed)	Peterborough Adolescent and Young Adult Development Study	Y

Risk of bias

Table 3 below summarises the results of our RoB assessment (Table 4). Scores of 3 indicate low RoB and scores of 1 indicate high RoB. RoB was generally low with very few studies scoring 1. **This suggests the risk of bias across the evidence base is low and that we can be reasonably confident in interpreting the results of our analysis.** The table is colour coded to highlight poor (1: RED) and good (3: GREEN) scores.

Table 3. Risk of bias of included studies

Author	Poverty Measures	Outcome Measures	RoB Score
Abada, T., & Gillespie, M. (2007)	- Household income - Parental education	- Physical aggression - Property offences/destructive behaviour	1
Bernburg. J., Thorlindsson, T., & Sigfusdottir, I. (2009)	- Community economic deprivation	- Delinquency - Violence	2
Chau, K., Baumann, M., & Chau, N. (2013)	- Insufficient income - Low parental education	- Involvement in violence	2
Contreras, L., & Cano, C. (2014) *	- Family income	- Other offences - Parental abuse	2
Contreras, L., Molina, V., & Cano, M. (2011)*	- Family income - Neighbourhood deprivation	- Recidivism	2
Dupéré, V., Lacourse, É., Willms, J., Vitaro, F., & Tremblay, R. (2007)*	- Family SES - Neighbourhood concentrated economic disadvantage	- Gang affiliation	2
Estévez, E., & Emler, N. (2010)	- Disadvantaged local area	- Antisocial behaviour - Property offences	2
Fontaine, N., Brendgen, M., Vitaro, F., Boivin, M., Tremblay, R., & Côté, S. (2019)	- Family SES - Male Family SES	- Male conduct problems - Non-violent delinquency - Violent delinquency	3
Hoeve, M., Jak, S., Stams, G., & Meeus, W. (2016)	- Financial problems - SES	- Delinquency - Violent delinquency	3
Ibabe, I., & Jaureguizar, J. (2010)*	- Family economic situation	- Offences - Violence against parents	2
Jahanshahi, B., Murray, K., & McVie, S. (2022)	- Household deprivation - Neighbourhood deprivation	- Child offending	2
Kleinepier, T., & van Ham, M. (2018)	- Household income - Neighbourhood disadvantage	- Delinquent behaviour	2

Author	Poverty Measures	Outcome Measures	RoB Score
	- Parental education - Parental labour force participation		
Magklara, K., Skapinakis, P., Gkatsa, T., Bellos, S., Araya, R., Stylianidis, S., & Mavreas, V. (2012) *	- Financial problems - Parental unemployment	- Bullying related behaviour	3
Mazza, J., Boivin, M., Tremblay, R., Michel, G., Salla, J., Lambert, J., Zunzunegui, M., & Côté, S. (2016)	- Maternal education - Poverty	- Physical aggression	2
Mazza, J., Lambert, J., Zunzunegui, M., Tremblay, R., Boivin, M., & Côté, S. (2017)	- Poverty	- Physical aggression	2
Norstrom, T., Rossow, I., & Pape, H. (2018)	- Low family income - SES	- Violent behaviour	3
Paalman, C., Domburgh, L., Stevens, G., & Doreleijers, T. (2011)	- Financial problems	- Offending (delinquent behaviour)	2
Pagani, L., Boulerice, B., Vitaro, F., & Tremblay, R. (1999)	- Duration/time of poverty - Maternal education	- Extreme delinquency - Fighting - Theft	2
Pi-Sunyer, B., Andrews, J., Orben, A., Speyer, L., & Blakemore, S. (2023)*	- Being poor	- Bullying - Externalising behaviour	3
Rekker, R., Keijsers, L., Branje, S., Koot, H., & Meeus, W. (2017)	- SES	- Non-violent offending	2
Sandahl, J. (2021)	- Parental unemployment - Privileged vs Deprived schooling	- General offending - Violent offending	2
Sariaslan, A., Långström, N., D'Onofrio, B., Hallqvist, J., Franck, J., & Lichtenstein, P. (2013)	- Neighbourhood deprivation	- Violent crime	3
Savolainen, J., Eisman, A., Mason, A., Schwartz, J., Miettunen, J., & Järvelin, M-R. (2018)	- Income support	- Drunk driving - Property crime - Violent crime	2
Schepers, D. (2017)	- Economic situation	- Delinquency	3
Tippett, N., & Wolke, D. (2015)	- Financial stress - Household income - Income poverty - Material deprivation	- Sibling aggression perpetration	3

Author	Poverty Measures	Outcome Measures	RoB Score
van Minde, M., de Kroon, M., Sijpkens, M., Raat, H., Steegers, E., & Bertens, L. (2021)	- Neighbourhood SES	- Delinquency	2
Van Oort, F., Van Der Ende, J., Wadsworth, M., Verhulst, F., & Achenbach, T. (2011) *	- SES	- Aggressive behaviour - Delinquent behaviour	2
Veenstra, R., Lindenberg, S., Oldehinkel, A, De Winter, A., & Ormel, J. (2006)*	- SES	- Antisocial behaviour	2
Vogel, M., Hoeben, E., & Bernasco, W. (2020)	- Neighbourhood disadvantage (extralocal) - Neighbourhood disadvantage (local) - Parental unemployment	- Offending - Violence	3
Weijters, G., Scheepers, P., & Gerris, J. (2009)	- Neighbourhood disadvantage	- Delinquent behaviour	1
Wikström, P-O., & Treiber, K. (2016)	- Combined disadvantage - Family disadvantage - Neighbourhood disadvantage	- Crime involvement	2

*Not included in full meta-analysis

Summary of effect sizes

Table 4 summarised all 82 effect sizes extracted, organised by outcome measure (type of crime and or violence), and operationalisation of poverty. It's important to understand how to interpret statistical significance and effect sizes. A p-value tells us how likely it is to get results at least as extreme as what you find in your study, assuming there's actually no real effect of difference. In other words, whether the findings are likely to be due to chance, or not. **Effect size** helps us understand the **magnitude** of the differences found (Sullivan & Feinn, 2012). Effect size is particularly important for understanding **practical significance**. There are generally accepted thresholds for what constitutes a large (important) effect size, and what constitutes a negligible (insignificant) effect size.[4] However, a small effect size does not necessarily mean something is not practically significant, as, particularly in fields like criminology, effect sizes are often smaller than you would expect in parallel fields such as pharmacology studying treatment effects (Weisburd & Piquero, 2008). Instead, practical significance should be determined **relatively**, by understanding the threshold for practical significance for the field of study and/or problem at hand. For instance, an important risk factor for preventing youth crime and/or violence might demonstrate a small to moderate effect size, yet be practically useful.

[4] As per standard convention, we define the thresholds as negligible (z < 0.1), small (z<0.1-0.3), moderate (z<0.3-0.5), and large (z>.5)

Table 4 reports the results of Fisher's Z. Effect sizes are colour coded where RED = large effects, AMBER = moderate effects, YELLOW = small effects, and GREEN = negligible effects. Few studies demonstrated large or even moderate effects of poverty on youth crime and violence. However, several studies identified small effects of some operationalisation of poverty on a youth criminal and/or violence outcome. Equally, many studies reported negligible effect sizes.

The largest effect sizes observed across single studies were reported for the effects of SES on gang affiliation (1.42), income on general offending (0.85), exposure to poverty on violent physical aggression (0.65), material deprivation on aggression towards siblings (physical and non-physical; 0.65), and financial problems (0.59) and familial economic situation (0.51) on general offending. Equally some studies reported negligible effect sizes for comparable outcomes, including the effect of household economic deprivation on violence (0.08), or household income on non-violent delinquency (0.03), for example.

Table 4 summarises the heterogeneity of the evidence for any relationship between poverty and youth crime and violence and reiterates the need for a meta-analysis to attempt to synthesise learning across the published literature.

Table 4. Summary of effect sizes by poverty and outcome measure. Effect sizes are Fisher's Z.

Socioeconomic status				
Outcome measure	**Poverty measure**	**Effect size (z)**	**N**	**Study**
Aggressive behaviour	Family SES	-0.16*	391	van Oort et al. (2011)*
Aggression with siblings (physical and non-physical)	Material deprivation	-0.65	4237	Tippett & Wolker (2015)
Antisocial behaviour	Family SES	-0.15*	2230	Veenstra et al. (2006)*
Conduct problems	Family SES age 10-12	-0.11	1515	Fontaine et al. (2019)
Crime involvement	Combined disadvantage	-0.26	456	Wikstrom et al. (2016)
	Family disadvantage	-0.13	456	
Delinquency (violent & nonviolent, or unclear)	Parental education	-0.07	1559	Chau et al. (2013)
	Maternal education	-0.02	497	Pagani et al. (1999)
	Social class	-0.05	1079	Hoeve et al. (2005)
Fighting	Maternal education	-0.02	497	Pagani et al. (1999)
Gang affiliation	Family socioeconomic status	-1.42*	3522	Dupéré et al. (2007)*
Nonviolent delinquency	Family SES age 10-12	-0.06	1515	Fontaine et al. (2019)
		-0.08	1515	

	Parental education	-0.02	168645	Kleinepier & van Ham (2018)
	SES	-0.15	824	Rekker et al. (2017)
		-0.04	323	van Oort et al. (2011)
Physical aggression (violent)	Maternal education	-0.21	2045	Mazza et al. (2016)
Physical aggression (violent & verbal)	Parental education	0.02	3861	Abada & Gillespie (2007)
Property offences		-0.00	2005	
Theft	Maternal education	-0.01	497	Pagani et al. (1999)
Violence & violent delinquency	Family SES age 10-12	-0.14	1515	Fontaine et al. (2019)
		-0.11	1515	
	Parental education	-0.12	9853	Norstrom et al. (2018)
Household income				
Outcome measure	**Poverty measure**	**Effect size**	**N**	**Study**
Aggression with siblings (physical and non-physical)	Household income	-0.12	4237	Tippett & Wolker (2015)
	Income poverty	-0.12	4237	
Bullying	Perceived and objective family income	-0.05*	12995	Pi-Sunyer et al. (2023)*
Delinquency (violent & nonviolent, or unclear)	Duration/timing of poverty	-0.04	497	Pagani et al. (1999)
	Insufficient income	-0.20	1559	Chau et al. (2013)
Drunk driving offence	Income support	-0.12	3414	Savolainen et al. (2018)
Externalising behaviour	Perceived and objective family income	-0.11*	12995	Pi-Sunyer et al. (2023)*
Fighting	Duration/timing of poverty	0.00	497	Pagani et al. (1999)
General offending	Family income	-0.85	29	Contreras & Cano (2014)
Nonviolent delinquency	Household income	-0.03	168645	Kleinepier & van Ham (2018)
Parental abuse	Family income	-0.19*	24	Contreras & Cano (2014)*
Physical aggression (violent)	Exposure to poverty	-0.27	2045	Mazza et al. (2016)
		-0.65	2120	Mazza et al. (2017)
Physical aggression (violent & verbal)	Household income	-0.03	3861	Abada & Gillespie (2007)
Property offences		-0.03	2005	
	Income support	-0.12	3414	Savolainen et al. (2018)
Recidivism	Family income	-0.14*	404	Contreras et al. (2011)*
Theft	Duration/timing of poverty	-0.06	497	Pagani et al. (1999)

Violence & violent offending	Family income	-0.08	9853	Norstrom et al. (2018)
	Income support	-0.14	3414	Savolainen et al. (2018)
Financial problems				
Outcome measure	**Poverty measure**	**Effect size**	**N**	**Study**
Aggression with siblings (physical and non-physical)	Financial stress	0.09	4237	Tippett & Wolker (2015)
Bullying	Financial problems	0.29*	1187	Magklara et al. (2012)*
Delinquency & delinquent attitudes (violent & nonviolent or unclear)	Economic situation	0.12	1690	Schepers (2016)
		0.19	1308	
	Financial problems	0.23	1258	Hoeve et al. (2005)
General offending	Financial problems	0.59	97	Paalman et al. (2011)
	Family economic situation	0.51	93	Ibabe & Jaureguizar (2010)
Violence against parents		-0.12*	93	Ibabe & Jaureguizar (2010)*
Neighbourhood deprivation				
Outcome measure	**Poverty measure**	**Effect size**	**N**	**Study**
Antisocial behaviour	Disadvantaged local area	0.23	2528	Estévez & Emler (2010)
Child offending	Neighbourhood deprivation	0.10	5217	Jahanshahi et al. (2022)
Crime involvement	Neighbourhood disadvantage	0.20	456	Wikstrom et al. (2016)
Delinquency (violent & nonviolent, or unclear)		0.07	15857	Weijters et al. (2009)
	Neighbourhood disadvantage (SES)	0.32	3531	van Minde et al. (2021)
Gang affiliation	Neighbourhood concentrated economic disadvantage	0.30*	3522	Dupéré et al. (2007)*
General offending	Deprived vs privileged school	0.26	4608	Sandahl (2021)
	Neighbourhood local disadvantage	0.03	794	Vogel et al. (2020)
	Neighbourhood local disadvantage	0.01	794	
Nonviolent delinquency	Community economic deprivation	0.02	5491	Bernburg et al. (2009)
	Neighbourhood disadvantage	0.11	168645	Kleinepier & van Ham (2018)
Personal offences	Disadvantaged local area	0.17	2528	Estévez & Emler (2010)
Property offences		0.12	2528	

Recidivism	Neighbourhood deprivation	0.21*	398	Contreras et al. (2011)*
Violence & violent offending	Community economic deprivation	0.02	5491	Bernburg et al. (2009)
	Deprived vs privileged school	0.38	4608	Sandahl (2021)
	Neighbourhood deprivation	0.12	297752	Sariaslan et al. (2013)
	Neighbourhood local disadvantage	0.05	794	Vogel et al. (2020)
	Neighbourhood local disadvantage	0.02	794	
Unemployment*				
Outcome measure	**Poverty measure**	**Effect size**	**N**	**Study**
Bullying	Parental unemployment	0.12*	2427	Magklara et al. (2012)*
Delinquency	Parental labour force nonparticipation	0.05*	168645	Kleinepier & van Ham (2018)*
General offending	Parental unemployment	0.07*	4608	Sandahl (2021)*
		-0.04*	794	Vogel et al. (2020)*
Violence/Violent offending	Parental unemployment	0.21*	4608	Sandahl (2021)*
		0.02*	794	Vogel et al. (2020)*
Household deprivation*				
Outcome measure	**Poverty measure**	**Effect size**	**N**	**Study**
Child offending	Household deprivation	0.13*	5217	Jahanshahi et al. (2022)*
Delinquency	Household economic deprivation	0.12*	5491	Bernburg et al. (2009)*
Violence		0.08*	5491	
Effect size:	Negligible: z < 0.1	Small: 0.1<z<0.3	Moderate: 0.3<z<0.5	Large: z>0.5

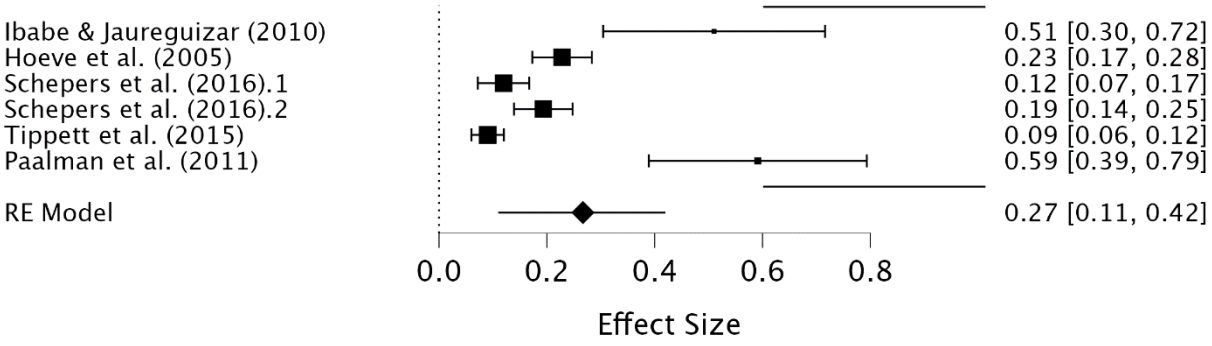
*Not included in full meta-analysis

In the following section we present the results of the systematic review and meta-analysis organised around our research questions.

What is the strength and nature of the relationship between poverty and youth crime and violence?

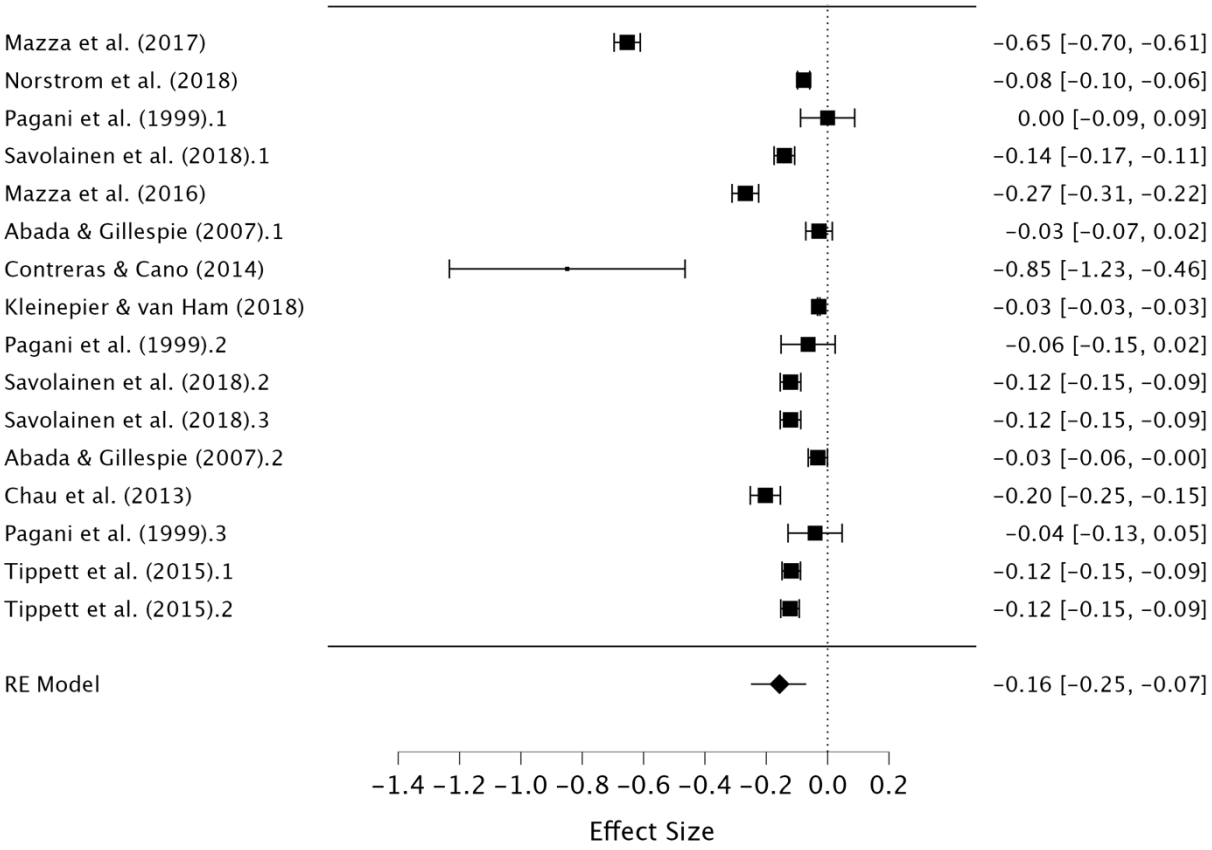
To answer this research question, we aggregated violent and non-violent youth crime to create an overall outcome measure – youth crime and violence. We meta-analysed the associations between 1) SES, 2) income, 3) neighbourhood deprivation, and 4) financial problems on youth crime and violence. All showed statistically significant effects indicating that all four operational measures of poverty have an association with youth crime and violence. Overall, financial problems (Fig. 2) showed the strongest effect size (0.27) – a small bordering moderate effect.

Figure 2. Financial Problems and Overall Youth Crime



This was followed by income (Fig. 3) which showed a small effect size (-0.16) where, as income decreases the effect on youth crime and violence increases.

Figure 3. Income and Overall Youth Crime



Neighbourhood deprivation (Fig. 4) and SES (Fig. 5) also demonstrated small effect sizes (0.13 and -0.11) on youth crime and violence.

Figure 4. Neighbourhood Deprivation and Overall Youth Crime

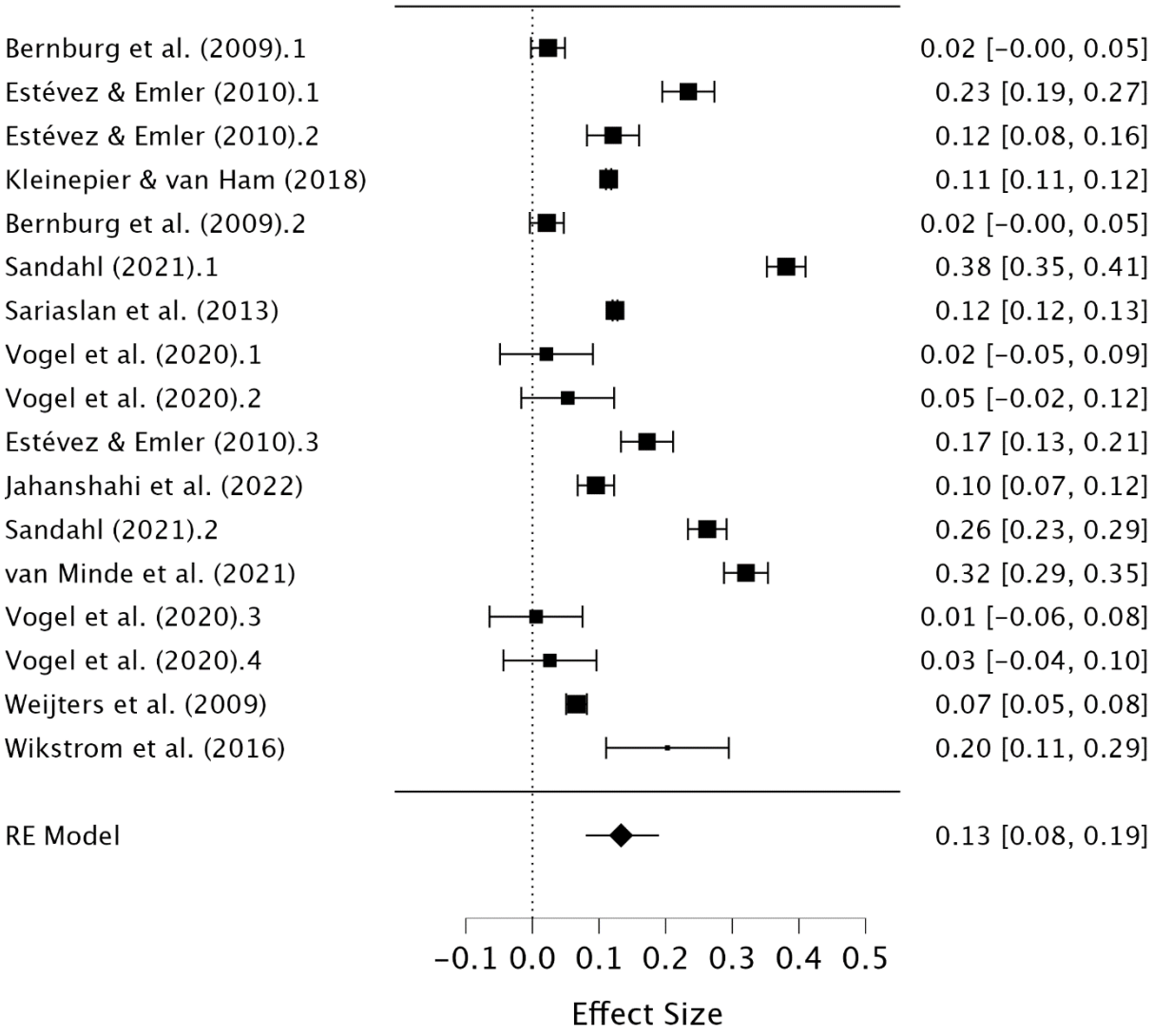
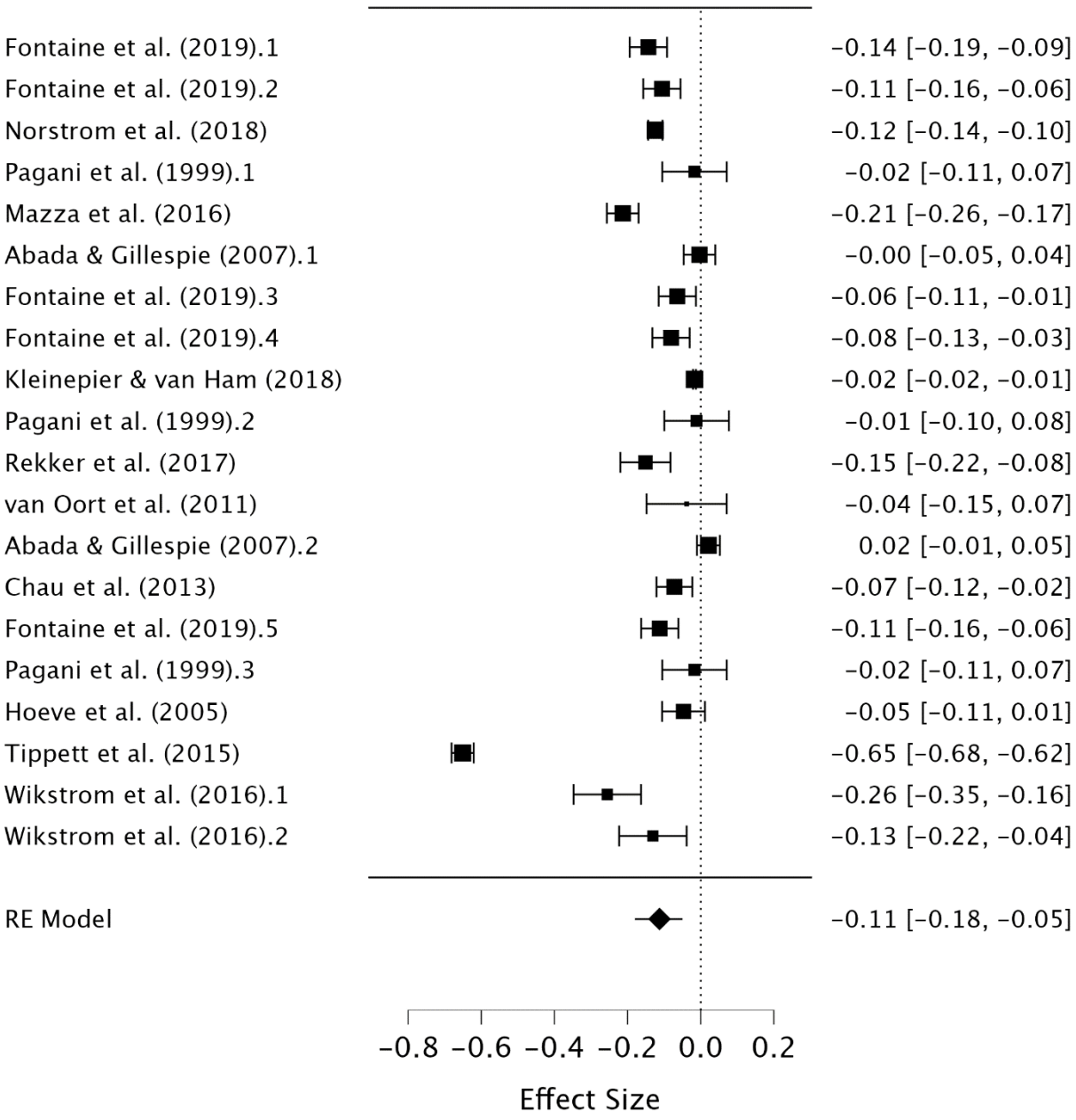


Figure 5. High SES and Overall Youth Crime



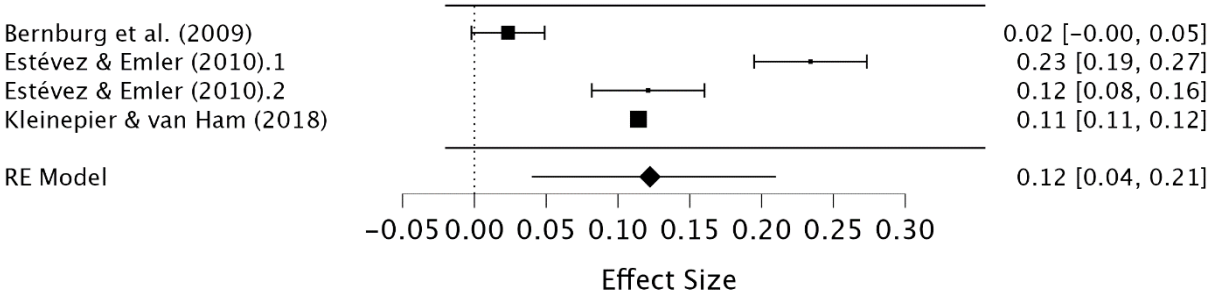
Overall, the results suggest that poverty has a small effect on youth crime and violence, where different individual- and neighbourhood-level experiences of poverty are associated with an increased likelihood of engagement in youth crime and violence.

Does poverty have a different relationship with crime and violence depending on the specific offence type?

To address this research question, we looked to see if our poverty measures had differential effects on offence-type aggregated by violent or non-violent crime. In the first set of models, we meta-analysed if and how strongly non-violent crime outcomes are associated with 1) SES, 2) income, 3) neighbourhood deprivation.

All three poverty measures showed statistically significant associations with non-violent crime. Neighbourhood deprivation (Fig. 6) was the strongest predictor of non-violent youth crimes, demonstrating a small effect size (0.12).

Figure 6. Neighbourhood Deprivation and Non-violent Crime



This was followed by (2) income (Fig. 7 (-.09), and (3) SES (Fig. 8; -.05), which negligible effect sizes (see Table 4).

Figure 7. Income and Non-violent Crime

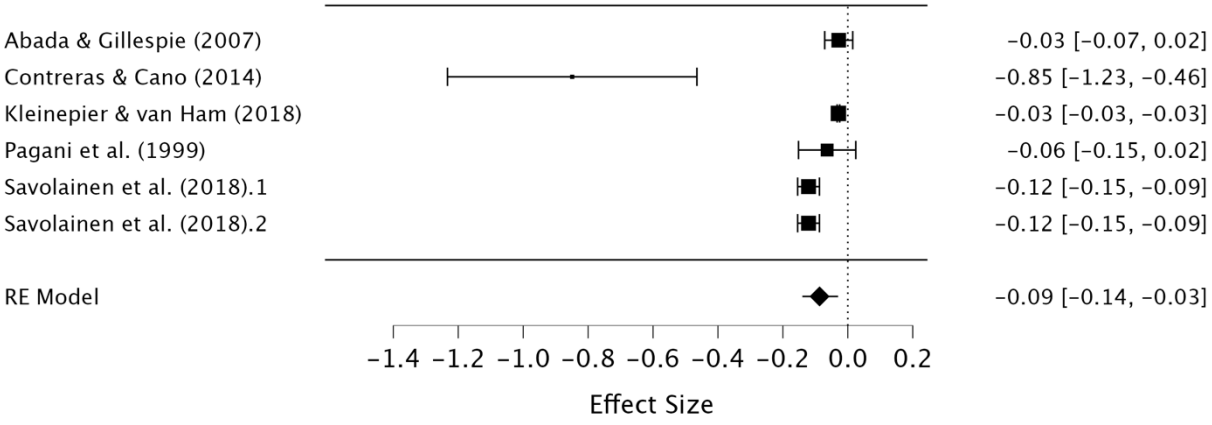
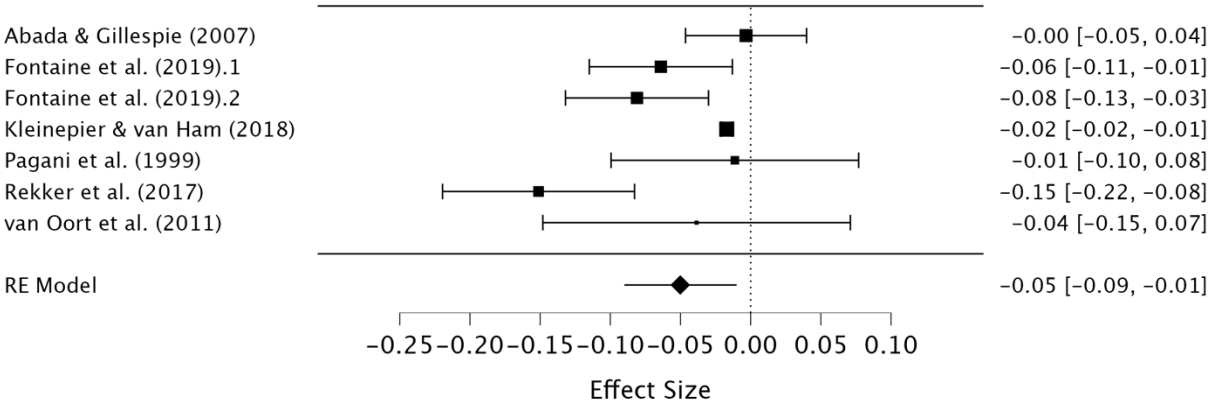


Figure 8. SES and Non-violent Crime



Second, we examined the associations between 1) SES, 2) income, 3) neighbourhood deprivation and violent crime outcomes. SES (-.13; Fig. 9) and income (-.23; Fig. 10) showed a statistically significant association with violent crimes, demonstrating small effect sizes.

Figure 9. SES and Violent Crime

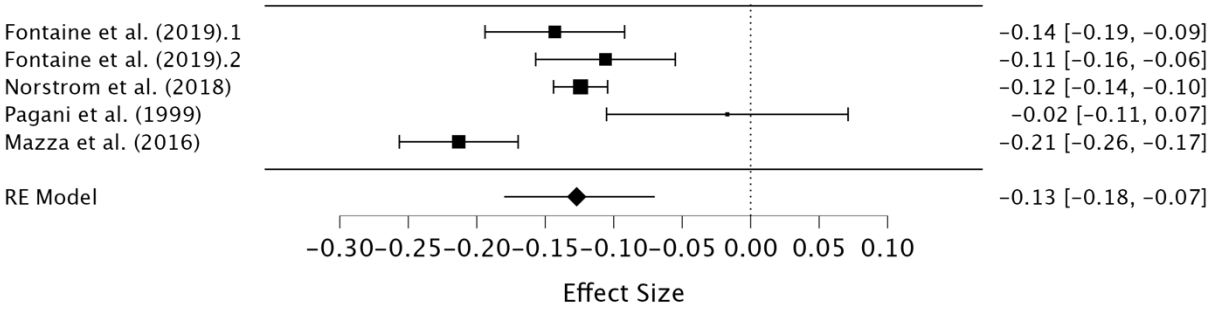
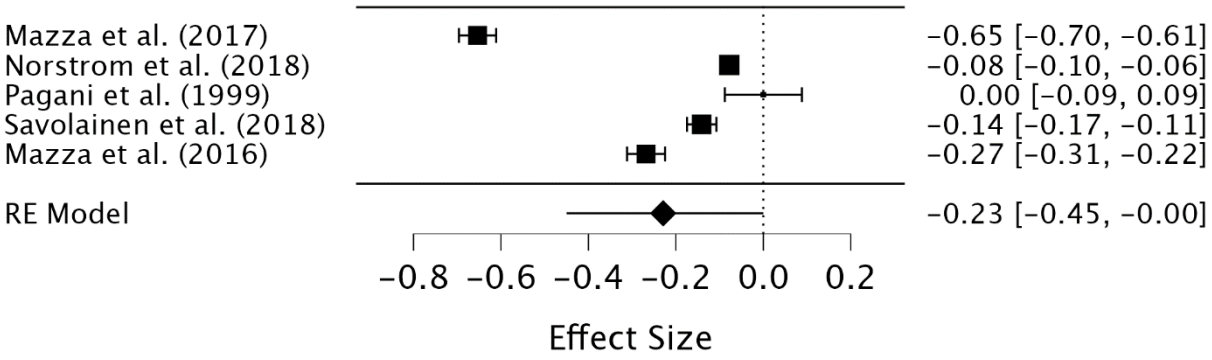


Figure 10. Income and Violent Crime



The effects for neighbourhood deprivation (Fig. 11) on violent crime were non-significant (see Table 4).

Figure 11. Neighbourhood Deprivation and Violent Crime

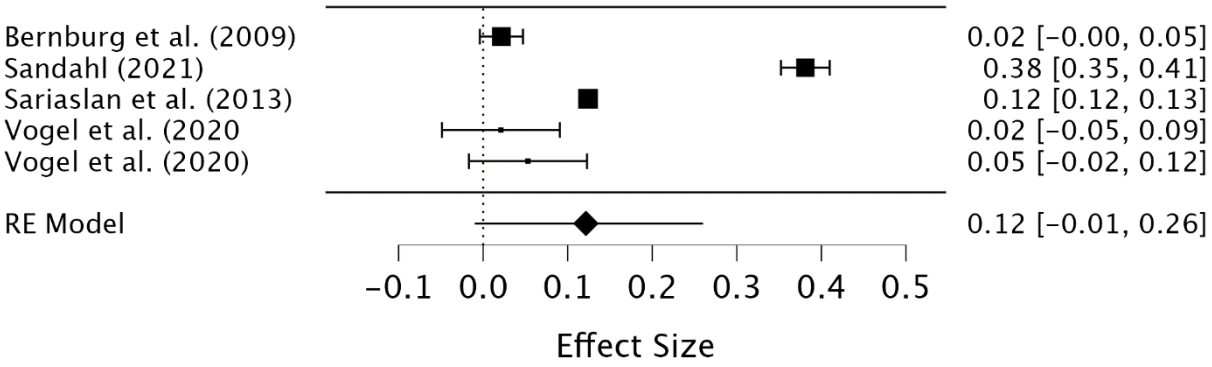


Table 5. Meta-analytic effect sizes for SES, income, financial problems and neighbourhood deprivation on overall non-violent and violent crimes, non-violent crimes and violence.

	Crime and Violence Outcomes						
Poverty Measure	***k* (N_{ES})**	***z***	**95% CI**	***r***	τ^2	I^2	***Q***
	Non-Violent Crime						
SES	6 (7)	-.05	[-.09, -.01]	-.05*	.002	79.50%	24.38***
Income	5 (6)	-.09	[-.14, -.03]	-.09**	.003	92.55%	74.09***
Neighbourhood Deprivation	3 (4)	.12	[.04, .21]	.12**	.01	98.04%	84.58***
	Violent Crime						
SES	4 (5)	-.13	[-.18, -.07]	-.13***	.003	87.36%	21.75***
Income	5 (5)	-.23	[-.45, -.00]	-.23*	.07	99.46%	613.80***
Neighbourhood Deprivation	4 (5)	.12	[.01, .26]	**.12 n.s.**	.02	99.26%	377.97***
	Overall Crime and Violence						
SES	12 (20)	-.11	[-.18, -.05]	-.11***	.02	97.64%	1922.19***
Income	10 (16)	-.16	[-.25, -.07]	-.16***	.03	99.39%	1138.27***
Financial	5 (6)	.27	[.11, .42]	.27***	.03	97.55%	56.23***
Neighbourhood Deprivation	10 (17)	.13	[.08, .19]	.13***	.01	99.64%	795.07***

Note: *p < .05; **p < .01; ***p < .001; k = Number of samples; N_{ES} = Number of effect sizes; z = Fisher's effect size; 95% CI = 95% Confidence Interval; r = Pearson's correlation coefficient; τ^2 = tau-squared statistic; I^2 = I^2 heterogeneity statistic; Q = Cochran's Q; † = p < .10.

How much does the extent and persistence of poverty matter across childhood for predicting involvement in violence?

It was not possible to answer this research question through meta-analysis, as too few studies that met our inclusion criteria provided extractable effect sizes. We conducted qualitative coding in the studies we did identify to analyse findings relevant to this question. Six of the included studies examined aspects of how the timing, persistence, and context of poverty exposure might influence involvement in crime and violence (Jahanshahi et al 2022; Mazza et al 2016; Pagani et al 1999; Pi-Sunyer et al 2023; Kleinepier & van Ham 2018;). **Overall, the evidence suggests that children who live in persistent poverty experience poorer outcomes, including engagement in crime and/or violence, than children who never experience poverty growing up** (Jahanshahi et al 2022; Mazza et al 2016; 2017). However, when it comes to identifying particularly sensitive periods, the evidence is more mixed.

Two studies suggest that adolescence can be a particularly sensitive period for the effects of poverty on crime and violence outcomes (Pagani et al, 1999; Pi-Sunyer et al 2023). Pagani et al (1999) examined how the timing of poverty exposure influences delinquency in adolescence. The research showed that boys who experience poverty later in childhood or during adolescence demonstrated higher rates of delinquency at age 16. This suggests that adolescence may be a sensitive period during which exposure to poverty has an impact on crime and violence outcomes. The authors suggest it is experiences of 'having' versus 'not having' that may be important during this sensitive period, and in fact have a greater effect on serious delinquency than growing up in persistent poverty.

Similarly, Pi-Sunyer et al (2023) found that adolescent's **perceptions** of relative deprivation, that is feeling like they are worse off than their peers, was especially harmful in terms of perpetrating bullying in adolescence, even over and above objective deprivation, that is whether they actually were, or not, worse off than their peers.

However, other evidence suggests that early childhood may be an equally critical sensitive period for crime and violent outcomes. In Canada, Mazza et al (2017) analysed the data of just over 2,000 children from infancy up until 13 years old, to understand how exposure to poverty impacted on physical aggression in early adolescence. They found that it was the earliest years of life which were most significant for the development of physically aggressive behaviours at age 13, where this sensitive period (0 – 3 years old) outperformed later exposure to poverty. This is similar to the authors findings from a previous study (Mazza et al 2016), which looked at the impact of poverty on physical aggression between the ages of 1.5 and 8 years old and found a significant effect of poverty on physical aggression during early and middle childhood. However, Mazza et al (2016) noted that over time, physically aggressive behaviour in children decreased over time in **both** poverty exposed and non-poverty exposed children, suggesting that in both groups there is a tendency of physically aggressive behaviours in early to middle childhood to stabilise over time.

Adding further complexity, Kleinepier & van Ham (2018) examined the effects of the timing, duration, and sequencing of neighbourhood deprivation on adolescent delinquency and found that those who either grew up in or who moved to a more **affluent** neighbourhood were more at risk of engaging in non-violent delinquent behaviour than those who grew up in a deprived neighbourhood. Whilst these results might appear counterintuitive, the authors suggest a possible explanation is that increased supervision in more affluent neighbourhoods may lead to higher rates of parents and/or other caregivers reporting the delinquent behaviours of their children.

Overall, while persistent poverty is associated with an increased risk of youth crime and violence, the evidence about sensitive periods is mixed. Some studies suggest that adolescence may be a particularly vulnerable period, while others highlight early childhood, particularly the first three years of life, as formative for crime and violent outcomes.

What is the relationship between poverty at individual level and area level in predicting violence?

Again, it was not possible to address this research question with meta-analysis, however two of the included studies presented results which specifically looked at the relationship between individual- and area-level deprivation. Bernburg et al (2009) looked at how individual-level economic deprivation and economic deprivation at the school level, related to each other in terms of delinquency and violence in 5,500 Icelandic school children. They found that in schools where economic deprivation is common, the effect of individual-level deprivation was almost zero. That is, when children went to school with peers who lived in relatively similar economically deprived conditions to themselves, there was almost no effect of individual-level economic deprivation on delinquency and violence. However, in schools where economic deprivation was rare, individual-level economic deprivation **was** important and did have a significant effect on the likelihood of adolescents engaging in delinquency and violence. This accords with results described in the previous section, that it is the perception of relative deprivation in adolescence that is particularly important for children during this sensitive period, over and above actual, objective experience of poverty (Pagani et al 1999; Pi-Sunyer at al 2023) .

However, Jahanshahi et al (2022) found that when accounting for Adverse Childhood Experiences (ACEs), the effect of family-level poverty was less important than neighbourhood-level poverty in terms of offending in childhood. ACEs are negative experiences in childhood which research shows impact on a range of harms in later life outcomes, including poor physical and mental health, and involvement with the criminal justice system. Jahanshahi et al (2022) argue that poverty in and of itself is not driving engagement in criminal offending in childhood, rather that poverty is an indicator of, or the result of, an accumulation of other related ACEs. For instance, if a parent is incarcerated, the family may be more likely to experience poverty, as the household is now operating with one less income. In their study of over 5,000 Scottish families, they found that after accounting for ACEs, it was in fact neighbourhood poverty which was the strongest predictor of childhood offending.

These results are not necessarily conflicting, rather they demonstrate the complexity of the question. Unfortunately, we did not find enough evidence to conclusively answer this research question, and suggest this area of research is in need of further investment, particularly in the UK context. Additionally, the development of harmonised sets of measures may also make this research endeavour more productive.

What are the key factors that affect the relationship between poverty and youth crime and violence? Do these factors interact differently for different types of children and/or families?

To understand the key factors that affect the relationship between poverty and youth crime and violence, as part of the meta-analysis we conducted a series of moderator analyses and meta-regressions. The results also shed light on how the factors might interact differently for different types of children and families.

We tested the moderating effects of sex, geographical location, and household type (single parent versus two-parent) on the relationship between poverty (SES, income, and neighbourhood deprivation) and youth crime and violence (overall youth crime and violence, violence, and non-violent youth crime). As previously described, we had planned to do further moderator and meta-regression analyses looking at ethnicity, children with different needs, and so on, but these were not possible after inspecting the included studies. Below we describe the significant findings and report all non-significant findings in Table 6.

Sex

First, in terms of sex, our results showed mixed results for the relationship between SES, income, neighbourhood deprivation and financial problems on youth crime and violence, non-violent crime and violence. First, we did not detect any sex differences for the relationship between SES, income, and neighbourhood deprivation, and youth crime and violence.

However, the relationship between financial issues and youth crime and violence was moderated by sex. More specifically, samples with higher percentages of boys were significantly more likely to report a stronger relationship between financial problems and youth crime and violence, b = .78, 95% CI [.06, .15], p < .05. Additionally, sex moderated the relationship between income, b = -.16, 95% CI [-.20, -.12], p < .001 and neighbourhood deprivation, b = .67, 95% CI [.55, .79], p < .01. This means that samples with higher percentages of boys were significantly more likely to show a protective effect of income on non-violent crime, while the relationship between experiencing neighbourhood deprivation and reporting non-violent crimes was also stronger among boys.

Lastly, the relationship between SES and violence was moderated by sex, indicating that among boys the protective effects of SES on violence are weaker compared to the girls, b = .21, 95% CI [-.18, .61], p < .05. However, it's important to note that it wasn't possible to

conduct any analyses beyond the male/female dichotomy, as no studies reported enough information about any other gender to meet the threshold for moderator analyses.

All other results are reported in Table 6.

Family household type

Analysis of family household looked at whether single-parent households experienced the relationship between poverty and youth crime and violence, differently, to two parent families. Again, we ran moderator analyses examining the effect of family-household type on youth crime and violence, violence, and non-violent crime. First, family household type did moderate the relationship between **SES** and **neighbourhood deprivation** and youth crime and violence. We found significantly stronger **protective effects** of high SES among single-parent families compared to families with two parents, b = -.02, 95% CI [-.02, -.01], p < .001. This means that for families with a single parent or caregiver, higher socioeconomic status has a greater protective effect against engagement in youth crime and violence, than for two parent families. The inverse is also true, where low SES has a stronger risk effect for children living in single parent families than children living in two parent families.

We also found a significantly weaker relationship between neighbourhood deprivation and youth crime and violence among single-parent families compared to families with two parents, b = -.01, 95% CI [-.01, -.004], p < .001. This means that children living in single parent families experience **less** of a risk effect from neighbourhood-level deprivation than children living in two parent families. This may be because children living in single parent families experience more family- and/or individual level poverty-related risk factors (such as lower familial income) and so the risk effects of neighbourhood deprivation are less impactful overall compared to children who live in two parent families.

Family household type did not moderate the relationship between income on youth crime and violence. However, when we disaggregated the outcome measure into violent versus non-violent crime, family household type **did** moderate the relationship between income and **non-violent crime**. We found significantly weaker protective effects of high income among families with two parents compared to single-parent families, b = .004, 95% CI [.003, .005], p < .00. This means that for children living in single parent families the protective effect of higher income is greater than for children living in two parent families. The inverse is also true in that children living in single parent families experience greater risk effects from low income than children living in two parent families.

All other results are reported in Table 6.

Geographical Location

For geographical location, we compared studies who included participants from different countries, to see if children and families living in different places experience the

relationship between poverty and youth crime and violence, differently. First, we conducted moderator analyses examining any effect of using data from the UK, or other non-UK countries. As above we ran all possible moderator analyses and report all significant results below. All other results are reported in Table 6.

Overall, no significant moderation effects of geographical location comparing 'UK vs non-UK' emerged for **income** and **neighbourhood** on youth crime and violence. This is potentially important for understanding if and how we can extrapolate findings from studies engaging with children and families from outside of the UK (Europe, Canada, Australia) to the UK context – these results provide tentative evidence to suggest that we can.

However, we did identify significant differences in terms of SES. We found significantly stronger protective effects of high SES on youth crime and violence in the UK compared to non-UK countries, b = -.29, 95% CI [-.43, -.15], p < .001. This means that children living in the UK experience a greater protective effect of higher SES than children living in other countries. The inverse is also true in that children living in the UK experience greater risk effects of lower SES than children living in other countries.

Second, we compared studies that used data from children and families living in European versus non-European countries. No differences were found.

Next, we assessed the differential effects of how studies operationalised poverty on violent versus non-violent youth crime.

Differential Effects of the Individual Poverty Measures

As previously, we ran all potential moderator analyses. We found significantly stronger protective effects of SES on non-violent crime compared to violent crimes, b = -.006, 95% CI [-.12, -.001], p > .05. This means that higher SES has a greater protective effect against engagement in non-violent crime, than violent crime. No other significant results were observed. All other results are reported in Table 6.

Table 6. Moderation and meta-regression results.

Moderator	**Outcome**	**Poverty Measure**	**Effect size, CI and significance level**
Sex	**Non-violent and violent crimes**		
		SES	b = .22, 95% CI [-.18, .61], p > .05
		Income	b = .04, 95% CI [-.10, .17], p > .05
		NBHD	b = -.03, 95% CI [-.01, .02], p > .05
		Financial	*significant*
Sex	**Non-violent crime**		

		SES	*b* = .09, 95% CI [-.17, .36], *p* > .05
		Income	*significant*
		NBHD	*significant*
		Financial	N/A
Sex	**Violent crime**		
		SES	*significant*
		Income	N/A
		NBHD	*b* = -2.23, 95% CI [-7.9, 3.3], *p* > .05
		Financial	N/A
Family Type	**Non-violent and violent crimes**		
		SES	significant
		Income	*b* = -.07, 95% CI [-.27, .15], *p* > .05
		NBHD	significant
		Financial	N/A
Family Type	**Non-violent crime**		
		SES	*b* = .09, 95% CI [-.17, .36], *p* > .05
		Income	significant
		NBHD	N/A
		Financial	N/A
Family Type	**Violent crime**		
		SES	N/A
		Income	N/A
		NBHD	*b* = -.31, 95% CI [-1.31, .70], *p* > .05
		Financial	N/A
UK vs non-UK	**Non-violent and violent crimes**		
		SES	significant
		Income	*b* = .03, 95% CI [-.25, .30], *p* > .05
		NBHD	*b* = .05, 95% CI [-.08, .17], *p* > .05
		Financial	N/A
UK vs non-UK	**Non-violent crime**		
		SES	N/A
		Income	N/A
		NBHD	*b* = .13, 95% CI [-.04, .31], *p* < .05
		Financial	N/A
UK vs non-UK	**Violent crime**		
		SES	N/A
		Income	N/A

		NBHD	N/A
		Financial	N/A
Europe vs non-Europe	**Non-violent and violent crimes**		
		SES	*b* = -.11, 95% CI [-.24, .02], *p* > .05
		Income	*b* = -.01, 95% CI [-.20, .18], *p* > .05
		NBHD	N/A
		Financial	N/A
Europe vs non-Europe	**Non-violent crime**		
		SES	*b* = .09, 95% CI [-.17, .36], *p* > .05
		Income	*b* = -.06, 95% CI [-.15, .04], *p* > .05
		NBHD	N/A
		Financial	N/A
Europe vs non-Europe	**Violent crime**		
		SES	N/A
		Income	*b* = .22, 95% CI [-.42, .86], *p* > .05
		NBHD	N/A
		Financial	N/A
Violent vs non-violent crime			
		SES	significant
		Income	*b* = -.08, 95% CI [-.37, .22], *p* > .05
		NBHD	*b* = .01, 95% CI [-.17, .19], *p* > .05
		Financial	N/A

Note: This table **only** reports the effect sizes, 95% confidence intervals (CI) for moderation and meta-regression analyses that were **non-significant**. All significant moderation and meta-regression results are reported in the main table.

Summary

Overall, WP1 presents evidence that poverty is associated with engagement in youth crime and violence. We found significant but small effect sizes of various measures of poverty on various measures of crime and violence, across over half a million children and families living in the UK, Europe, Canada, and New Zealand. Critical appraisal identified our included studies were generally acceptable, suggesting we can be reasonably confident that the results are not biased by poor research design.

We found that experiencing poverty, as operationalised by research in different ways (SES, income, neighbourhood deprivation, etc) relates to an increased risk of engagement in youth crime and/or violence – in this way, poverty is a risk factor for youth crime and violence. However, we did not identify evidence to make causal claims. Our results do not show that poverty causes youth crime and violence. From the evidence we gathered, we can only say it is associated with an increased risk of the outcome.

Reasons why we couldn't isolate causal effects include the types of research design we identified (i.e. cross-sectional research studies cannot speak to causality), and the fact that isolating the effects of poverty from its socio-structural consequences is challenging. Even where studies control for possible external influences, detangling the effects of poverty as we defined it, from its potential causes and consequences, is difficult. Also important to note, is that meta-analysis of direct effects does not account for potential confounders. Moderator analysis identifies external influences which can change the relationships we identified, but it wasn't possible to conduct moderator analyses with all the potential confounders of this complicated relationship.

However, identifying that poverty is a risk factor is important as a way of highlighting a population who may benefit from intervention, and for designing interventions to generate evidence capable of testing any causal relationship.

WP 2: Scoping review of interventions on poverty impacting on youth crime and violence

The aim of WP 1 was to synthesise evidence to understand the relationship between poverty and youth crime and violence. The purpose of WP2 was to systematically scope the size, quality, and coverage of the evidence for interventions on poverty which impact upon youth crime and violence to identify the potential for a future systematic review. While there is some evidence which looks at interventions to reduce poverty to mitigate against different harms and vulnerabilities, to date, we are not aware of any attempts to systematically scope the evidence for interventions which aim to reduce poverty to impact upon youth crime and violence.

We conducted a scoping review, which took a broad approach to identify the different types of interventions, assess the quality of the evidence, and provide recommendations on the feasibility of a more focussed systematic review in the future.

A scoping review is an exploratory type of review which maps the literature on a particular topic. It is an ideal tool to determine the size, scope, and coverage of an evidence base. A similarly systematic process of literature search in WP1 was used to identify relevant studies in WP2. A quality assessment with a formal tool provides an easily interpretable assessment of the included studies. Included studies are summarised as a searchable web database, including an evidence and gap map, here.

In the following section we first describe how we identified our included studies, before we describe the scope and range of interventions we identified, the quality of the evidence base, and provide our recommendations for future evidence syntheses.

Objectives & Review Questions

We aimed to answer the following questions:

1. What is the scope and range of interventions that aim to reduce poverty **and** impact upon crime and violence?
2. What is the quality of the evidence?
3. Is there scope and direction for future systematic reviews?

Defining the scope

WP2 implemented the same scope and definition as WP1 (please see above)

Developing the search protocol

WP2 used the same search protocol as WP1.

Conducting the review

Pre-registration

The review protocol was prospectively registered on Prospero, ID number CRD42023416868, here.

Database searches

Literature searches were conducted across relevant electronic databases including Web of Science, Medline, PsychINFO, Pro Quest, and International Bibliography of the Social Sciences (IBSS). The following search terms were used. These search terms were identical to WP1, except for the inclusion of search terms designed to identify interventions:

Violence

(abus* OR aggress* OR "antisoci* behavio?r" OR “externali?s* behavio?r*” OR arrest OR assault OR bully* OR burglary OR crime OR criminal OR delinqu* OR devian* OR exploit* OR firearm OR gang OR gun OR homicid* OR "justice involv*" OR "justice system" OR offend* OR perpetr* OR prison* OR violence OR violent OR weapon OR knife OR knives OR robbery OR murder OR vandal* OR recidivis* OR rape OR "sexual harass*" OR theft OR steal* OR shoplift* OR fraud OR “stop and search” OR “gender-based violence” Or stabbing OR reoffend* OR unlawful OR convict* OR “hot spot” OR court OR lawbreaking)

AND

Youth

(adolesc* OR boys OR child* OR girls OR juvenile OR minor OR student OR teen* OR young OR "early years" OR “school-age” OR youth)

AND

Poverty

("adverse childhood experiences" OR "built environment" OR "social class" OR depriv* OR disadvantage* OR dispar* OR earn* OR “child benefit*” OR econom* OR financ* OR “universal credit” OR “employment and support allowance” OR “personal independence pay*” OR "food insecurity" OR hardship OR homeless OR housing OR impoverish* OR income OR money OR "neighbo?rhood characterist*" OR "neighbo?rhood condit*" OR "neighbo?rhood context" OR "neighbo?rhood disadvantage" OR "neighbo?rhood effect" OR "neighbo?rhood factor" OR "material resources" OR "social disorgan*" OR "social exclusion" OR "socio-econom*" OR sociodemograph* OR socioeconom* OR unemploy* OR welfare OR employ* OR destitu* OR salar* OR debt OR cash OR money OR "standard* of living" OR "living standard" OR "cost of living" OR expense* OR "free school meals" OR poverty OR inequality)

AND

Intervention

(evaluat* OR intervent* OR longitudin* OR prevent* OR program OR “protective factor” OR “public health” OR “random* control* trial” OR service OR support OR system OR project OR “ multi-agency” OR multiagency OR campaign OR strategy OR initiative OR assistance OR alleviat* OR mitigat* OR promot* OR upgrad*)

As in WP1, the grey literature search strategy is described in Appendix B.

Inclusion criteria, sifting, and data extraction

Full text versions of identified studies were obtained by following the same procedure as described in WP1. Once the search results were identified, we reviewed the potential studies against our inclusion criteria.

Given the low volume of results and the anticipated paucity of relevant studies, the decision was made to adopt less stringent inclusion criteria so as not to exclude any pertinent or promising literature. For instance, interventions were not limited to those only focussing on samples defined as ‘youth’. Rather we included all studies that did not exclusively target infants (under age 5 years old) or older adults (over 60 years old). Equally, our search strategy was not limited to the UK, and instead included all Western countries. A key difference to WP1, here, is that we did include relevant studies from the US. Again, this was because WP2 constituted a scoping exercise, and it was determined useful to understand the full landscape of the evidence base, leaving the potential for any future systematic review to include or exclude certain countries as appropriate. We also

considered outcomes beyond 'crime and violence', as detailed in YEF's primary outcomes framework, for inclusion. Inclusion/exclusion criteria for WP 2 were as follows.

Studies were included if they:

1. Reported on an intervention with an explicit aim of reducing poverty
2. Reported at least one crime and or violence outcome of the intervention (not limited to youth)
3. Met the agreed upon definition of 'poverty'
4. Met the agreed upon definition of 'primary outcome' (see YEF primary outcomes framework, here)
5. Reported a target population not exclusively 0 – 5 year olds, or older adults (UN defines older adult as 60 years and above)
6. Were empirical (either qualitative or quantitative). Single case studies were excluded
7. Include participants are from a Western country (exclude developing countries)
8. Were available in English

Eligible references were imported into EPPI 4 Reviewer. First, the team sifted eligible studies on title and abstract. The second stage involved more comprehensive full text searches to arrive at the final included studies list. We identified 69 studies eligible for inclusion.

The results of our search strategy are summarised by Figure 12.

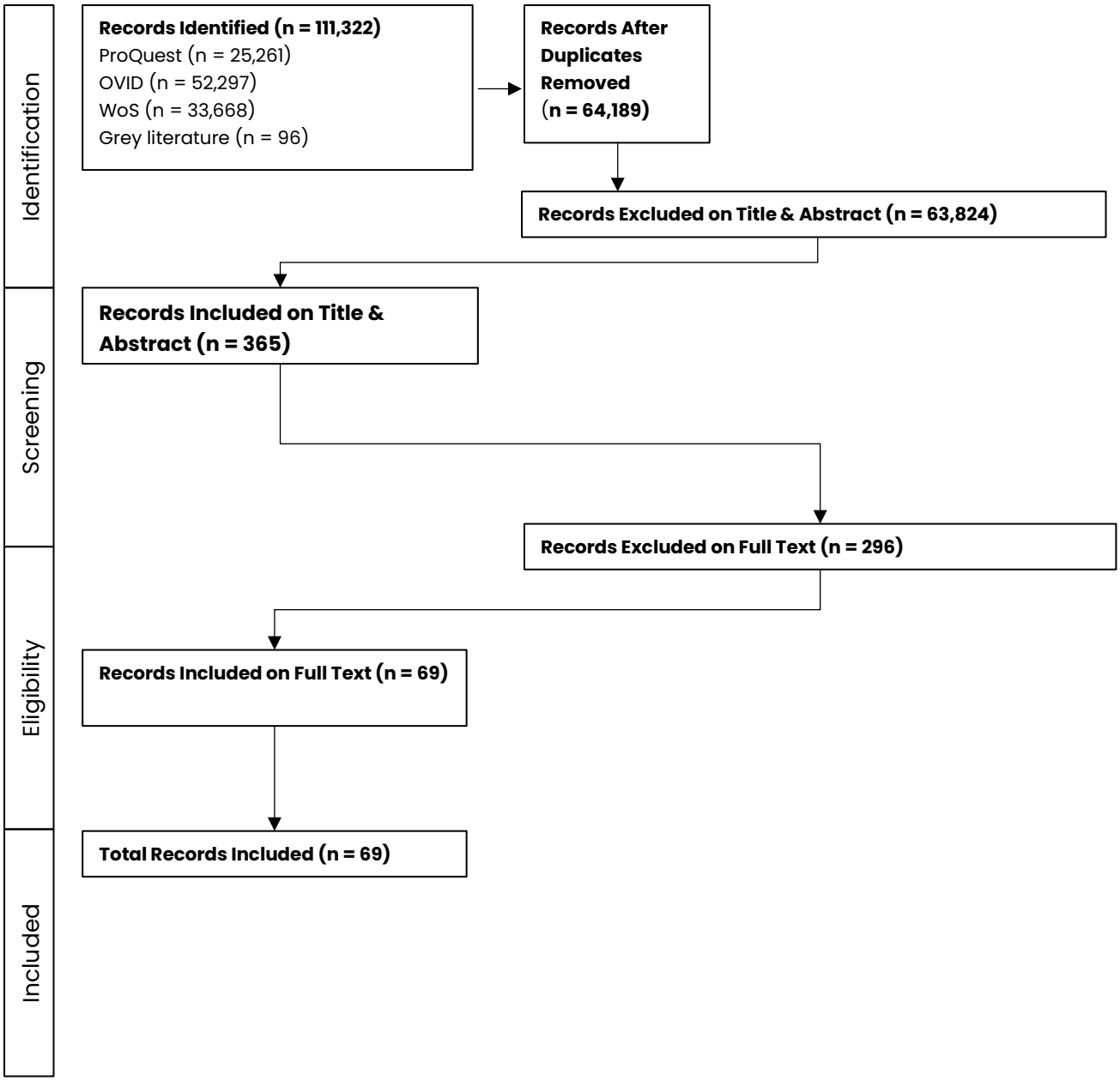


Figure 12. Prisma flow chart of systematic review process

Critical appraisal assessment

A previously designed critical appraisal tool was used to assess the quality of all included studies. The features of included studies were examined to identify if any aspects of the design or conduct of the study could lead to unreliable or misleading results. Given the purpose of this review was to scope the literature, we adopted a more lenient tool to give a basic appraisal of quality. Future systematic reviews may want to apply more stringent risk of bias assessments.

The tool was previously designed by the Campbell Collaboration along with the Early Intervention Foundations, and reported in YEF's EGM, here. The critical appraisal tool included the following items:

1. Is the intervention clearly named and described, including all relevant components?
2. Are the evaluation questions clearly stated?
3. Is there a low score on any item (e.g. evaluation questions or study design)?

Items were scored High, Medium, or Low. A Low score on any item results in an overall rating of Low. No score on any item lower than Medium results in a Medium score overall. High on all items resulted in a High score.

Results

What is the scope and range of interventions that aim to reduce poverty and impact upon crime and violence?

Our systematic search process identified 69 studies which met our inclusion criteria. A searchable web database as well as an evidence and gap map summarising our findings can be found here. We coded the included studies by the following characteristics:

1. Outcomes
    a. Crime & violence outcomes
    b. Criminal justice outcomes
    c. Non-criminal outcomes
    d. Positive outcomes
2. Interventions
    a. Income
    b. Housing
    c. Employment
    d. Community/ Neighbourhood
    e. Education
3. Sample characteristics
    a. Country
    b. Sex
    c. Age
4. Study design
    a. Cross-sectional
    b. Longitudinal
    c. Quasi-experimental
    d. Randomised control trial
    e. Systematic review
    f. Qualitative
    g. Mixed methods
5. Data source
    a. Administrative

b. Police
c. Survey

Table 7 summarises the included studies by aggregating intervention-types and outcomes. Whilst the evidence in general is limited, we have coloured coded Table 8 to highlight where the **most** evidence is, and where there are **substantial gaps**, to signal possible directions for any future systematic review. Areas highlighted in RED summarise the least evidence and areas highlighted in GREEN summarise where there is the most evidence.

Table 7. Crosstab of aggregated intervention-types by outcomes for all included studies (n = 69).[5]

	Income	Housing	Employment	Community/ Neighbourhood	Education
Crime & violence outcomes	9	8	14	10	2
Criminal justice outcomes	6	14	19	1	1
Non-criminal outcomes	10	7	8	1	1
Positive outcomes	8	9	11	1	1

Table 8 describes the different types of interventions we identified. 19 of the interventions we identified targeted employment by providing internships, job/skills training, or work incentives, and examined criminal justice outcomes, such as arrest rates, or subsequent convictions. 14 of the interventions examined employment interventions and their impact on crime & violence outcomes. 14 of the interventions targeted housing, including housing redeployment, affordable housing, secure housing, and housing vouchers, and their impact on criminal justice outcomes. Fewer studies examined community or neighbourhood-level interventions, such as community investment, urban upgrading, or business development districts, and fewer still examined poverty interventions targeted at education, such as investment in schools or school financing. There was some evidence evaluating the impact of income interventions, including cash transfer payments, welfare/benefit payments, wage supplements, and tax credits as impacting on crime and violence outcomes, criminal justice outcomes, non-criminal outcomes, such as bullying, and positive outcomes, such as helping others, and school engagement.

Table 8. Descriptions of included intervention types

High-level Category	**Sub-Category**	**Description**
Income		

[5] Red denotes 0-4 studies, Orange 5-9, and Green 10+. Some studies measured more than one outcome hence why the total numbers exceed the number of studies.

	(Cash) Transfer Payments	Cash transfer payments are direct, cash payments made to individuals
	Welfare/Benefit Payments	Welfare or benefit payments are also paid directly to individuals but are almost always administered by government and statutory services, and are means- or eligibility-tested
	Wage Supplements	Wage supplements or income-support payments are often 'top-up' or supplements to people in work
Housing		
	Housing Redeployment	Also known as poverty deconcentration, it is when people living in disadvantaged households or neighbourhoods are relocated to communities with more resources and less poverty
	Affordable Housing/ Public Housing	Includes any initiatives to make housing more affordable for people or support access to government housing
	Secure/Transitional Housing	Provides housing and/or temporary accommodation for people in transitional periods, for example people experiencing homelessness, exiting prison, or those experiencing substance abuse problems
	Housing Vouchers	Most often government administered vouchers to support housing costs (such as rent payments)
Employment		
	Internships	Opportunities to work in a role to gain skills towards employability
	Jobs/Skills Training	Specific jobs or skills training to meet the needs of a certain type of job or career, e.g. computer skills training to support entry into an administrative role
	Work Incentives	Positive or negative incentives to encourage people into work. Positive incentives can include in-work benefits. Negative incentives can include benefit cuts
Community/ Neighbourhood		
	Investment	Investment in a community at the neighbourhood level. Can be in terms of facilities or funding for services
	Urban Upgrading	Interventions focussed on investing in and developing the physical environment (urban)
	Business Development Districts	An area where local business collaborate to re-invest in their local area, for instance in street cleaning or safety measures
Education		
	Investment	Increasing funding or resources for education, often in deprived areas

Most of the studies (55) were from the US, 13 were from other Western countries, and 1 did not specify which Western country the data were from.

Interventions were predominantly targeted at mixed samples of males and females (39 studies), 8 looked only at males, 4 looked only at females, and 18 did not specify the target population.

In terms of age, 36 studies examined interventions with youth (5 – 25 years olds), 14 used adult only samples, 12 were universal interventions, 3 were mixed samples, and 4 did not specify the type of sample.

Most of the interventions were quasi-experimental designs (23), 21 were longitudinal research designs, 11 were randomised control trials, 8 were cross-sectional studies, 8 were systematic reviews, 1 used qualitative methods, and 2 used mixed methods.

The majority of the studies used administrative (33) or survey (33) data, 19 used police data and 5 did not specify what type of data they used.

A full list of included studies is provided in Appendix C.

What is the quality of the evidence?

Most of the included studies scored High on our critical appraisal tool (51), 13 scored Medium, and just 5 scored Low. However, we purposefully applied a broad, simplified critical appraisal tool to cope with the varying intervention/evaluation designs. A future systematic review would be more focussed on a single intervention type or outcome, and so could apply a more rigorous critical appraisal tool to assess the reliability of the evidence. For instance, we did not assess whether interventions employed a control group, or whether attrition was considered. These are important to understand risk of bias and should be considered in any future systematic reviews.

However, most studies clearly articulated the evaluation questions, and described all the relevant components, and so for the purposes of considering the potential of a future systematic review, quality was generally judged as good. Overall critical appraisal scores for each study can be found in Appendix D.

Is there scope and direction for future systematic reviews?

A traditional systematic review of an intervention's efficacy typically focuses on a single intervention and its impact on a defined outcome. The goal is to determine whether the intervention is effective or not. For example, a systematic review might assess the evidence on housing vouchers and their effect on reducing youth crime and violence. In such reviews, both the intervention and the outcome are clearly defined and ideally should be measured in consistent ways – this is particularly important for meta-analyses.

Our scoping review suggests that there is insufficient research on any single intervention consistently linked to a crime and violence outcome to support a targeted systematic review on any single type of poverty-reduction intervention aimed at a specific youth

crime or violence outcome. However, it may be possible to examine the effects of multiple intervention types on a broader outcome. Any such review should proceed with caution, ensuring that the evidence generated directly addresses the intended research question. For example, when reviewing interventions for their impact on crime or violence, it is important to ensure that the mechanisms for change specifically target poverty. As noted earlier, employment interventions may reduce crime and violence by limiting opportunities to engage in crime and violence, rather than directly increasing income. Likewise, combining neighbourhood-level interventions with individual-level interventions could be overly broad, making it difficult to draw specific causal conclusions at this stage of evidence development.

However, an further aim can be to identify promising approaches to inform the design and piloting of future interventions. Here we believe there is additional scope to invest in a future systematic review.

We have four main recommendations to consider if/when doing so:

Recommendation 1: Identify a single 'type' of poverty intervention to systematically review

Our scoping review highlights the many ways poverty is targeted by different types of interventions. For instance, through employment and skills training, or through investment in neighbourhood regeneration. Therefore, it is difficult to synthesise or meta-analyse evidence for the effectiveness of poverty interventions on youth crime and violence. Rather, we recommend identifying one type of poverty intervention, such as income support, or housing vouchers, as the target of any systematic review. For instance, our review identified a systematic review of the effects of poverty deconcentration and urban upgrading on youth violence (Cassidy, 2014).

Our results suggest the most literature is published around employment, income, and housing interventions. We would recommend conducting a systematic review which identifies outcomes of a single 'type' of intervention, to identify if there is promising evidence for future investment and research. **For instance, a systematic review of the outcomes of income support interventions.**

Recommendation 2: Broaden the scope to systematically review positive outcomes of a single 'type' of intervention

Our search strategy specified that any intervention on poverty should report a crime and/or violence outcome. Whilst we identified 69 studies for inclusion, a reasonable figure for any systematic review, the variance in operationalisations of 'poverty' and 'crime and violence outcomes' mean a configurative synthesis or meta-analysis would be difficult.

For instance, different studies conceptualised 'poverty' in a lot of different ways. Some considered neighbourhood-level poverty, some considered unemployment as a measure

of poverty, others intervened on income or housing. Whilst conceptually falling under the umbrella of what our definition of poverty includes, urban upgrading for instance is not directly comparable with work skills training programs. Equally violent crime such as homicide as an outcome is not directly comparable with bullying at school.

Therefore, we recommend broadening the scope in terms of 'outcomes' to include **all positive outcomes** of a particular intervention. This would highlight where there is evidence for positive outcomes of a particular intervention which could be associated with reducing or preventing youth crime and/or violence. In this way, a systematic review could identify promising interventions to either develop as youth crime and/or violence interventions, or to pilot in a new context, to build an evidence base for what works in this space.

Recommendation 3: Consider the impact of including non-UK based evidence and interventions

Given the purpose of this review was to scope the nature of the evidence base, we included interventions from any Western countries. Most of our results were based on US studies. There is some evidence to suggest that research on crime and violence in the US is applicable to the UK, however there are some important considerations in terms of both poverty and crime and violence to consider for any future systematic review.

For instance, the lack of universal healthcare means that poverty in the US is experienced differently to poverty in the UK. Equally the availability of firearms means that youth crime and violence research in the US often looks at gun crime and other related weapons offences. Whilst there is gun crime in the UK, the availability of firearms is not comparable and so generalising findings based on youth gun crime in the US to violence in the UK, may be limited.

Similarly, the African American experience is not one shared by most young people in the UK. Lots of the research in the US focusses on African American youth, or other minorities such as Latin youth, more typical of the US population. The cultural experience of ethnic minorities in the UK is arguably different, and so again, applying research with these minorities in the US to vulnerable youth in the UK may fail to take into account of important cultural differences which might impact on youth crime and violence.

Recommendation 4: Identify the mechanisms via which interventions 'work' or not

We also found that while some types of intervention met our inclusion criteria, the mechanism via which they 'work' (or not), is not necessarily by intervening on poverty, specifically. For instance, we included 'employment' interventions, however our scoping review did not identify how the intervention worked (or not). For instance, while it is true that employment interventions can provide income or skills training, the mechanism via which they reduce engagement in crime and violence might actually be related to

reducing opportunities to engage in crime and violence. In other words, it may be that being in work for most of the day is what decreases the risk of engaging in crime and violence, by reducing the opportunity to do so, rather than the increase in income resulting from employment. A more targeted systematic review should aim to specify the **mechanisms** via which interventions work, for **who** and **under what circumstances**, to identify interventions which target poverty, specifically, as the mechanism for change. The EMMIE framework for instance is a popular way or organising a systematic review of this type (see Table 9).

The EMMIE framework, developed for the UK 'What Works Centre for Crime Reduction' at the Department of Security and Crime Science at University College London[6] is an acronym denoting five categories of evidence relevant to policing and crime prevention (Johnson et al., 2015). It was inspired by the 'realist' approach to evaluation, which directs evaluators to ask not only whether an intervention 'worked' – the dominant question in the crime prevention literature - but **how** an intervention worked (or not), **why**, for **whom**, and **under what conditions** is it more or less effective. Just as importantly, EMMIE calls attention to ways in which some interventions may inadvertently backfire under particular conditions. EMMIE was designed to help disentangle the many components of a complex intervention to generate insight into the features that support its success (or otherwise).

Table 9 – The EMMIE framework

Effect – has it worked?
The first 'E' of EMMIE refers to 'effect' size. Typically, this focuses on the 'effect' of an intervention but can also be extended to other non-traditional effects (e.g. the formulation itself, the management plan).
Mechanism – how did it work?
The first 'M' refers to the 'mechanism' through which an intervention brings about its effect – the 'active ingredient' so to speak. This is important in determining what needs to be done to produce (or avoid) a given outcome.
Moderator – what conditions are needed for it to work?
The second 'M' refers to 'moderators' (or 'contexts') – the conditions that are instrumental for an intervention to activate the mechanisms.
Implementation – what was found to be needed to put it in place?
The 'I' refers to 'implementation' conditions that support or obstruct delivery of the intervention (this would include reliability testing).
Economics – is it cost effective?
Finally, the second 'E' refers to 'economics' – what the intervention will cost in relation to outputs, outcomes, or benefits.

[6] See http://whatworks.college.police.uk/toolkit/About-the-Crime-Reduction-Toolkit/Pages/About.aspx

References

Abada Teresa S J & Gillespie Michael. (2007). Family Diversity and Children's Behavioral Outcomes in Canada: From Structure to Process. *Sociological Focus*, *40*(4), 413.

Bernburg Jón Gunnar, Thorlindsson Thorolfur, & Sigfusdottir Inga Dora. (2009). Relative Deprivation and Adolescent Outcomes in Iceland: A Multilevel Test. *Social Forces*, *87*(3), 1223.

Chau Kenora, Baumann Michele, & Chau Nearkasen. (2013). Socioeconomic inequities patterns of multi-morbidity in early adolescence. *International Journal for Equity in Health*, *12*, 65. https://dx.doi.org/10.1186/1475-9276-12-65

Clemmow, C., Schumann, S., Salman, N. L., & Gill, P. (2020). The base rate study: Developing base rates for risk factors and indicators for engagement in violent extremism. *Journal of forensic sciences*, *65*(3), 865-881.

Contreras L, Molina V, & Cano MD. (2011). IN SEARCH OF PSYCHOSOCIAL VARIABLES LINKED TO THE RECIDIVISM IN YOUNG OFFENDERS. *EUROPEAN JOURNAL OF PSYCHOLOGY APPLIED TO LEGAL CONTEXT*, *3*(1), 77–88.

Contreras Lourdes & Cano Carmen. (2014). Family profile of young offenders who abuse their parents: A comparison with general offenders and non-offenders. *Journal of Family Violence*, *29*(8), 901–910.

Crutchfield, R. D., & Wadsworth, T. (2003). Poverty and violence. In *International handbook of violence research* (pp. 67-82). Dordrecht: Springer Netherlands.

Dupéré, V., Leventhal, T., & Lacourse, É. (2009). Neighborhood poverty and suicidal thoughts and attempts in late adolescence. *Psychological Medicine*, *39*(8), 1295–1306. https://doi.org/10.1017/S003329170800456X

Estévez Estefanía & Emler Nicholas P. (2010). A Structural Modelling Approach to Predict Adolescent Offending Behaviour from Family, School and Community Factors. *European Journal on Criminal Policy and Research*, *16*(4), 207.

Fergusson, D. M., Horwood, L. J., & Woodward, L. J. (2001). Unemployment and psychosocial adjustment in young adults: Causation or selection? *Social Science & Medicine (1982)*, *53*(3), 305–320. https://doi.org/10.1016/s0277-9536(00)00344-0

Fontaine Nathalie MG, Brendgen Mara, Vitaro Frank, Boivin Michel, Tremblay Richard E, & Côté Sylvana M. (2019). Longitudinal associations between delinquency, depression and anxiety symptoms in adolescence: Testing the moderating effect of sex and family socioeconomic status. *Journal of Criminal Justice*, *62*, 58.

Hoeve Machteld, Jak Suzanne, Stams Geert Jan J M, & Meeus Wim H J. (2016). Financial Problems and Delinquency in Adolescents and Young Adults. *Crime and Delinquency*, *62*(11), 1488–1509.

Hsieh, C.-C., & Pugh, M. D. (1993). Poverty, income inequality, and violent crime: A meta-analysis of recent aggregate data studies. *Criminal Justice Review*, *18*(2), 182–202.

Ibabe Izaskun & Jaureguizar Joana. (2010). Child-to-parent violence: Profile of abusive adolescents and their families. *Journal of Criminal Justice*, *38*(4), 616.

Jahanshahi B, Murray K, & McVie S. (2022). ACEs, Places and Inequality: Understanding the Effects of Adverse Childhood Experiences and Poverty on Offending in Childhood. *BRITISH JOURNAL OF CRIMINOLOGY*, *62*(3), 751–772. https://doi.org/10.1093/bjc/azab079

Johnson, S. D., Tilley, N., & Bowers, K. J. (2015). Introducing EMMIE: An evidence rating scale to encourage mixed-method crime prevention synthesis reviews. *Journal of Experimental Criminology*, *11*(3), 459–473. https://doi.org/10.1007/s11292-015-9238-7

Kleinepier Tom & van Ham Maarten. (2018). The Temporal Dynamics of Neighborhood Disadvantage in Childhood and Subsequent Problem Behavior in Adolescence. *Journal of Youth and Adolescence*, *47*(8), 1611–1628. https://dx.doi.org/10.1007/s10964-018-0878-6

Magklara Konstantina, Skapinakis Petros, Gkatsa Tatiana, Bellos Stefanos, Araya Ricardo, Stylianidis Stylianos, & Mavreas Venetsanos. (2012). Bullying behaviour in schools, socioeconomic position and psychiatric morbidity: A cross-sectional study in late adolescents in Greece. *Child and Adolescent Psychiatry and Mental Health*, *6*, 8. https://dx.doi.org/10.1186/1753-2000-6-8

Mazza Julia Rachel S E, Boivin Michel, Tremblay Richard E, Michel Gregory, Salla Julie, Lambert Jean, Zunzunegui Maria Victoria, & Cote Sylvana M. (2016). Poverty and behavior problems trajectories from 1.5 to 8 years of age: Is the gap widening between poor and non-poor children?. *Social Psychiatry and Psychiatric Epidemiology*, *51*(8), 1083–1092. https://dx.doi.org/10.1007/s00127-016-1252-1

Mazza Julia Rachel S E, Lambert Jean, Zunzunegui Maria Victoria, Tremblay Richard E, Boivin Michel, & Cote Sylvana M. (2017). Early adolescence behavior problems and timing of poverty during childhood: A comparison of lifecourse models. *Social Science & Medicine (1982)*, *177*, 35–42. https://dx.doi.org/10.1016/j.socscimed.2017.01.039

Norstrom Thor, Rossow Ingeborg, & Pape Hilde. (2018). Social inequality in youth violence: The role of heavy episodic drinking. *Drug and Alcohol Review*, *37*(2), 162–169. https://dx.doi.org/10.1111/dar.12582

Paalman Carmen H, van Domburgh Lieke, Stevens Gonneke Wjm, & Doreleijers Theo Ah. (2011). Individual, family and offence characteristics of high risk childhood offenders: Comparing non-offending, one-time offending and re-offending Dutch-Moroccan migrant children in the Netherlands. *Child and Adolescent Psychiatry and Mental Health*, *5*, 33. https://dx.doi.org/10.1186/1753-2000-5-33

Pagani L, Boulerice B, Vitaro F, & Tremblay R E. (1999). Effects of poverty on academic failure and delinquency in boys: A change and process model approach. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *40*(8), 1209–1219.

Piera Pi-Sunyer, Blanca, Andrews Jack L, Orben Amy, Speyer Lydia G, & Blakemore Sarah-Jayne. (2023). The relationship between perceived income inequality, adverse mental health and interpersonal difficulties in UK adolescents. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *64*(3), 417–425. https://dx.doi.org/10.1111/jcpp.13719

Rekker Roderik, Keijsers Loes, Branje Susan, Koot Hans, & Meeus Wim. (2017). The interplay of parental monitoring and socioeconomic status in predicting minor delinquency between and within adolescents. *Journal of Adolescence*, *59*, 155–165. https://dx.doi.org/10.1016/j.adolescence.2017.06.001

Sandahl Julia. (2021). Hope, trust and segregation in schools: An analysis of contextual effects on violent and general offending. *British Journal of Delinquency*, *61*(5), 1261–1281. https://dx.doi.org/10.1093/bjc/azab024

Sariaslan Amir, Langstrom Niklas, D'Onofrio Brian, Hallqvist Johan, Franck Johan, & Lichtenstein Paul. (2013). The impact of neighbourhood deprivation on adolescent violent criminality and substance misuse: A longitudinal, quasi-experimental study of the total Swedish population. *Comment in: Int J Epidemiol. 2013 Aug;42(4):1067-9 PMID: 24062295 [Https://Www.Ncbi.Nlm.Nih.Gov/Pubmed/24062295]*, *42*(4), 1057–1066. https://dx.doi.org/10.1093/ije/dyt066

Savolainen, J., Eisman, A., Mason, W. A., Schwartz, J. A., Miettunen, J., & Järvelin, M.-R. (2018). Socioeconomic disadvantage and psychological deficits: Pathways from early cumulative risk to late-adolescent criminal conviction. *Journal of Adolescence*, *65*, 16–24. https://doi.org/10.1016/j.adolescence.2018.02.010

Schepers Debbie. (2017). Causes of the causes of juvenile delinquency: Social disadvantages in the context of Situational Action Theory. *European Journal of Criminology*, *14*(2), 143.

Sullivan, G. M., & Feinn, R. (2012). Using Effect Size—Or Why the P Value Is Not Enough. *Journal of Graduate Medical Education*, *4*(3), 279–282. https://doi.org/10.4300/JGME-D-12-00156.1

Tippett Neil & Wolke Dieter. (2015). Aggression between siblings: Associations with the home environment and peer bullying. *Aggressive Behavior*, *41*(1), 14–24. https://dx.doi.org/10.1002/ab.21557

Valdez, A., Kaplan, C. D., & Curtis Jr, R. L. (2007). Aggressive crime, alcohol and drug use, and concentrated poverty in 24 US urban areas. *The American Journal of Drug and Alcohol Abuse*, *33*(4), 595–603.

van Minde Minke R C, de Kroon Marlou L A, Sijpkens Meertien K, Raat Hein, Steegers Eric A P, & Bertens Loes C M. (2021). Associations between Socio-Economic Status and Unfavorable Social Indicators of Child Wellbeing; a Neighbourhood Level Data Design. *International Journal of Environmental Research and Public Health*, *18*(23). https://dx.doi.org/10.3390/ijerph182312661

van Oort Floor V A, van der Ende Jan, Wadsworth Martha E, Verhulst Frank C, & Achenbach Thomas M. (2011). Cross-national comparison of the link between socioeconomic status and emotional and behavioral problems in youths. *Social Psychiatry and Psychiatric Epidemiology*, *46*(2), 167–172. https://dx.doi.org/10.1007/s00127-010-0191-5

Veenstra Rene, Oldehinkel Albertine J, De Winter Andrea F, Lindenberg Siegwart, & Ormel Johan. (2006). Temperament, environment, and antisocial behavior in a population sample of preadolescent boys and girls. *International Journal of Behavioral Development*, *30*(5), 422–432. https://dx.doi.org/10.1177/0165025406071490

Vogel Matt, Hoeben Evelien M, & Bernasco Wim. (2021). Nearby neighbourhood influences on adolescent offending. *British Journal of Delinquency*, *61*(1), 228–250. https://dx.doi.org/10.1093/bjc/azaa069

Webster, C., & Kingston, S. (2014). *Anti-poverty strategies for the UK: Poverty and crime review*.

Weijters Gijs, Scheepers Peer, & Gerris Jan. (2009). City and/or Neighbourhood Determinants?; Studying Contextual Effects on Youth Delinquency. *European Journal of Criminology*, *6*(5), 439.

Weisburd, D., & Piquero, A. R. (2008). How well do criminologists explain crime? Statistical modeling in published studies. *Crime and Justice*, *37*(1), 453–502.

White, H., Saran, A., Verma, A., Oprea, E., & Babudu, P. (n.d.). *Evidence and Gap Map of Interventions to Prevent Children Getting Involved in Violence*:
Wikstrom Per-Olof H & Treiber Kyle. (2016). Social Disadvantage and Crime: A Criminological Puzzle. *The American Behavioral Scientist*, *60*(10), 1232–1259.

Appendix A – Results of rapid scoping exercise to identify definitions of 'poverty'

Uni/ multidimensional	Dimensions	Relative/ absolute	Academic/ non-academic	Year	Country/ region	Author/ organisation	Terms	Definition
Unidimensional	Income	Absolute	Non-academic	2022	UK	UK government	Absolute income poverty - Households Below Average Income	"A household is said to be in relative low income if their net equivalised disposable household income is below a threshold set at 60% of median income, while they are in absolute low income if their net equivalised disposable household income is below 60% of the FYE 2011 median income adjusted for inflation. We also publish measures using thresholds at 50% and 70% of the median."
Unidimensional	Income	Relative	Non-academic	2022	UK	UK government	Relative income poverty - Households Below Average Income	"A household is said to be in relative low income if their net equivalised disposable household income is below a threshold set at 60% of median income, while they are in absolute low income if their net equivalised disposable household income is below 60% of the FYE 2011 median income adjusted for inflation. We also publish measures using thresholds at 50% and 70% of the median." Net equivalised disposable household income = taking into account family/household size and structure etc. This is the main UK measure - can be before or after housing costs, but usually after.

Unidimensional	Income	Relative	Non-academic	2011	UK	UK government	Child poverty - relative low income	From the Child Poverty Act 2010, since repealed: p. 2: "a household falls within the relevant income group, in relation to a financial year, if its equivalised net income for the financial year is less than 60% of median equivalised net household income for the financial year."
Unidimensional	Income	Absolute	Non-academic	2011	UK	UK government	Child poverty - absolute low income	From the Child Poverty Act 2010, since repealed: p. 2: "a household falls within the relevant income group, in relation to a financial year, if its equivalised net income for the financial year is less than 60% of the adjusted base amount."
Multidimensional	Income, deprivation	Relative	Non-academic	2011	UK	UK government	Child poverty - Combined Low Income and Material Deprivation	From the Child Poverty Act 2010, since repealed: p. 2: material deprivation experienced (definition not provided) and "a household falls within the relevant income group, in relation to a financial year, if its equivalised net income for the financial year is less than 70% of median equivalised net household income for the financial year"
Unidimensional	Income	Relative	Non-academic	2011	UK	UK government	Child poverty - persistent poverty	From the Child Poverty Act 2010, since repealed: p. 3: "percentage of children who have lived in qualifying households during each of the survey years have lived in households that have been within the relevant income group in at least 3 of the survey years" and "a household falls within the relevant income group, in relation to a calendar year, if its equivalised net income for the year is less than 60% of median equivalised net household income for the year"

Multidimensional	Income, deprivation	Relative	Non-academic	2011	UK	UK government	Child poverty - severe poverty	Conservative/Lib Dem coalition addition to the 4 definitions in the Child Poverty Act 2010: p. 64: "children living in households with income below 50 per cent of the median household income who also experience material deprivation"
Multidimensional	Deprivation/living standards	Relative	Academic	1994	Sweden	Halleröd	Consensual poverty: Proportional Deprivation Index	"lack of socially perceived necessities" p. 6: "Like Mack and Lansley, this new approach starts with the specification of a list of consumption items and then seeks people's responses regarding which items they consider to be necessities. It is at this point that the two approaches diverge. Mack and Lansley went on to measure poverty with reference to a reduced set of consumption items, defined as those from the original list which over 50 per cent of the population considered to be necessities. They thereby simply divided the original list of consumption items into two groups, discarded one group, and considered all items in the retained group to be of equal importance. In contrast, the elaboration advanced here retains all the original items in the poverty measure and gives each a weight based on the proportion of the population that regards it as a necessity"
Multidimensional	Deprivation/living standards: including food, health, housing,	Relative	Non-academic	2017 (describing 1985 concept)	UK	Mack (describing Mack & Lansley)	Consensual definition of poverty	Multiple deprivation measure where public opinions determine what is regarded as necessities, then: "To identify the level of multiple deprivation that can be seen as being in overall deprivation poverty, a 'poverty threshold' is calculated. Using a

	relationships, savings etc							range of sequential statistical procedures, the number of necessities a a household lacks because they cannot afford the item (that is the level of deprivation) is related to the incomes of households, adjusted to take into account household composition and size (household equivalised income). The procedure is designed to find the level of deprivation that maximises the differences between the 'poor' and the 'not poor', and minimise the differences within these groups."
Multidimensional	Deprivation/living standards: including food, health, housing, relationships, savings etc	Relative	Academic	1985	UK	Mack & Lansley	Consensual definition of poverty/consensus indicators	p. 45: "This study tackles the question 'how poor is too poor?' by identifying the minimum acceptable way of life for Britain in the 1980s. Those who have no choice but to fall below this minimum level can be said to be 'in poverty'. This concept is developed in terms of those who have an enforced lack of socially perceived necessities. This means that the 'necessities' of life are identified by public opinion and not by, on the one hand, the views of experts or, on the other hand, the norms of behaviour per se." Poverty is number of people where enforced lack of necessities affects quality/way of life. Enforced lack of socially perceived necessities: p. 42: "It aims to identify a minimum acceptable way of life not by reference to the views of 'experts'. nor by reference to observed patterns of expenditure or observed living standards, but by reference to the views of society as a

								whole. This is, in essence, a consensual approach to defining minimum standards."
Multidimensional	Income and deprivation/living standard	Relative	Academic	1999	UK	Gordon et al.	Consensual definition of poverty/consensus indicators	Combining low income with high deprivation where public opinion defines what are 'necessities' (see pp. 10-11 of document). Poverty threshold set where "it maximises the differences between 'poor' and 'not poor', and minimises the differences within these groups. This involved looking at people's incomes as well as their deprivation levels" "This survey measures poverty in terms of deprivation from goods, services and activities which the majority of the population defines as being the necessities of modern life. Income and employment data are incomplete proxies for measuring poverty and inclusion and policymakers will need to be cautious in their interpretation." "measures poverty in terms of both deprivation and income level: whether people lack items that the majority of the population perceive to be necessities, and whether they have incomes too low to afford them."
Multidimensional	Income and deprivation/living standard	Relative	Academic	2003	UK (Northern Ireland)	Hillyard et al.	Consensual definition of poverty/consensus indicators	Combining low income with high deprivation where public opinion defines what are 'necessities' (see pp. 21-25 of document) but using slightly different methodologies in surveys to Mack & Lansley

								and Gordon et al. In 2002-2003 the poverty threshold was: p. 26: "Poor households lack at least three deprivation items and have on average an equivalised household income of £156.27 per week."
Multidimensional	Income and deprivation	Relative	Academic	2005	UK	Hillyard & Scullion (discussion - not their advocated definition)	Consensual measure of poverty	p. 2: "This measure is based upon the lack of socially perceived necessities. Items considered by 50 per cent or more of a random sample of the population to be necessities were used together with low income to determine a poverty threshold. Households lacking three or more necessities were defined as poor. This measure therefore incorporates an income measure to the extent that it is used, along with deprivation items, to distinguish between the poor and the non-poor."
Unidimensional	Income	Absolute	Academic	2005	UK	Hillyard & Scullion (discussion - not their advocated definition)	Subjective measure of poverty	p. 2: "The household respondent was asked "how many pounds a week after tax do you think it is necessary to live on?" They were then asked "how far below that level would you say your household is?" Those respondents who believed they lived a lot or a little below the adequate level of income were defined as being subjectively poor. Those who answered about the same, a little above or a lot above the adequate level of income were defined as not poor."
Unidimensional	Income	Relative	Academic	2005	UK	Hillyard & Scullion (discussion - not their	Income measure of poverty	p.2: "It is defined as all households with a net equivalent household income less than 60% of the median." - Can be with or without housing costs

						advocated definition)		
Multidimensional	Income and deprivation/living standard	Relative	Academic	2005	Ireland	Hillyard & Scullion (discussion - not their advocated definition)	Consistent measure of poverty (Republic of Ireland)	pp. 2-3: "assesses whether households are below both an income threshold and suffer from an enforced lack of one of eight necessities. Households are described as poor when the income is below 60% of the median income and they lack one or more of the eight necessities. It is important to emphasise that both the consensual and consistent measures of poverty employ income in constructing the measures, although to differing extent. In the consensual measure it is used in a multivariate technique to separate the population into two groups, the poor and the non-poor. In the consistent measure the income scale is combined with the necessities' scale."
Multidimensional	Deprivation: including diet, activities, living conditions	Relative	Academic	1979	UK	Townsend	Relative deprivation approach to poverty	p. 31: "Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities, and have the living conditions and amenities which are customary, or at least widely encouraged or approved, in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary patterns, customs and activities."

Unidimensional	Characteristic of group of people: unemployed, fatherless families etc.	Absolute	Academic	1979	UK	Townsend (discussion - not their proposed definition)	Minority group poverty	p. 238: "They tended either to speak of working groups, people with low wages and/or large families and groups who were not at work, such as old people, the unemployed, the disabled and the sick, the unemployed and fatherless families"
Multidimensional	Living standards: food, income, basic necessities	Absolute	Academic	1979	UK	Townsend (discussion - not their proposed definition)	Subsistence poverty	p. 238: "People spoke of not having enough to feed children or go to work on; having nothing to wear or threadbare clothing; and not having the basic necessities of life. The conception of a necessary minimum income lurked in these accounts, and the emphasis was principally upon the physical necessities of food, clothing and shelter."
Unidimensional	Food security	Absolute	Academic	1979	UK (though thought to not exist in the UK)	Townsend (discussion - not their proposed definition)	Starvation poverty	p. 238: "lack of food, malnutrition or starvation"
Multidimensional	Necessities	Relative	Academic	1979	UK	Townsend (discussion - not their proposed definition)	Relative poverty: compared with others	p. 239: Lacking things societally seen as necessities
Multidimensional	General deprivation, quality of life, living standards	Relative (to the past)	Academic	1979	UK	Townsend (discussion - not their proposed definition)	Relative poverty: to the past	p. 239: Poverty defined as how society used to be, historical standards etc

Either		Either	Academic	1979	UK	Townsend (discussion - not their proposed definition)	State standard of poverty	See p. 241: Essentially the level of income/needs being met which the state regards as sufficient not to step in with social security/benefits etc - a socially perceived measure of poverty. p. 242: "For most practical purposes, attention can be concentrated on the ordinary scales according to which payments are made under public assistance schemes to families of different composition. By comparing the actual incomes of families with their public-assistance 'entitlement', it would be possible to show how many people were in poverty by the standard accepted by society itself."
Unidimensional	Income	Relative	Academic	1979	UK	Townsend (discussion - not their proposed definition)	Relative income standard of poverty	See p. 247: Either by rank ordering income and the threshold being a certain proportion of the lowest, or those below a certain percentage of the mean/median: p. 270: "a standard which allows a fixed percentage of the population with the lowest incomes to be selected, or which is at a point fixed at a low level in relation to the mean income)." p. 248: "We decided to define the relative income standard in terms, first, of a number of types of household, and secondly, of levels of 50 per cent (very low) and 80 per cent (low) of the mean income for each type. "

Multidimensional	Deprivation/ style of living: diet, housing, welfare etc.	Relative	Academic	1979	UK	Townsend	Deprivation standard of poverty	pp. 248-249: "An estimate of objective poverty on the basis of a level of deprivation disproportionate to resources", p. 270: "a standard of income below which people experience deprivation disproportionately to income", p. 271: "Deprivation is defined relatively to the community's current style of living as established in the survey. Indicators of different forms of deprivation are listed and a summary index used in analysis" Townsend defines a national style of living with 60 indicators, which can then form a deprivation index (see pp. 248-262).
Multidimensional	Dimensions relating mostly to childhood 'foundation years'	Unsure	Non-academic	2010	UK	Field	Life Chances Indicators	Not fully defined in this document, but basically wants to build on the UK Government's 2011 4 measures of poverty and include other dimensions, because these measures were are all financial, which led to poverty strategies just being about income transfer. Life Chances Indicators "include: child factors, such as cognitive (including language and communication) development; parent factors, such as positive parenting; and environmental factors, such as quality of nursery care"
Unidimensional	Income	Relative	Non-academic	2010	EU	EU	At risk of poverty rate	p. 1: "Share of persons aged 0+ with an equivalised disposable income below 60% of the national equivalised median income. Equivalised median income is defined as the household's total disposable income divided by its "equivalent size", to take account of the size and composition of the

								household, and is attributed to each household member. Equivalization is made on the basis of the OECD modified scale." There was also a target for the 'at risk of poverty and social exclusion rate' which also included material deprivation and work intensity.
Unidimensional	Income	Relative	Non-academic	1959 to present	USA	US Census Bureau	US Census Bureau Official Poverty Measure	"The Census Bureau determines poverty status by using an official poverty measure (OPM) that compares pre-tax cash income against a threshold that is set at three times the cost of a minimum food diet in 1963 and adjusted for family size."
Multidimensional	Expenditure on food, clothing, shelter, and utilities	Relative	Non-academic	2010	USA	US Census Bureau	US Census Bureau Supplementary Poverty Measure	Similar to Official Poverty Measure but poverty threshold instead "Based on expenditures of food, clothing, shelter, and utilities" and includes money from all sources (e.g. government), not just cash income
Multidimensional	Material resources including income, health, education etc	Relative	Non-academic	2012	UK	Joseph Rowntree Foundation/Goulden & D'Arcy	Poverty	p. 3: 'When a person's resources (mainly their material resources) are not sufficient to meet their minimum needs (including social participation)." Minimum needs are relative to societal consensus.
Multidimensional	Income, basic necessities	Absolute	Non-academic	2016	UK	Joseph Rowntree Foundation/Goulden & D'Arcy	Households in destitution	p2: "They, or their children, have lacked two or more of these six essentials over the past month, because they cannot afford them" (where essentials are shelter, food, heating, lighting, clothing, basic toiletries) OR "Their income is so extremely low that they are

								unable to purchase these essentials for themselves"
Multidimensional	Income, assets, other measures e.g. rough sleeping	Unsure	Non-academic	2018	UK	Social Metrics Commission	Poverty	Commission set up to develop a new, more accurate measure of poverty. DWP aimed to publish statistics using this measure (https://www.gov.uk/government/news/new-poverty-statistics-developed-to-help-government-target-support) but cancelled this (https://www.gov.uk/government/statistics/development-of-a-new-measure-of-poverty-statistical-notice/development-of-a-new-measure-of-poverty-statistical-notice) p. 6: "The Commission's new measure: • Takes account of all material resources, not just incomes. For instance, this means including an assessment of the available assets that families have; • Accounts for the inescapable costs that some families face, which make them more likely than others to experience poverty. These include, the extra costs of disability, and costs of childcare and rental and mortgage costs; • Broadens the approach of poverty measurement to include an assessment of housing adequacy. For example, by regarding those sleeping rough as being in

								poverty; and • Positions the measure of poverty within a wider measurement framework, which allows us to understand more about the nature of poverty in the UK."
Unidimensional	Income	Relative	Non-academic	2022	UK	Joseph Rowntree Foundation/Goulden & D'Arcy	Minimum Income Standard	p. 5: "The Minimum Income Standard (MIS) is the income that people need to reach a minimum socially acceptable standard of living in the UK today, based on what members of the public think. It is calculated by specifying baskets of goods and services required by different types of household to meet these needs and to participate in society. Based on consultation with groups of members of the public in the original research, this minimum is defined as follows: A minimum standard of living in the UK today includes, but is more than just, food, clothes and shelter. It is about having what you need in order to have the opportunities and choices necessary to participate in society." WEBSITE: "Poverty affects millions of people in the UK. Poverty means not being able to heat your home, pay your rent, or buy the essentials for your children. It means waking up every day facing insecurity, uncertainty, and impossible decisions about money. It means facing marginalisation – and even discrimination – because of your financial circumstances. The constant stress it causes can lead to problems that deprive

								people of the chance to play a full part in society."
Multidimensional	Income and material, cultural, social resources	Relative	Non-academic	1997	Ireland	Republic of Ireland government	Poverty	p3: "people are living in poverty, if their income and resources (material, cultural and social) are so inadequate as to preclude them from having a standard of living which is regarded as acceptable by Irish society generally. As a result of inadequate income and resources people may be excluded and marginalised from participating in activities which are considered the norm for other people in society"

Appendix B – Grey literature search strategy

Grey literature includes non-academic sources, such as government or third sector reports, which may not be identified by traditional database searches. It is important to conduct additional grey literature searches to ensure comprehensive coverage of the relevant literature.

The following grey literature databases were searched:

- A multidisciplinary European database which includes theses, reports, conference proceedings and official publications
- **OAIster** Cross searches all university repositories worldwide
- PsycEXTRA Technical and government reports, conference papers, newsletters, magazines, videos, press releases, and consumer brochures in the field of psychology, behavioural sciences and health
- Social Care Online Legislation, government documents, practice and guidance, systematic reviews, research briefings, reports and journal articles relating to social work and social card
- Social Science Research Network Abstracts, working papers and articles relating to social science research

Additionally, the following websites were hand searched using the inclusion/exclusion criteria discussed above.

Websites

Arigatou International https://arigatouinternational.org/
ATD Fourth World https://www.atd-fourthworld.org/
Australian Databases: Kidsmatter Intervention Database (now seems to be beyond blue)
Barnardo's www.barnados.org.uk
Best Evidence Encyclopaedia (BEE)
Best Evidence Synthesis Iteration (Education Counts)
Blueprints for Healthy Youth Development
Bristol Poverty Institute – https://research-information.bris.ac.uk/en/organisations/bristol-poverty-institute
California Evidence-Based Clearinghouse for Child Welfare
Campbell Collaboration Systematic Reviews https://www.campbellcollaboration.org
CASEL
Centre for Analysis of Social Exclusion http://sticerd.lse.ac.uk/case
Centre for Analysis of Social Policy www.bath.ac.uk/casp
Centre for Economic and Social Inclusion www.cesi.org.uk
Centre for Excellence and Outcomes in Children and Young People
Centre for Homelessness Impact
Centre for Housing Policy www.york.ac.uk/inst/chp
Centre for Poverty and Inequality Research https://www.sussex.ac.uk/cpir/

Centre for the Study of Poverty and Social Justice
https://www.bristol.ac.uk/sps/research/centres/poverty/
Child Poverty Action Group www.cpag.org.uk
Child Trends US
ChildFund Alliance Homepage - ChildFund Alliance
Children in Scotland www.childreninscotland.org.uk
Cochrane Database of Systematic Reviews;
Early Intervention Foundation Guidebook
Education Endowment Foundation Projects
ESDC Evaluation Reports, Government of Canada
EuroChild https://www.eurochild.org/
Evidence Based Practices (European Platform for Investing in Children)
Evidence for ESSA (Centre for Research and Reform in Education at John Hopkins)
Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre)
Evidence-Based Practices Project (Suicide Prevention Resource Center)
Evidence4Impact (E4I);
Family Policy Studies Centre www.apsoc.ox.ac.uk/fpsc
Global Coalition to End Child Poverty http://www.endchildhoodpoverty.org/
Health Evidence (McMaster University)
Home Visiting Evidence of Effectiveness (U.S. Department of Health & Human Services)
HomeVEE
Households in Conflict Network https://hicn.org/working-papers/
http://coalition4evidence.org/
https://discovery.ucl.ac.uk/cgi/search/advanced
https://www.arnoldventures.org/work/
https://www.eif.org.uk/report/what-works-in-enhancing-social-and-emotional-skills-development-during-childhood-and-adolescence
https://yjresourcehub.uk/
Incredible Years Library
Institute for Social and Economic Research www.iser.essex.ac.uk
Institute of Education Social Science Research Unit
https://www.ucl.ac.uk/ioe/departments-and-centres/centres/social-science-research-unit-ssru
Institute of Fiscal Studies www.ifs.org.uk
Institute of Public Policy Research www.ippr.org.uk
Investing in Children: Dartington Social Research Unit (now known as Dartington Lab)
Joseph Rowntree Foundation www.jrf.org.uk
London Met Lab: Poverty & Deprivation https://www.londonmet.ac.uk/about/london-met-lab/poverty-and-deprivation/
Mental Health Compass EU Database of polices and good practice
Ministry of Social Development, New Zealand, Evaluation Report website
National Centre for Social Research www.www.natcen.ac.uk
National Council for Crime Prevention (Sweden)
National Dropout Prevention Center and Network
National Institute on Drug Abuse (NIDA)
National Research Council UK.

New Policy Institute www.npi.org.uk
OECD https://www.oecd.org/about/
Office of Adolescent Health
Office of Justice Programmes Criminalsolutons.gov
OPHI https://ophi.org.uk/.ioewebserver.ioe.ac.uk/ioe
PennState Clearinghouse for Military Family Readiness
Personal Finance Research Centre www.ggy.bris.ac.uk/research/pfrc
Plan International https://plan-international.org
Policy Studies Institute www.psi.org.uk
Poverty Alliance https://www.povertyalliance.org
Poverty Research Network - https://www.gla.ac.uk/research/az/poverty/PSE: Poverty and Social Exclusion https://www.poverty.ac.uk
Poverty, Inequality & Inclusive Growth Research Group https://www.kcl.ac.uk/research/poverty-inequality-and-inclusive-growth-research-group
Project Oracle- Synthesis studies e.g. crime, RCTs, Education/NEETs
Promising Practices Network (RAND)
Public Policy Institute for Wales
Research Circle for the Study of Inequality and Poverty https://www.qmul.ac.uk/busman/research/research-centres/cgr/research-circle-for-the-study-of-inequality-and-poverty-rcsip/
Save the Children www.savethechildren.org.uk
Scottish Poverty and Inequality Research Institute https://www.gcu.ac.uk/aboutgcu/academicschools/gsbs/research/spiru
Social Disadvantage Research Centre http://www.apsoc.ox.ac.uk/sdrc
Social Exclusion Unit www.socialexclusionunit.gov.uk
Social Policy Research Unit www.york.ac.uk/inst/spru
Social Programs That Work
Substance Abuse and Mental Health Services Administration (SAMHSA)
The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)
Townsend Centre for International Poverty Research www.bris.ac.uk/poverty
UK College of Policing
UK Home Office
Unicef https://www.unicef.org
University of York National Health Service Centre for reviews and dissemination
UQ database
Urban Institute https://www.urban.org/tags/poverty
US Office of Juvenile Justice and Delinquency Prevention
Washington State Institute for Public Policy (WSIPP)
What Works Centre for Children's Social Care
What Works Centre for Crime Reduction https://www.college.police.uk/research/what-works-centre-crime-reduction
What Works Centre for Wellbeing
What Works Clearinghouse
What Works Scotland
WHO programmes and projects.

World Vision https://www.worldvision.ie
Youth Endowment Fund https://youthendowmentfund.org.uk
Youth.gov

Appendix C – Included studies (WP2)

Author	Title	Year
Akee (2010)	Parents' Incomes and Children's Outcomes: A Quasi-Experiment Using Transfer Payments from Casino Profits	2010
Albertson (2020)	Effect of public housing redevelopment on reported and perceived crime in a Seattle neighborhood	2020
Alicia (2019)	How Do Summer Youth Employment Programs Improve Criminal Justice Outcomes, and for Whom?	2019
Carlson (2011)	The benefits and costs of the Section 8 housing subsidy program: A framework and estimates of first-year effects	2011
Carnemolla (2021)	Outcomes Associated with Providing Secure, Stable, and Permanent Housing for People Who Have Been Homeless: An International Scoping Review	2021
Carr (2020)	Housing Vouchers, Income Shocks and Crime: Evidence from a Lottery	2020
Casciano (2012)	School Context and Educational Outcomes: Results from a Quasi-Experimental Study.	2012
Cassidy (2014)	A systematic review of the effects of poverty deconcentration and urban upgrading on youth violence	2014
Cohen (2010)	An Outcome Evaluation of the YouthBuild USA Offender Project	2010
Corman (2017)	Effects of Maternal Work Incentives on Teen Drug Arrests.	2017
Dalve (2022)	Earned Income Tax Credit and Youth Violence: Findings from the Youth Risk Behavior Surveillance System.	2022
Dave (2021)	INTERGENERATIONAL EFFECTS OF WELFARE REFORM: ADOLESCENT DELINQUENT AND RISKY BEHAVIORS.	2021
Davis (2020)	Rethinking the Benefits of Youth Employment Programs: The Heterogeneous Effects of Summer Jobs	2020
Deshpande (2022)	DOES WELFARE PREVENT CRIME? THE CRIMINAL JUSTICE OUTCOMES OF YOUTH REMOVED FROM SSI	2022
Dickens (2004)	New approaches to youth homelessness prevention: a qualitative evaluation of the Safe in the City cluster schemes	2004
Edmonds (2022)	The Earned Income Tax Credit and Intimate Partner Violence.	2022
Epps (2007)	Effects of a Poverty Intervention Policy Demonstration on Parenting and Child Behavior: A Test of the Direction of Effects	2007
The Unintended Consequences of Welfare ReformsEste & Harvey2	The Unintended Consequences of Welfare Reforms: Universal Credit, Financial Insecurity, and Crime	2024
Fallesen (2018)	The effect of active labor market policies on crime: Incapacitation and program effects	2018
Fine (2002)	The wealth of neighborhoods: The effects of a housing mobility project on perceptions of neighborhood safety,	2002

	maternal depression, parenting behavior and youth externalizing behavior.	
Fisher (2008)	Opportunities provision for preventing youth gang involvement for children and young people (7-16).	2008
Fraker (2014)	Final Report on the Youth Transition Demonstration Evaluation	2014
Freedman (2011)	Low-income housing development and crime	2011
Goldhaber (2020)	Pledging to Do "Good": An Early Commitment Pledge Program, College Scholarships, and High School Outcomes in Washington State	2020
Gray (2017)	How do homeless adults change their lives after completing an intensive job-skills program? A prospective study	2017
Hamilton (2015)	Removing Release Impediments and Reducing Correctional Costs: Evaluation of Washington State's Housing Voucher Program	2015
Heller (2014)	Summer jobs reduce violence among disadvantaged youth	2014
Hong (2012)	The role of supportive housing in homeless children's well-being: An investigation of child welfare and educational outcomes.	2012
Huston (2001)	Work-Based Antipoverty Programs for Parents Can Enhance the School Performance and Social Behavior of Children	2001
Huston (2005)	Impacts on Children of a Policy to Promote Employment and Reduce Poverty for Low-Income Parents: New Hope After 5 Years.	2005
Kessler (2022)	The Effects of Youth Employment on Crime: Evidence from New York City Lotteries	2022
Kirk (2018)	The impact of residential change and housing stability on recidivism: pilot results from the Maryland Opportunities through Vouchers Experiment (MOVE)	2018
Kling (2005)	Neighborhood Effects on Crime for Female and Male Youth: Evidence from a Randomized Housing Voucher Experiment	2005
Kling (2007)	Experimental analysis of neighborhood effects	2007
Kondo (2022)	Changes in crime surrounding an urban home renovation and rebuild programme	2022
Ludwig (1999)	Urban poverty and juvenile crime: Evidence from a randomized housing-mobility experiment.	1999
Luong (2021)	The impact of a Housing First intervention and health-related risk factors on incarceration among people with experiences of homelessness and mental illness in Canada	2021
Lutze (2014)	Homelessness and Reentry: A Multisite Outcome Evaluation of Washington State's Reentry Housing Program for High Risk Offenders	2014
Madero-Hernandez (2017)	Examining the Impact of Early Childhood School Investments on Neighborhood Crime	2017
Mast (2013)	Housing Choice Vouchers and Crime in Charlotte, NC	2013
Meltzer (2006)	A youth development program: lasting impact.	2006

Morris (2017)	Impacts of Family Rewards on Adolescents' Mental Health and Problem Behavior: Understanding the Full Range of Effects of a Conditional Cash Transfer Program.	2017
Naccarato (2013)	Summer Engagement for At-Risk Youth: Preliminary Outcomes from the New York State Workforce Development Study	2013
Neighborhood Effects... (MacDonald)	Neighborhood Effects on Crime and Youth Violence: The Role of Business Improvement Districts in Los Angeles	
Newton (2018)	The Impact of Vocational Education and Training Programs on Recidivism: A Systematic Review of Current Experimental Evidence	2018
Noghanibehambari (2022)	School Finance Reforms and Juvenile Crime	2022
Ringwalt (1996)	Supporting Adolescents with Guidance and Employment (SAGE).	1996
Sayegh (2019)	Pilot Evaluation of a Conservation Corps Program for Young Adults.	2019
Schaeffer (2014)	RCT of a promising vocational/employment program for high-risk juvenile offenders.	2014
Schmidt (2018)	Modification of Housing Mobility Experimental Effects on Delinquency and Educational Problems: Middle Adolescence as a Sensitive Period.	2018
Schnake-Mahl (2020)	Gentrification, Neighborhood Change, and Population Health: a Systematic Review	2020
Schochet (2008)	Does Job Corps Work? Impact Findings from the National Job Corps Study	2008
Schwartz (1999)	New York City and subsidized housing: Impacts and lessons of the city's $5 billion capital budget housing plan	1999
Sheehan (2022)	Long-term effects of a community-based positive youth development program for Black youth: health, education, and financial well-being in adulthood.	2022
Slesnick (2013)	Efficacy of ecologically-based treatment with substance-abusing homeless mothers: substance use and housing outcomes.	2013
Slopen (2018)	Housing Assistance and Child Health: A Systematic Review	2018
Smith (2014)	The Influence of Gentrification on Gang Homicides in Chicago Neighborhoods, 1994 to 2005	2014
Somers (2013)	Housing First Reduces Re-offending among Formerly Homeless Adults with Mental Disorders: Results of a Randomized Controlled Trial	2013
Somers (2015)	Changes in daily substance use among people experiencing homelessness and mental illness: 24-month outcomes following randomization to Housing First or usual care: Substance use and Housing First: results of a randomized trial	2015
Spader (2016)	Fewer vacants, fewer crimes? Impacts of neighborhood revitalization policies on crime	2016
Stansfield (2016)	Juvenile Desistance and Community Disadvantage: The Role of Appropriate Accommodations and Engagements	2016

Sun (2016)	The Building Wealth and Health Network: methods and baseline characteristics from a randomized controlled trial for families with young children participating in temporary assistance for needy families (TANF).	2016
The Political Economy... (Tiratelli)	The Political Economy of Crime: Did Universal Credit Increase Crime Rates?	
Trzcinski (2005)	Adolescent outcomes and welfare reform: An analysis based on the survey of program dynamics.	2005
US (2009)	In search of evidence-based practice in juvenile corrections: An evaluation of Florida's Avon Park Youth Academy and Street Smart Program: (641132009-001)	2009
Visher (2006)	Systematic Review of Non-Custodial Employment Programs: Impact on Recidivism Rates of Ex-Offenders	2006
Vulnerability and Violent... (2021)	Vulnerability and Violent Crime Programme: Evaluation of DIVERT	2021
Wang (2019)	The impact of interventions for youth experiencing homelessness on housing, mental health, substance use, and family cohesion: a systematic review.	2019
Zhang (2006)	Preventing parolees from returning to prison through community-based reintegration	2006

Appendix D – Overall critical appraisal scores for each included study

Short Title	Item
Akee (2010)	**Critical appraisal (Overall)** High
Albertson (2020)	**Critical appraisal (Overall)** High
Alicia (2019)	**Critical appraisal (Overall)** High
Carlson (2011)	**Critical appraisal (Overall)** High
Carnemolla (2021)	**Critical appraisal (Overall)** Low
Carr (2020)	**Critical appraisal (Overall)** High
Casciano (2012)	**Critical appraisal (Overall)** High
Cassidy (2014)	**Critical appraisal (Overall)** High
Cohen (2010)	**Critical appraisal (Overall)** Medium
Corman (2017)	**Critical appraisal (Overall)** High
Dalve (2022)	**Critical appraisal (Overall)** Medium
Dave (2021)	**Critical appraisal (Overall)** High
Davis (2020)	**Critical appraisal (Overall)** Medium
Deshpande (2022)	**Critical appraisal (Overall)** Medium
Dickens (2004)	**Critical appraisal (Overall)** High
Edmonds (2022)	**Critical appraisal (Overall)** High
Epps (2007)	**Critical appraisal (Overall)** High
Fallesen (2018)	**Critical appraisal (Overall)** High
Fine (2002)	**Critical appraisal (Overall)** High

Fisher (2008)	**Critical appraisal (Overall)** High
Fraker (2014)	**Critical appraisal (Overall)** High
Freedman (2011)	**Critical appraisal (Overall)** High
Goldhaber (2020)	**Critical appraisal (Overall)** High
Gray (2017)	**Critical appraisal (Overall)** High
Hamilton (2015)	**Critical appraisal (Overall)** Medium
Heller (2014)	**Critical appraisal (Overall)** Medium
Hong (2012)	**Critical appraisal (Overall)** High
Huston (2001)	**Critical appraisal (Overall)** High
Huston (2005)	**Critical appraisal (Overall)** High
Kessler (2022)	**Critical appraisal (Overall)** High
Kirk (2018)	**Critical appraisal (Overall)** High
Kling (2005)	**Critical appraisal (Overall)** High
Kling (2007)	**Critical appraisal (Overall)** High
Kondo (2022)	**Critical appraisal (Overall)** High
Ludwig (1999)	**Critical appraisal (Overall)** High
Luong (2021)	**Critical appraisal (Overall)** Medium
Lutze (2014)	**Critical appraisal (Overall)** High
Madero-Hernandez (2017)	**Critical appraisal (Overall)** High
Mast (2013)	**Critical appraisal (Overall)** Medium
Meltzer (2006)	**Critical appraisal (Overall)** High
Morris (2017)	**Critical appraisal (Overall)** Medium

Naccarato (2013)	**Critical appraisal (Overall)** High
Neighborhood Effects… (MacDonald)	**Critical appraisal (Overall)** High
Newton (2018)	**Critical appraisal (Overall)** High
Noghanibehambari (2022)	**Critical appraisal (Overall)** High
Ringwalt (1996)	**Critical appraisal (Overall)** High
Sayegh (2019)	**Critical appraisal (Overall)** Medium
Schaeffer (2014)	**Critical appraisal (Overall)** High
Schmidt (2018)	**Critical appraisal (Overall)** High
Schnake-Mahl (2020)	**Critical appraisal (Overall)** Medium
Schochet (2008)	**Critical appraisal (Overall)** High
Schwartz (1999)	**Critical appraisal (Overall)** Medium
Sheehan (2022)	**Critical appraisal (Overall)** High
Slesnick (2013)	**Critical appraisal (Overall)** High
Slopen (2018)	**Critical appraisal (Overall)** Low
Smith (2014)	**Critical appraisal (Overall)** High
Somers (2013)	**Critical appraisal (Overall)** High
Somers (2015)	**Critical appraisal (Overall)** Medium
Spader (2016)	**Critical appraisal (Overall)** High
Stansfield (2016)	**Critical appraisal (Overall)** Low
Sun (2016)	**Critical appraisal (Overall)** High
The Political Economy… (Tiratelli)	**Critical appraisal (Overall)** High
The Unintended Consequences of Welfare Reforms	**Critical appraisal (Overall)** High

Trzcinski (2005)	**Critical appraisal (Overall)** Low
US (2009)	**Critical appraisal (Overall)** High
Visher (2006)	**Critical appraisal (Overall)** High
Vulnerability and Violent... (2021)	**Critical appraisal (Overall)** High
Wang (2019)	**Critical appraisal (Overall)** Low
Zhang (2006)	**Critical appraisal (Overall)** High

YOUTH ENDOWMENT FUND

Impetus

Home Office

youthendowmentfund.org.uk

hello@youthendowmentfund.org.uk

The Youth Endowment Fund Charitable Trust

Registered Charity Number: 1185413