

# The Relationship Between Dimensionality and Duration of Household Poverty During Childhood and Onset of Youth Offending

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Concern about rising youth offending amidst a cost-of-living crisis in the United Kingdom has reignited policy and academic debates about the relationship between childhood poverty and youth offending. International research findings are mixed, however, possibly due to the variety of poverty measures analysed or inconsistent examination of duration of poverty exposure. This study sheds new light on the issue by assessing the potential association between four measures of household poverty—experienced persistently or intermittently—and youth offending, using a birth cohort study from Scotland. Findings show that persistent exposure to financial strain is the only form of poverty predictive of offending by age 12. The paper highlights an overlooked perspective on the poverty-offending nexus, with important implications for policy and research.

**KEY WORDS:** youth, offending, childhood poverty, inequality, financial strain

## INTRODUCTION

From the early 1990s onwards, many Western developed countries experienced a downward trend in youth offending (see [Svensson and Oberwittler 2021](#)). In recent times, however, there has been a resurgence in political concern about rising youth crime, with some evidence that rates have increased again. This includes reports of a rise in homicides committed by children in the United States ([USA Today 2024](#)), growing gun violence amongst young people in Sweden ([ETIAS 2024](#)), and a large increase in youth crime in Australia ([The Guardian 2024](#)). Within the United Kingdom, there was a 9% increase in arrests of children in England and Wales in 2022/2023 ([Youth Justice Board 2024](#)), and a 17% rise in offence-related referrals for children in Scotland in 2023/2024 ([SCRA Dashboard 2024](#)). While there is a lack of self-report data to verify these trends found in official statistics, reports from schools and victim surveys also reflect perceived increases in youth offending ([NASUWT 2024](#); [Scottish Government 2025](#)).

The causes of rising youth crime are complex and country-specific, but it is widely believed amongst the UK public that poverty is a key determinant ([Revolving Doors 2022](#)). Media reports also identify poverty as a key factor driving increases in youth crime and violence

([The Conversation 2024](#)). Certainly, recent increases in youth offending coincided with a period of chronic child poverty, with estimates that '4.3 million children, or 30% of all children in the UK, were living in relative low-income households after housing costs in 2022/23' ([House of Lords 2024](#)), and that 17 per cent of children were living in 'persistent poverty' ([The Health Foundation 2024](#)). Despite this, research evidence supporting the proposition that living in a poor household causes people to commit crime is somewhat mixed ([Webster and Kingston 2014](#)).

A subject of much theoretical debate several decades ago (see [Braithwaite 1981](#); [Tittle 1983](#)), contemporary criminologists have shown less interest in exploring the association between household poverty and offending. Many studies treat measures of socio-economic status (SES) as control or mediating variables rather than subjects of inquiry in their own right. Yet, the issue has significant policy relevance, especially given the current cost-of-living crisis in the United Kingdom ([Harari \*et al.\* 2024](#)) and its potential impact on children (see [Barnardos 2023](#)). Youth crime is estimated to cost the UK taxpayer £1.5bn annually ([UK Government Press Release 2023a](#)), so a better understanding of whether or how household poverty influences youth offending could offer valuable insights around designing effective interventions or targeting scarce resources. For example, are policies aimed at reducing child poverty ([Scottish Government 2022a](#); [Cabinet Office 2024](#)) more likely to reduce youth offending rates than getting parents into employment ([Scottish Government 2022b](#); [UK Government Press Release 2023b](#))? Or do initiatives that relieve the strain on overstretched families by reducing the cost-of-living (see [Yunda 2024](#)), allowing household incomes to go further, offer a more effective approach?

The first of its kind in the United Kingdom, this study contributes to both criminological knowledge and policy debates about the relationship between experiencing household poverty during childhood and early onset of offending. Using longitudinal data from a child cohort study in Scotland, we assess the extent to which exposure to four different dimensions of household poverty—low income, parental unemployment, material deprivation and parental perceptions of financial strain—is associated with self-reported offending starting at two age points (age 12 and 14). We also determine whether the duration of exposure to household poverty—either persistent or intermittent—is related to offending onset. Findings indicate that persistent childhood exposure to financial strain, as perceived by parents, is associated with the onset of offending at age 12; however, there are no direct relationships for the other measures of poverty, whether persistent or intermittent. These findings are significant because they suggest that policy efforts to reduce cost-of-living pressures on over-stretched families may be more effective than other strategies in supporting efforts to reduce early youth offending.

## LITERATURE REVIEW

### The relationship between poverty and offending

Research on the association between poverty and offending has produced mixed findings (see [Webster and Kingston 2014](#)). Between the 1940s and 1970s, a plethora of self-report studies claimed strong relationships between 'socio-economic status' or 'social class' and offending ([Danzinger 1976](#)). However, the validity of these early studies was questioned by scholars who asserted that poor methodological design had produced biased or conflicting results, and that effect sizes, which were small at best, diminished over time (see [Tittle and Meier 1990](#)). Consequently, studies focused on poverty and offending gradually became less common.

In recent years, however, contemporary studies using more robust data and methodologies have once again indicated a positive association. In the United States, for example, [Rekker \*et al.\* \(2015\)](#) found evidence of individual associations between family SES (using a composite

measure) and youth offending using self-reported and conviction data from the Pittsburgh Youth Study, suggesting that both chronic exposure and short-term fluctuations in family SES influenced offending behaviour among young people. Using the National Longitudinal Survey of Youth (NLSY92) data, [Jarjoura et al. \(2002\)](#) found that past exposure to child poverty (measured by income) and recent poverty status were associated with self-reported delinquency. To reduce income measurement error, [Bjerk \(2007\)](#) applied an instrumental variable approach to National Longitudinal Survey of Youth (NLSY97) data measuring household net worth, and found a stronger association between household poverty and serious offending than had been observed in previous studies using the same data.

European studies have also shown an association between poverty and youth offending. For example, [Galloway and Skardhamer \(2010\)](#) found that low parental income averaged over a 10-year period was associated with children's onset of offending in an analysis of Norwegian register data. Using Danish national registers and a case-control design, [Mok et al. \(2018\)](#) showed that being in the least affluent income quintile in childhood was associated with increased risk of conviction for violence between the ages of 15 and 33. A Scottish self-report study found that growing up in a low SES household (based on parental occupation) increased the probability of having a 'chronic' or 'teenage-limited' offending trajectory compared to a non-offending trajectory ([McAra and McVie 2022](#)).

Not all recent studies have found an association between poverty and youth offending, however. Using Swedish official crime records, [Bergman and Andershed \(2009\)](#) did not find an association between SES (based on parents' highest education level) and membership in several offending trajectories (i.e. adult onset, adolescence limited, persistent) relative to no offending. Findings from the Seattle Social Development Project also suggested that poverty (based on household income) was not a risk factor for offending type once family functioning variables such as family communication had been accounted for ([Thornberry et al. 2003](#)). Even [Sampson and Laub \(1993\)](#), who reconstructed the Glueck data on youth offending in the 1950s, indicated that family SES did not have a direct effect on youth offending, proposing instead that any poverty effects were most likely transmitted indirectly through other family factors, like parenting and family bonds.

The question of whether poverty has a direct causal effect on offending or is mediated by other factors varies according to different theoretical perspectives. Many early sociological theories saw poverty as a driver of offending, including social disorganisation theory ([Shaw and McKay 1942](#)), strain theories ([Merton 1938](#)) and subcultural theory ([Miller 1958](#)). The main thrust of these theoretical perspectives was that living in the lower socio-economic margins of society created the conditions in which individuals were more likely to break, or adapt negatively to, social norms and rules. Indeed, [Merton's \(1938\)](#) strain theory is still frequently used as a means of explaining youth offending amongst those living in poverty (see e.g. [Galloway and Skardhamer 2010](#); [Rekker et al. 2015](#)). Strain theory contends that the inability to achieve the cultural goals of success through socially appropriate ways leads to strain and various adaptations; some of which involve achievement of blocked goals through illegal means ([Merton 1938](#)).

Other theoretical perspectives propose that poverty has a more indirect effect on youth offending. For example, the family stress model ([Conger et al. 1992](#)) proposes that financial hardships create day-to-day stresses on parents that weaken their ability to parent effectively. In turn, these stresses affect the well-being of the child, which elevates their risk of externalizing problems, potentially leading to involvement in offending. [Moffitt's \(1993\)](#) dual taxonomy theory also places strong emphasis on the mediating effect of poverty on parenting behaviours in early childhood. Similarly, [Sampson and Laub's \(1993\)](#) age-graded theory of offending implies that poverty influences youth offending via family processes.

Regardless of whether studies focus on direct or indirect causal mechanisms, theoretical perspectives tend to be fairly consistent in their assertions that poverty and offending are positively linked. Nevertheless, there are two methodological issues that limit our understanding of the problem. First, the concept of household poverty is inconsistently defined, and many different measurements have been used (Webster and Kingston 2014). Second, studies have been inconsistent in terms of whether and how they account for the duration of poverty exposure (Hay and Forrest 2009). Addressing these issues is critical from a policy perspective, as determining what poverty-based policies might best prevent youth offending requires an understanding of what dimensions and duration of household poverty have the greatest impact. We consider these two issues in more detail below.

### Dimensions and measurement of poverty

There is a vast literature on the definition and measurement of poverty (see Hagenaaars 2017), which we cannot review in its entirety, so we focus on the measures most commonly used in research on youth crime. Early studies tended to focus on 'socio-economic status' or 'social class', often using the terms interchangeably. Yet, the measures used to represent these concepts varied widely between studies (see Tittle and Meier 1990). The term 'social class' is rarely used in modern criminological studies; however, SES is still used, albeit often as a 'catch-all' term. For example, Farrington *et al.* (2012) used SES to describe a host of factors (including housing tenure, employment status and income level).

Global studies of child poverty predominantly use income-based measures (White *et al.* 2003), although self-report data on income is difficult to collect and prone to measurement error (Moore *et al.* 2000). Nevertheless, some studies of youth offending have used standardized measures of relative poverty using an equivalized income threshold (e.g. lowest quintile) based on the national income distribution adjusted for household size/composition (Jarjoura *et al.* 2002; Galloway and Skardhamer 2010; Mok *et al.* 2018). Measuring poverty based on relative income identifies those in society who are the most financially disadvantaged compared to the rest of the population.

Another objective measure of SES is parental employment or occupational status, which incorporates aspects of income and educational level, as well as more qualitative dimensions such as social standing and prestige (Fujishiro *et al.* 2010). Several studies of youth offending have used parental unemployment or low occupational status as a proxy for family poverty, either wholly (e.g. McAra and McVie 2022) or as part of a composite measure (e.g. Rekker *et al.* 2015). Compared to income, such information is easier and less intrusive to collect using surveys.

While income and employment status are common indicators of poverty, they are imperfect measures. For example, a rise in income does not necessarily equate to an improvement in living standards (Berthoud *et al.* 2004), while fixing the problem of unemployment is insufficient to reduce levels of poverty (Joseph Rowntree Foundation 2025). An alternative objective, but more qualitative, measure is 'material deprivation', which assesses whether people can afford certain activities, goods, and services that are considered standard for a good life. According to a recent study, 18% of children in the United Kingdom suffer from material deprivation, almost half of whom are not classed as living in a low-income household (Action for Children 2023). To our knowledge, no studies of youth offending have included a measure of material deprivation; although, associations have been found with low subjective well-being (Main and Bradshaw 2012) and behavioural problems (Schenck-Fontaine *et al.* 2019) amongst children.

In contrast to these three objective forms of poverty, a growing body of researchers focuses instead on subjective measures that tap into the level of difficulty families face on a day-to-day basis. The concept of 'financial strain' is based on parental perceptions of how they feel they

are managing financially (Li and Chzhen 2023), how much of a burden their financial situation is on their daily lives (Ponnet 2014), or how much difficulty they have making ends meet (Gibbons *et al.* 2023). Two families in the same financial situation may not experience the same level of strain: one study that examined financial strain over 6 years amongst a sample of low-income mothers found that, despite very similar financial circumstances, mothers varied in the extent to which they experienced financial strain (Valentino *et al.* 2014). This study also found that increases in income over time were not always associated with decreased financial strain. Thus, although subjective perception of financial strain is likely correlated with objective measures, the two are not the same.

A well-studied concept in some literature (see Hassan *et al.* 2021), financial strain has been rarely included in criminological research. Most relevant studies come from psychology and assess its connection to children's externalizing behaviours. For example, Ponnet *et al.* (2014) found that caregiver's self-reported perceptions of financial need, insecurity, and burden were associated with child problem behaviour in low-, middle- and high-income families. While a study from Ireland found that financial strain, rather than household income, was associated with children's behaviour problems in middle childhood and adolescence (Gibbons *et al.* 2023).

In short, household poverty consists of multiple dimensions and can be measured in different ways. It is unlikely that single indicators provide sufficient information about the economic well-being of the household in a holistic sense. Even so, few prior studies have included multiple poverty measures (see Rekker *et al.* 2015, for exception), and the criminological literature lacks measures of poverty that capture the experience of material deprivation and perceptions of financial strain.

### Duration of poverty exposure

Another limitation of the extant literature on childhood poverty and youth offending is the inconsistent assessment of duration of poverty exposure (Hay and Forrest 2009). Some studies focus on persistent exposure to poverty, in line with the 'accumulation of risk' model, which posits that the negative effects of poverty snowball over time through positive feedback loops (McLaughlin *et al.* 2011). Like any negative experience, long-term exposure to poverty could reasonably be expected to result in greater harm than short-term exposure, as the challenges of poverty likely build up in an additive or even multiplicative manner. Hay and Forrest (2009) hypothesized that persistent poverty would be more influential on offending than intermittent poverty because causal processes (e.g. socialization) were more likely to occur over the long term. Correspondingly, they found that while both short and long-term exposure to low income was associated with persistent self-reported youth offending, the effect size was larger for long-term exposure. Other studies have found similar results (Jarjoura *et al.* 2002; Mok *et al.* 2018). Beyond criminology, research on the connection between poverty and other types of externalizing behaviors has also found that persistent poverty is more influential (Mazza *et al.* 2016; Comeau and Boyle 2018).

Conversely, some studies have found that intermittent exposure to poverty is just as, if not more, influential than persistent poverty. For example, a Danish study found that intermittent poverty in childhood was associated with conduct problems in adolescence, whereas growing up in persistent poverty was not (Pryor *et al.* 2019). By explanation, the researchers suggested that economically vulnerable families who move in and out of poverty might have had more difficulty accessing financial supports, causing particular challenges for young people in such households.

In summary, most evidence suggests that living in persistent poverty has the strongest association with youth offending; however, intermittent exposure or 'poverty churn' might also impact on young people's behaviour. Very few prior studies have examined the effects of both

persistent and intermittent poverty exposure on youth offending across multiple dimensions of poverty (Rekker *et al.* 2015).

## THE CURRENT STUDY

This study aimed to advance criminological knowledge and offer insights for policy development by examining the effect of exposure to different dimensions of household poverty in childhood, and duration of such exposure, on youth offending. Focusing on direct effects only, we used a quantitative research design drawing on data from a birth cohort study in Scotland, recognizing the value of using longitudinal data for examining the relationship between exposure to poverty during the childhood years and onset of offending. We examined four measures of household poverty based on the literature: low income; parental unemployment; material deprivation and financial strain. For each measure, we identified exposure on a persistent basis (3 or more years), intermittently (1 or 2 years), or not at all during the study period. To assess whether exposure to child poverty was most strongly associated with childhood or adolescent onset of offending, we examined the prevalence of self-reported offending at two age points: by age 12 (during the primary school years) and at age 14 (in the early secondary school years). For each age point, our research questions were:

- (1) Which (if any) of the four dimensions of household poverty are associated with youth offending onset?
- (2) To what extent is the duration of exposure to each dimension of household poverty associated with engagement in youth offending?

## Research data

The Growing Up in Scotland (GUS) study is a nationally representative longitudinal research programme involving just over 5,000 children born in 2004/2005.<sup>1</sup> The study collects data from main carers, their partners and the children themselves. Its primary aim is to track the development of young people, as well as family and school factors which affect their development, across a variety of dimensions (e.g. cognitive, behavioural, educational). The parents of the children in the GUS cohort were first interviewed in 2005/2006 when the children were 10 months old. Follow-up data were collected annually until sweep 6 (age 6), and then every 2 years thereafter. In this study, we focused on sweeps 6–10 (age 6–14) of GUS because some poverty measures and covariates important to our analysis were not collected prior to sweep 6. Unless stated otherwise (e.g. for self-reported offending), all measures were as reported by the main carer in the household (which was the mother in 94 per cent of cases). Only young people who had data from all waves analysed (6–10) were included in the analysis. Use of sample weights helped to reduce the attrition bias implied by sample reduction (see analytic strategy for more details).

The GUS study was ideal for this research for three reasons. First, the longitudinal nature of the data collection and the richness of the information gathered allowed us to measure all four dimensions of poverty over a prolonged period in the lives of these children. Second, the study collected self-reported information on a range of offences from around age 12, based on measures taken from the Edinburgh Study of Youth Transitions and Crime (see McAra and McVie 2025). Third, the timing of the data collection coincided with a period of financial austerity within Scotland and the wider United Kingdom, which means any effects of poverty were

1 GUS data were accessed through the UK Data Service at <https://ukdataservice.ac.uk/> (SN 5760). Analytic code underpinning this study can be accessed on request by contacting the corresponding author.

more likely to be apparent. The GUS cohort was aged around four in 2008 when the global financial crash occurred, and aged around six in 2010 when the UK Government introduced a raft of austerity measures, resulting in major cuts to welfare spending, including child benefit, housing benefit and disability living allowance (Berman and Hovland 2024). The UK austerity policy also impacted low-income families in Scotland (Scottish Government 2022c), with the Institute for Finance Studies estimating a 6 per cent reduction in resource spending in Scotland between 2010/2011 and 2017/2018 (during which the children aged from 6 to 13) (Phillips 2021).

## Measures

### *Dependent variable*

Our outcome of interest is age of onset of offending, as prior studies have shown that offending that begins earlier in childhood is more likely to lead to a chronic and persistent offending pathway over the life course than offending that begins in adolescence, and that poverty can play a part in the causal mechanism (see Moffitt 1993). In the GUS study, cohort members were first asked about involvement in a variety of offending behaviours at age 12 (sweep 9), both ever and in the past year. At age 14 (sweep 10), they were asked whether they had engaged in the same offending behaviours during the previous year only. No further sweeps of data were available at the time of the analysis.

The outcome variable was coded into three categories: *no offending* reported, any offending reported up to and at age 12 and any offending reported at age 14 only. The age categories were mutually exclusive; onset by age 12 includes young people who may also have reported offending at age 14; however, these people are not included in the onset at age 14 category. The offending behaviours covered by the study include: engagement in violence (e.g. hitting, punching or kicking someone with intent of injury; carrying a knife or weapon; and using force, threats or a weapon against someone); acquisitive crime (e.g. taking something from a shop or store; breaking into a locked place to steal something or stealing from other places); property damage (e.g. deliberately damaging or destroying property; writing things or spraying paint on property) and general anti-social behaviour (e.g. being rowdy or rude in a public place).<sup>2</sup>

### *Independent variables*

Four measures of household poverty were used in this study. First, a standard measure of relative *low income* was used to identify whether the child's household was in Scotland's lowest equivalized income quintile (as defined by Scottish Government 2024). Second, a measure of *parental unemployment* indicated households where neither parent/carer was employed in full or part-time work during each survey wave. Third, a measure of *material deprivation* was based on the inability of the household to afford four items considered to be a social norm in UK society: a holiday away from home at least one week a year; having their home in a decent state of decoration; household contents insurance; and making regular savings of £10 a month or more for rainy days or retirement (these measures were chosen because they were asked in all survey waves we examined). If the main carer reported that they could not afford two or more of these items, they were coded as materially deprived. Fourth, a measure of *financial strain* was based on the parent's response to a question about how the family was 'managing financially these days'. Children were identified as living in a financially strained household if the main carer stated that they were 'not managing very well', 'having some financial difficulties' or were 'in deep financial trouble' (relative to 'getting by alright' or 'managing quite/very well').

2 Further information about the study can be found at <https://growingupinScotland.org.uk/>.

The four dimensions of poverty were measured at all five waves of the GUS study used, from age 6 to age 14. To indicate the duration of exposure, the number of waves that the child was recorded as having experienced each dimension was totalled. Duration of exposure to each form of poverty was coded as none (0 waves), intermittent (1–2 waves), or persistent (3+ waves). This definition of persistent poverty is in keeping with the Scottish Government Delivery Plan targets ([Scottish Government 2024](#)).

### Covariates

Several control variables were included in the analysis to account for potential confounding of the poverty-offending association. First, we included the duration of exposure to *neighbourhood deprivation*. While the focus of our analysis is on household rather than neighbourhood poverty, household poverty is correlated highly with area deprivation ([Bolster et al. 2007](#)), and previous research has shown a strong association between area deprivation and youth offending in Scotland ([Jahanshahi et al. 2022](#)). Those living in the 20 per cent most deprived quintile of the Scottish Index of Multiple Deprivation (SIMD) were compared to the remaining cohort members (reference group). Like the household poverty measures (see above), we included duration of neighbourhood deprivation to account for the possibility that the amount of time spent living in a deprived neighbourhood influences youth offending.

Demographic factors are well known to influence involvement in youth offending ([Ferrante 2013](#)), so we controlled for *sex* (male = reference group) and *ethnicity* (non-White = reference group). Prior research has shown that *low parental monitoring* is associated with youth offending ([Kerr et al. 2010](#)), so a (child-reported) measure at age 12 based on whether parents knew what they did with their free time, hardly ever or some of the time (relative to all or most of the time), was included. Exposure to multiple *adverse childhood experiences* (ACEs) is also associated with increased risk of youth offending ([Malvaso et al. 2022](#)), as evidenced during prior analysis of the GUS dataset ([Jahanshahi et al. 2022](#)). Therefore, a control variable was included to capture exposure to three or more of the following ACEs during the study period: death of a parent/sibling; parent illness/accident; parental separation; familial mental health problems, drug use, or alcohol abuse; familial offending (including incarceration and problems with the police); domestic violence and corporal punishment. ACEs were measured at every wave except for corporal punishment (only measured at Wave 7) and domestic violence (measured in Wave 6).

As our analytical approach focused on identifying the direct effect of poverty on youth offending, two additional control variables were included to help ensure we are capturing the effect of the poverty measures themselves, rather than other correlated factors. These were *main carer highest education level* (categorized as no qualifications [reference], degree or equivalent, vocational qualification below degree, and standard grade or higher) and *single-parent household* (measured as whether the main carer reported that they were a lone parent versus a two-parent family).

### Analytic strategy

Our analyses consisted of three stages. First, we estimated weighted descriptive statistics for the full analytic sample ([Table 1](#)) to assess sample characteristics. Second, we compared the profile of the cohort based on which of the three offending onset groups they belonged to (i.e. no offending, Age 12, Age 14) to determine variation in the characteristics of each offending group ([Table 2](#)). Third, we estimated a series of unadjusted ([Table 3](#)) and adjusted ([Table 4](#)) multinomial logistic regression models to assess the associations between the duration of each dimension of household poverty and offending onset age (relative to no offending). Multinomial logistic regression was used due to its strength in modelling categorical, non-ordered dependent variables (i.e. offending at two time points relative to none). We estimated four unadjusted

models (one for each measure of household poverty duration) and five adjusted models (one for each measure of household poverty duration and one empty model with only covariates for comparison).

All analyses adjusted for complex survey design and sample attrition using longitudinal household weights. As missingness on some items was substantial,<sup>3</sup> we addressed item-level missing data using multiple imputation by chained equations (MICE).<sup>4</sup> Re-estimation using the non-imputed data showed that the results were substantively similar to those reported in this article.

## RESULTS

### Descriptive analysis

The analysis included 2,012 individuals for whom data were collected over the whole study period. About one-third (30%) of the sample reported offending onset by Age 12 and a further 16 per cent reported onset at Age 14 (see Table 1).<sup>5</sup> Low income was experienced intermittently by 18 per cent of the sample and persistently by 26 per cent of the sample; while material deprivation was experienced intermittently by 23 per cent of the sample and persistently by 19 per cent the sample. Living in a household with unemployed parents was less common: 11 per cent of the sample had intermittently unemployed parents and 10 per cent had persistently unemployed parents. Financial strain, based on parental perceptions, occurred intermittently for around a fifth of the sample (22 per cent), whereas persistent exposure was uncommon (5 per cent).

### Poverty exposure and covariates by offending onset group

It is important to note that most young people were not exposed to childhood poverty, regardless of which of the three offending groups they were in (Table 2). Nevertheless, amongst the age 12 onset group, 50 per cent had been exposed to low relative income (any duration), 47 per cent to material deprivation, 29 per cent to financial strain and 25 per cent to unemployed parents. Compared to this early onset group, the prevalence of exposure to all four types of poverty was lower for those who began offending at age 14 and those who did not report offending.

Exposure to persistent poverty was most prevalent among those who began offending by age 12 across all four measures. This was particularly evident for persistent low income: 31 per cent of age 12 onset offenders lived in a household with persistently low income, compared with 22 per cent of those who began offending at age 14 and 25 per cent of those who did not offend. Differences by offending onset age were not as strong for intermittent experience of poverty. For

3 Missing data were highest for income (15%), which is common in surveys (Kim *et al.* 2007), and age 14 offending (6.5%), which may be related to pandemic restrictions which affected data collection. As these explanations would both imply that data were missing at random (MAR), multiple imputation is a robust way to account for missing data. Analyses indicated that missing data on age 14 offending was not associated with low income.

4 MICE is a set of general linear models that substitute missing data with plausible replacement values derived from relationships among the observed data (Li *et al.* 2015). Data were imputed 20 times using an iterative stochastic approach to account for uncertainty in estimating missing values. We included all variables from the analysis in the procedure. MICE assumes that data are missing at random (MAR), or able to be predicted by observed variables. Although unverified, the MAR assumption is less stringent than other missing data assumptions, such as the MCAR assumption implied by complete case analysis (Li *et al.* 2015).

5 Although not the focus of the current study, the prevalence of individual offending types varied. Violence (hitting, kicking, or punching someone with the intention of hurting or injuring them) was the most prevalent at both ages (e.g. 16% at age 14, 15% at age 12 (past year) and 17% at age 12 (ever)). Stealing money or other things was second most prevalent at age 12 (10% ever and 8% past year). Being rowdy or rude in public was second most prevalent at age 14 (14%). Least common offence types included breaking into a locked place to steal something, using force/threats/weapons, and carrying a knife or weapon, which were each reported by 1% of the sample or less in each wave. Further information is available at <https://growingupinscotland.org.uk/scottish-government-reports>.

**Table 1.** Weighted descriptive statistics of study variables for analytic sample

| Growing Up in Scotland (GUS) Study (sweeps 6-10; N = 2,012) |                           | %  |
|-------------------------------------------------------------|---------------------------|----|
| Offending onset                                             | By Age 12                 | 30 |
|                                                             | Age 14                    | 16 |
| Material deprivation                                        | None (0 sweeps)           | 59 |
|                                                             | Intermittent (1-2 sweeps) | 23 |
|                                                             | Persistent (3 + sweeps)   | 19 |
| Low income                                                  | None (0 sweeps)           | 56 |
|                                                             | Intermittent (1-2 sweeps) | 18 |
|                                                             | Persistent (3 + sweeps)   | 26 |
| Unemployed parents                                          | None (0 sweeps)           | 79 |
|                                                             | Intermittent (1-2 sweeps) | 11 |
|                                                             | Persistent (3 + sweeps)   | 10 |
| Financial strain                                            | None (0 sweeps)           | 73 |
|                                                             | Intermittent (1-2 sweeps) | 22 |
|                                                             | Persistent (3 + sweeps)   | 5  |
| Neighbourhood deprivation                                   | None (0 sweeps)           | 71 |
|                                                             | Intermittent (1-2 sweeps) | 9  |
|                                                             | Persistent (3 + sweeps)   | 20 |
| Female                                                      |                           | 49 |
| Non-white ethnicity                                         |                           | 4  |
| Low parental monitoring                                     |                           | 8  |
| Single parent household                                     |                           | 25 |
| Three or more adverse childhood experiences                 |                           | 24 |
| Main carer highest education level                          | No qualifications         | 7  |
|                                                             | Degree/equivalent         | 33 |
|                                                             | Vocational below degree   | 41 |
|                                                             | Standard/higher           | 20 |

Notes: Estimates rounded. Estimated based on imputed data (20 datasets).

**Table 2.** Sample characteristics by offending onset prevalence (column %), GUS (sweeps 6-10, *N* = 2,021)

|                           | No Offending    | By Age 12        | Age 14          |
|---------------------------|-----------------|------------------|-----------------|
|                           | %               | %                | %               |
| Material deprivation      |                 |                  |                 |
| None (0 sweeps)           | 62 <sup>a</sup> | 53 <sup>a</sup>  | 58              |
| Intermittent (1-2 sweeps) | 22              | 24               | 25              |
| Persistent (3 + sweeps)   | 17              | 22               | 17              |
| Low income                |                 |                  |                 |
| None (0 sweeps)           | 58 <sup>a</sup> | 50 <sup>ab</sup> | 62 <sup>b</sup> |
| Intermittent (1-2 sweeps) | 18              | 19               | 16              |
| Persistent (3 + sweeps)   | 25              | 31               | 22              |
| Unemployed parents        |                 |                  |                 |
| None (0 sweeps)           | 81              | 75               | 81              |
| Intermittent (1-2 sweeps) | 10              | 13               | 9               |
| Persistent (3 + sweeps)   | 8               | 12               | 10              |
| Financial strain          |                 |                  |                 |
| None (0 sweeps)           | 74              | 71               | 75              |
| Intermittent (1-2 sweeps) | 23              | 21               | 19              |
| Persistent (3 + sweeps)   | 3 <sup>a</sup>  | 8 <sup>a</sup>   | 6               |
| Neighbourhood deprivation |                 |                  |                 |
| None (0 sweeps)           | 73 <sup>a</sup> | 67 <sup>a</sup>  | 75              |
| Intermittent (1-2 sweeps) | 9               | 10               | 5               |

Table 2. Continued

|                                    | No Offending     | By Age 12        | Age 14           |
|------------------------------------|------------------|------------------|------------------|
| Persistent (3 + sweeps)            | 18               | 23               | 20               |
| Female                             | 60 <sup>ab</sup> | 33 <sup>a</sup>  | 42 <sup>b</sup>  |
| Non-white ethnicity                | 5                | 3                | 5                |
| Low parental monitoring            | 3 <sup>ab</sup>  | 17 <sup>ac</sup> | 8 <sup>bc</sup>  |
| Single parent household            | 25               | 26               | 23               |
| Three or more ACEs                 | 23               | 27               | 23               |
| Main carer highest education level |                  |                  |                  |
| No qualifications                  | 6                | 9                | 8                |
| Degree/equivalent                  | 36               | 25               | 35               |
| Vocational below degree            | 38 <sup>a</sup>  | 44 <sup>a</sup>  | 44               |
| Standard/higher                    | 20 <sup>a</sup>  | 22 <sup>b</sup>  | 14 <sup>ab</sup> |

Notes: Estimates weighted and rounded. ACEs = adverse childhood experiences.  
Estimates based on imputed data. Estimates that share a superscript are statistically different from each other at  $P < 0.05$ .

instance, living in a household with intermittently low income was experienced by 18 per cent of non-offenders, 19 per cent of age 12 onset offenders and 16 per cent of age 14 onset offenders.

Some covariate characteristics were more prevalent amongst young people who began offending at either age than among non-offenders. For instance, low parental monitoring was experienced by 17 per cent of age 12 onset offenders and 8 per cent of age 14 onset offenders, but was experienced by only 3 per cent of non-offenders. Experiencing three or more ACEs, persistently living a deprived area and parental education below degree level were each most prevalent among age 12 onset offenders (Table 2).

### Unadjusted models predicting offending

Table 3 presents the results of the four multinomial logistic regression models, predicting age of offending onset (by 12 or at 14) by each of the poverty exposure measures, unadjusted for covariates. Relative to no exposure, persistent exposure to material deprivation was associated with a 52 per cent increase in the odds of offending onset by age 12 (Model 3); whereas, persistent exposure to parent financial strain (relative to no exposure) was associated with a 188 per cent increase in the odds of offending onset by age 12 (Model 4). There was no statistically significant association between persistent low income or parental unemployment and onset of offending at either age. None of the measures capturing intermittent exposure to poverty were associated with offending, and there was no association between any poverty measure and onset of offending at age 14.

### Adjusted models predicting offending

Model 1 in Table 4 shows the association between the covariates and youth offending without accounting for any measure of household poverty. Being male, experiencing low parental monitoring, and parental education level were independently associated with onset of offending at both ages. Models 2–5 in Table 4 present the results of the multinomial logistic regression models for each poverty measure (as in Table 3), adjusted to account for the covariates. A statistically significant association between poverty and offending onset was found in only one model: persistent exposure to financial strain was associated with increased odds of offending by age 12 by 155 per cent, after accounting for any effect of the covariates. Neither duration of poverty exposure for material deprivation, low income and parental unemployment was associated with odds of offending onset by age 12 or age 14 in the adjusted models.

## DISCUSSION

Child poverty has been a significant policy concern within the United Kingdom for decades. Following a pledge to ‘eradicate’ child poverty by 2020, the Child Poverty Act 2010 established targets for each of the four UK nations and placed a statutory requirement on the respective governments to publish child poverty strategies. The Child Poverty Strategy for Scotland was launched in 2011 with the aim of improving children’s outcomes ‘by maximising household incomes and reducing pressure on household budgets among low-income families – through measures such as maximising the potential for parents to access and sustain good quality employment’ (Scottish Government 2011: 2). The Scottish Government re-asserted its commitment to the issue by passing the Child Poverty (Scotland) Act (2017), which included legal targets to reduce the proportion of children living in relative and absolute poverty, low income and material deprivation, and persistent poverty by 2030. Nevertheless, in the context of a cost-of-living crisis which has reduced the affordability of goods and services, increased food insecurity, and increased the cost of bills, energy and housing (Harari *et al* 2024), it appears increasingly unlikely that the Scottish Government’s child poverty targets will be met (SPICe 2024).

**Table 3.** Unadjusted relative risk ratios (RRR) and 95% confidence intervals for offending onset by age 12 and at 14 (ref outcome = no offending), GUS (sweeps 6-10, *N* = 2,012)

|                                       | Model 1               |                       | Model 2               |                       | Model 3               |                       | Model 4                |                       |
|---------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|
|                                       | Age 12                | Age 14                | Age 12                | Age 14                | Age 12                | Age 14                | Age 12                 | Age 14                |
| Material deprivation (ref = 0 sweeps) |                       |                       |                       |                       |                       |                       |                        |                       |
| Intermittent (1-2 sweeps)             | 1.29<br>[0.91 - 1.82] | 1.20<br>[0.81 - 1.77] |                       |                       |                       |                       |                        |                       |
| Persistent (3 + sweeps)               | 1.52*<br>[1.06- 2.18] | 1.08<br>[0.57 - 2.06] |                       |                       |                       |                       |                        |                       |
| Low income (ref = 0 sweeps)           |                       |                       |                       |                       |                       |                       |                        |                       |
| Intermittent (1-2 sweeps)             |                       |                       | 1.27<br>[0.93 - 1.72] | 0.83<br>[0.53 - 1.30] |                       |                       |                        |                       |
| Persistent (3 + sweeps)               |                       |                       | 1.44<br>[1.00 - 2.07] | 0.84<br>[0.51- 1.40]  |                       |                       |                        |                       |
| Parents unemployed (ref = 0 sweeps)   |                       |                       |                       |                       |                       |                       |                        |                       |
| Intermittent (1-2 sweeps)             |                       |                       |                       |                       | 1.33<br>[0.75 - 2.35] | 0.87<br>[0.45 - 1.68] |                        |                       |
| Persistent (3 + sweeps)               |                       |                       |                       |                       | 1.64<br>[0.93 - 2.90] | 1.31<br>[0.57 - 3.01] |                        |                       |
| Financial strain (ref = 0 sweeps)     |                       |                       |                       |                       |                       |                       |                        |                       |
| Intermittent (1-2 sweeps)             |                       |                       |                       |                       |                       |                       | 0.92<br>[0.68 - 1.25]  | 0.81<br>[0.55 - 1.20] |
| Persistent (3 + sweeps)               |                       |                       |                       |                       |                       |                       | 2.88**<br>[1.56- 5.32] | 1.83<br>[0.88 - 3.80] |

*Notes:* Confidence intervals below estimate. Estimated using multinomial logistic regression.  
\*\*\* *p* < 0.001, \*\* *p* < 0.01, \* *p* < 0.05.

**Table 4.** Adjusted relative risk ratios (RRR) and 95% confidence intervals for offending onset age 12 and 14 (ref outcome= no offending), GUS sweeps 6-10, (N=2,012)

|                                         | Model 1 |        | Model 2      |              | Model 3      |              | Model 4      |              | Model 5      |              |
|-----------------------------------------|---------|--------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                         | Age 12  | Age 14 | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       |
| Material deprivation<br>(ref= 0 sweeps) |         |        |              |              |              |              |              |              |              |              |
| Intermittent (1-2 sweeps)               |         |        | 1.12         | 1.27         |              |              |              |              |              |              |
|                                         |         |        | [0.78, 1.62] | [0.86, 1.87] |              |              |              |              |              |              |
| Persistent (3+ sweeps)                  |         |        | 1.30         | 1.23         |              |              |              |              |              |              |
|                                         |         |        | [0.81, 2.09] | [0.66, 2.29] |              |              |              |              |              |              |
| Low income (ref= 0 sweeps)              |         |        |              |              |              |              |              |              |              |              |
| Intermittent (1-2 sweeps)               |         |        |              |              | 1.05         | 0.78         |              |              |              |              |
|                                         |         |        |              |              | [0.74, 1.50] | [0.49, 1.23] |              |              |              |              |
| Persistent (3+ sweeps)                  |         |        |              |              | 1.27         | 0.87         |              |              |              |              |
|                                         |         |        |              |              | [0.75, 2.13] | [0.50, 1.52] |              |              |              |              |
| Parents Unemployed<br>(ref= 0 sweeps)   |         |        |              |              |              |              |              |              |              |              |
| Intermittent (1-2 sweeps)               |         |        |              |              |              |              | 1.18         | 1.00         |              |              |
|                                         |         |        |              |              |              |              | [0.59, 2.36] | [0.49, 2.01] |              |              |
| Persistent (3+ sweeps)                  |         |        |              |              |              |              |              |              |              |              |
|                                         |         |        |              |              |              |              | 1.53         | 1.64         |              |              |
|                                         |         |        |              |              |              |              | [0.79, 2.97] | [0.75, 3.59] |              |              |
| Financial strain<br>(ref=0 sweeps)      |         |        |              |              |              |              |              |              |              |              |
| Intermittent (1-2 sweeps)               |         |        |              |              |              |              |              |              | 0.79         | 0.81         |
|                                         |         |        |              |              |              |              |              |              | [0.58, 1.10] | [0.55, 1.20] |
| Persistent (3+ sweeps)                  |         |        |              |              |              |              |              |              | 2.55**       | 2.01         |

Table 4. Continued

|                                         | Model 1      |              | Model 2      |              | Model 3      |              | Model 4      |              | Model 5      |              |
|-----------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                         | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       |
| Neighborhood deprivation (ref=0 sweeps) |              |              |              |              |              |              |              |              |              |              |
| Intermittent (1-2 sweeps)               | 1.11         | 0.59         | 1.05         | 0.56         | 1.05         | 0.62         | 1.03         | 0.55         | 1.08         | 0.59         |
| Persistent (3+ sweeps)                  | [0.67, 1.85] | [0.27, 1.33] | [0.65, 1.71] | [0.25, 1.26] | [0.64, 1.70] | [0.28, 1.40] | [0.63, 1.69] | [0.24, 1.27] | [0.65, 1.80] | [0.26, 1.32] |
| Female                                  | 1.13         | 0.98         | 1.06         | 0.93         | 1.07         | 1.03         | 1.05         | 0.91         | 1.19         | 1.02         |
|                                         | [0.81, 1.57] | [0.59, 1.65] | [0.76, 1.48] | [0.58, 1.48] | [0.76, 1.49] | [0.63, 1.67] | [0.75, 1.47] | [0.56, 1.49] | [0.83, 1.70] | [0.62, 1.69] |
| Nonwhite                                | 0.34***      | 0.48***      | 0.33***      | 0.48***      | 0.33***      | 0.48***      | 0.33***      | 0.48***      | 0.33***      | 0.47***      |
|                                         | [0.25, 0.44] | [0.35, 0.66] | [0.25, 0.44] | [0.35, 0.66] | [0.25, 0.44] | [0.35, 0.66] | [0.25, 0.44] | [0.35, 0.66] | [0.25, 0.43] | [0.34, 0.65] |
| Low parental monitoring                 | 0.76         | 0.72         | 0.76         | 0.70         | 0.73         | 0.74         | 0.76         | 0.73         | 0.78         | 0.73         |
|                                         | [0.36, 1.61] | [0.30, 1.73] | [0.36, 1.59] | [0.30, 1.67] | [0.34, 1.55] | [0.30, 1.80] | [0.35, 1.62] | [0.31, 1.73] | [0.38, 1.61] | [0.30, 1.77] |
| Single parent household                 | 5.96***      | 2.61**       | 5.90***      | 2.58**       | 5.97***      | 2.62**       | 5.99***      | 2.65**       | 5.74***      | 2.55**       |
|                                         | [3.66, 9.71] | [1.39, 4.91] | [3.61, 9.66] | [1.38, 4.84] | [3.68, 9.68] | [1.40, 4.93] | [3.70, 9.70] | [1.42, 4.94] | [3.49, 9.45] | [1.35, 4.84] |
| Three or more ACEs                      | 0.86         | 0.81         | 0.82         | 0.78         | 0.80         | 0.86         | 0.80         | 0.77         | 0.84         | 0.81         |
|                                         | [0.58, 1.26] | [0.52, 1.28] | [0.54, 1.23] | [0.50, 1.23] | [0.51, 1.24] | [0.53, 1.39] | [0.52, 1.22] | [0.48, 1.22] | [0.58, 1.22] | [0.52, 1.27] |
|                                         | 1.14         | 1.06         | 1.10         | 1.02         | 1.11         | 1.08         | 1.10         | 1.05         | 1.13         | 1.07         |

Table 4. Continued

|                                                            | Model 1      |              | Model 2      |              | Model 3      |              | Model 4      |              | Model 5      |              |
|------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                                            | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       | Age 12       | Age 14       |
| Main carer highest education level (ref=no qualifications) | [0.81, 1.61] | [0.75, 1.51] | [0.78, 1.55] | [0.71, 1.46] | [0.79, 1.56] | [0.75, 1.56] | [0.78, 1.57] | [0.73, 1.49] | [0.81, 1.59] | [0.73, 1.56] |
| Degree                                                     | 0.42*        | 0.63         | 0.45*        | 0.67         | 0.45*        | 0.59         | 0.46*        | 0.71         | 0.43*        | 0.64         |
|                                                            | [0.22, 0.81] | [0.25, 1.60] | [0.22, 0.88] | [0.27, 1.68] | [0.22, 0.92] | [0.23, 1.53] | [0.24, 0.91] | [0.28, 1.75] | [0.22, 0.82] | [0.25, 1.61] |
| Vocational/below degree                                    | 0.71         | 0.80         | 0.74         | 0.84         | 0.74         | 0.77         | 0.78         | 0.89         | 0.71         | 0.80         |
|                                                            | [0.39, 1.30] | [0.34, 1.87] | [0.39, 1.39] | [0.36, 1.94] | [0.39, 1.41] | [0.32, 1.84] | [0.41, 1.47] | [0.39, 2.04] | [0.34, 1.88] | [0.34, 1.88] |
| Standard/higher                                            | 0.62         | 0.46         | 0.64         | 0.48         | 0.64         | 0.44         | 0.66         | 0.49         | 0.63         | 0.47         |
|                                                            | [0.30, 1.28] | [0.18, 1.15] | [0.31, 1.35] | [0.19, 1.19] | [0.31, 1.35] | [0.17, 1.13] | [0.31, 1.40] | [0.20, 1.22] | [0.31, 1.28] | [0.19, 1.16] |

Notes: \*\*\* p<0.001, \*\* p<0.01, \* p<0.05. Confidence intervals below estimate. ACEs= adverse childhood experiences. Constant omitted. Estimated using multinomial logistic regression.

Against this backdrop, recent increases in youth offending have reignited concerns that poverty is a key driver of crime within the United Kingdom ([The Conversation 2024](#)). Yet prior criminological scholarship has produced inconsistent results with regard to the poverty-offending nexus. Some studies have suggested that poverty (usually measured by low income) is linked to youth offending (e.g. [Galloway and Skardhamer 2010](#); [Mok et al. 2018](#)), while others have found no association (e.g. [Thornberry et al. 2003](#); [Bergman and Andershed 2009](#)). One possible reason for such mixed findings may be inconsistency in the definition and measurement of poverty ([Webster and Kingston 2014](#)). This study aimed to expand criminological knowledge and inform policymaking by examining this issue in the Scottish context. Key contributions to the existing literature were the inclusion of four distinct dimensions of household poverty (low income, unemployment, material deprivation, and financial strain) and examining the relative importance of intermittent and persistent exposure in explaining onset of offending at two age points (during childhood up to age 12, and in early adolescence at age 14).

This study revealed that when the effect of each type of poverty was modelled alongside other potential explanatory variables, exposure to low income, parental unemployment and material deprivation had no significant direct association with offending onset, regardless of duration. However, growing up in a household characterised by persistent financial strain, based on parent's perceived inability to manage financially, was associated with involvement in offending by age 12 (early onset), even when other factors were taken into account.

Our findings are noteworthy from a theoretical perspective in three respects. First, lack of a direct relationship between youth offending and three of the four measures of poverty is in line with some other studies (e.g. [Sampson and Laub 1993](#); [Thornberry et al. 2003](#)). Yet, this does not discount the possibility that some theoretical relationship exists, possibly indirect and mediated by other mechanisms, such as poor parenting processes. That neither intermittent nor persistent exposure to these forms of poverty was significant direct predictor of youth offending in the adjusted models, despite the descriptive findings which suggested some association, is certainly deserving of further exploration.

Second, our analysis found significant results with respect to early onset offending by age 12, but not offending that began later at age 14.<sup>6</sup> Both the descriptive analysis and data modelling suggest that research on the impact of childhood poverty may be most fruitfully concentrated on early developmental offending pathways. This aligns with criminological theories that have emphasized the exacerbating effects of living in high-risk social environments in childhood on persistent, life-course offending that begins early in life (e.g. [Moffitt 1993](#)). Yet, there is scope to explore this further by understanding whether the effects of childhood poverty are manifested through neuropsychological deficit or other social and environmental factors (see [Tibbetts and Piquero 1999](#)).

Third, the strong association between exposure to persistent financial strain during childhood and offending onset by age 12 suggests that subjective assessments of poverty may offer more powerful explanatory value than traditional, objective poverty measures commonly used in both criminological studies and policy-focused research. Other researchers have also found subjective financial strain to be more predictive of externalising behaviour than income or material deprivation (e.g., [Gibbons et al. 2023](#)). This gives weight to the family stress perspective ([Conger et al. 1992](#)), which proposes that the day-to-day stresses caused by financial hardship impact parenting practices, which in turn affect the well-being and behaviour of the child. Importantly, our study showed that persistent, not intermittent, financial strain was associated with early offending onset. This finding is consistent with the accumulation of risk model

<sup>6</sup> The COVID pandemic affected some of the data collection at age 14 (about 15% of cases were affected and collected through online only), which could have impacted results. However, the majority of our data were collected prior to these pandemic disruptions.

(McLaughlin *et al.* 2011) and suggests that families blighted by perpetual financial hardship require the greatest attention. Two households on the same income level could differ widely in terms of whether and how they experience financial strain (Valentino *et al.* 2014); so, more detailed research on what influences parents' perceptions of financial strain could significantly improve our theoretical understanding of children's behaviour.

One important issue that should be taken into account when studying the association between poverty and youth offending is the economic context. The children in the GUS study grew up during a period of austerity characterized by cuts in welfare spending, including child benefits (Berman and Hovland 2024), so the impact of financial strain on already poor households may have been particularly acute. In such circumstances, financial strain may offer a more sensitive assessment of poverty than other, more objective measures because it allows respondents to provide a more rounded assessment of their financial situation. For example, even if a household's income level is very low or parents are unemployed, other aspects of family finances, such as savings, non-income resources, lack of debt, and a low cost of living could enable the family to cope financially. Notably, supplementary analyses (available by request) examining the correlation between the poverty measures indicated that financial strain strongly overlapped with unemployment and material deprivation but not with low income, which also implies that income may not provide as full a picture of a household's finances as the other measures.

From a policy perspective, this study confirms that not all children growing up in poverty become involved in offending, and many other factors may play a role in influencing such behaviour; yet for some children, the strains of family life caused by financial hardship may be particularly difficult to cope with. This chimes with the results of an evaluation of child poverty in Scotland conducted almost twenty years ago, which emphasised that:

Growing up in poverty does not automatically make a child unhealthy, a failure at school or a teenage delinquent. The majority of children in low income families are none of these things. Yet the pressures of life on a low income makes it harder for families to function well, in particular because such families have fewer resources to deal with things when they go wrong. This also affects the ways in which young people relate to their environment outside the family. (Hirsch 2008: 5)

The Scottish Government's pledge to eradicate child poverty, as set out in the [Child Poverty \(Scotland\) Act \(2017\)](#), is ambitious and efforts to achieve it encompass many different strategies, such as: the introduction, in 2021, of a Scottish Child Payment, a social security payment for all low-income families with children under age 16; expanding access to childcare services for low-income families; and introducing a Child Poverty Accelerator Fund to support new projects to tackle the root causes of poverty. However, the legal targets set by the government are mainly based on income measures. This includes goals to reduce by 10 per cent the number of children living in relative poverty (based on equivalized income) and by 5 per cent the number of children living in persistent poverty (i.e. living in relative poverty for three or more of the previous four years) by 2030. Even if such targets were met, which seems unlikely based on current projections (SPICe 2024), they do not take into account of the subjective experience of financial hardship.

Our findings imply that UK policies which focus on elevating household income levels or getting more parents into employment (e.g. [Scottish Government 2022a, 2022b](#); [Cabinet Office 2024](#)) could overlook some families in dire financial circumstances. The strain placed on such families, who are especially likely to be impacted by the cost-of-living crisis, could elevate the risk of many negative childhood outcomes, including youth offending. To identify families who are struggling from economic problems in a way that impacts their children's behaviour,

measures of a household's overall financial situation or difficulty making ends meet should be incorporated. Moreover, policy efforts should focus more attention on children who are persistently exposed to poverty during their formative years, as these are the children at greatest risk of involvement in offending from early life. Both policy and research should aim to understand the array of factors that make a given level of poverty particularly difficult to manage for parents. Doing so could influence child behaviours, such as offending, in addition to having impacts on the well-being of parents themselves.

### Limitations

This study has some limitations. We analysed longitudinal data, which has benefits in terms of understanding how early-life experiences are associated with behaviour in adolescence. However, there was some sample attrition, which resulted in a non-random subset of households failing to respond to later sweeps of data collection. It is possible that this attrition varied by household poverty. Use of sample weights helped to reduce this bias; even so, weighting responses from particular individuals to represent other individuals has the potential to be problematic. Relatedly, although self-reported offending data have several benefits over official crime data, it is possible that children exposed to poverty underreport certain offending behaviours, which would lead to downward bias in our estimates of the association between poverty and offending. However, the antisocial behaviours portion of GUS was self-administered, and GUS is not explicitly a crime survey, which both reduces the possibility of such reporting bias (Gomes *et al.* 2019).

While some time-ordering was established by using measures of poverty that pre-dated the measures of offending, since the data were observational, this study should not be understood as testing causal effects. It is possible that some unmeasured confounding remains, which is largely unavoidable in the absence of randomized control trials. Even so, we were able to statistically control for numerous covariates that plausibly account for most potential confounders, many of which are key predictors of offending in criminological literature (e.g. neighbourhood influences, ACEs), due to the richness of the GUS data. This strategy has typically been regarded as sufficient to undergird policy implications despite the correlational nature of the data (e.g. Jahanshahi *et al.* 2022).

This study analysed Scottish data, and the findings may not be generalizable to the rest of the United Kingdom or other nations, particularly nations with different policies regarding state assistance for financial hardship. Finally, we were only able to examine offending up to age 14. While existing theories suggest that poverty impacts most acutely on offending in childhood, it is possible that with further sweeps of data we may have observed significant effects later in adolescence or into adulthood.

### CONCLUSION

Single, objective measures of childhood poverty may fail to capture the dimensions of poverty that are most strongly associated with elevated risk of early onset youth offending. Measures based on parents' reports of inability to manage financially should be incorporated in academic and policy conversations to supplement information on more traditional measures, such as low income and unemployment. Policy action based on assessments of family poverty that incorporate multiple dimensions, including subjective reports of financial difficulties, is preferable to assessments which only use one objective measure. Targeted policies focused on the aspects of child poverty that place young people at greatest risk of criminal involvement are critical for ensuring that all children grow up in households suitable for pro-social development and the opportunity to live a happy, healthy life.

## FUNDING

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## REFERENCES

- Action for Children. (2023), 'Going without: Almost one in five children growing up deprived of the basics', Action for Children, available online at <https://www.actionforchildren.org.uk/our-work-and-impact/policy-work-campaigns-and-research/policy-reports/going-without-almost-one-in-five-children-growing-up-deprived-of-the-basics/>
- Barnardos. (2023), 'Invisible Children: Understanding the risk of the cost-of living crisis and school holidays on child sexual and criminal exploitation', Barnardos, available online at <https://www.barnardos.org.uk/sites/default/files/2023-06/summer23-report-invisible-children-cost-living-criminal-sexual-exploitation.pdf>
- Bergman, L. R. and Andershed, A. K. (2009), 'Predictors and Outcomes of Persistent or Age-Limited Registered Criminal Behavior: A 30-Year Longitudinal Study of a Swedish Urban Population', *Aggressive Behavior*, 35: 164–78.
- Berman, Y and Hovland, T. (2024), 'The Cost of Austerity: How UK Public Spending Cuts Led to 190,000 Excess Deaths', London School of Economics Inequalities blog, available online at <https://blogs.lse.ac.uk/inequalities/2024/06/19/the-cost-of-austerity-how-spending-cuts-led-to-190000-excess-deaths/>
- Berthoud, R. (2004), *Patterns of Poverty Across Europe*. Policy Press.
- Bjerk, D. (2007), 'Measuring the Relationship Between Youth Criminal Participation and Household Economic Resources', *Journal of Quantitative Criminology*, 23: 23–39.
- Bolster, A., Burgess, S., Johnston, R., Jones, K., Propper, C. and Sarker, R. (2007), 'Neighbourhoods, Households and Income Dynamics: A Semi-parametric Investigation of Neighbourhood Effects', *Journal of Economic Geography*, 7: 1–38.
- Braithwaite, J. (1981), 'The Myth of Social Class and Criminality Reconsidered', *American Sociological Review*, 46: 36–57. doi:10.2307/2095025
- Cabinet Office. (2024), 'Tackling Child Poverty: Developing Our Strategy', UK Government, available online at <https://www.gov.uk/government/publications/tackling-child-poverty-developing-our-strategy/tackling-child-poverty-developing-our-strategy-html>
- Child Poverty (Scotland) Act (2017), '2017 asp 6', available online at <https://www.legislation.gov.uk/asp/2017/6>
- ETIAS. (2024), 'Denmark Tightens Border Controls with Sweden Amid Rising Gang Violence', ETIAS, available online at <https://etias.com/articles/denmark-tightens-border-controls-with-sweden-amid-rising-gang-violence>
- Comeau, J. and Boyle, M. H. (2018), 'Patterns of Poverty Exposure and Children's Trajectories of Externalizing and Internalizing Behaviors', *SSM-Population Health*, 4: 86–94.
- Conger, R. D., Conger, K. J., Elder Jr, G. H., Lorenz, F. O., Simons, R. L. and Whitbeck, L. B. (1992), 'A Family Process Model of Economic Hardship and Adjustment of Early Adolescent Boys', *Child Development*, 63: 526–41.
- Danzinger, S. (1976), 'Explaining Urban Crime Rates', *Criminology*, 14: 291.
- House of Lords. (2024), 'Child Poverty: Statistics, Causes and the UK's Policy Response', UK Parliament, available online at <https://lordslibrary.parliament.uk/child-poverty-statistics-causes-and-the-uks-policy-response/>
- Farrington, D. P., Loeber, R. and Ttofi, M. M. (2012), 'Risk and Protective Factors for Offending', *The Oxford Handbook of Crime Prevention*, 46: 46–69.
- Ferrante, A. M. (2013), 'Assessing Gender and Ethnic Differences in Developmental Trajectories of Offending', *Australian & New Zealand Journal of Criminology*, 46: 379–402.
- Fujishiro, K., Xu, J. and Gong, F. (2010), 'What Does 'Occupation' Represent as an Indicator of Socioeconomic Status? Exploring Occupational Prestige and Health', *Social Science & Medicine*, 71: 2100–7.
- Galloway, T. and Skardhamar, T. (2010), 'Does Parental Income Matter for Onset of Offending?', *European Journal of Criminology*, 7: 424–41.
- Gibbons, R. A., Sprong, S. and Chzhen, Y. (2023), 'Growing up in the Great Recession: The Effects of Three Dimensions of Economic Well-Being on Child Behavioral Difficulties From Ages 3 to 17', *Journal of Youth and Adolescence*, 52: 1024–38. doi:10.1007/s10964-022-01721-2

- Gomes, H. S., Farrington, D. P., Maia, A. and Krohn, M. D. (2019), 'Measurement Bias in Self-reports of Offending: A Systematic Review of Experiments', *Journal of Experimental Criminology*, 15: 313–39. doi:[10.1007/s11292-019-09379-w](https://doi.org/10.1007/s11292-019-09379-w)
- Hagenaars, A.J.M. (2017), 'The Definition and Measurement of Poverty', In Lars Osberg (Ed). *Economic Inequality and Poverty: International Perspectives*. Routledge.
- Harari, D., Francis-Devine, B., Bolton, P., and Keep, M. (2024), 'Rising cost of living in the UK. House of Commons Library Research Briefing', available online at <https://researchbriefings.files.parliament.uk/documents/CBP-9428/CBP-9428.pdf>
- Hassan, N. M., Kassim, E. S. and Said, Y. M. U. (2021), 'Financial Wellbeing and Mental Health: A Systematic Review', *Studies of Applied Economics*, 39: 1–22.
- Hay, C. and Forrest, W. (2009), 'The Implications of Family Poverty for a Pattern of Persistent Offending', In Savage, J. (ed) *The development of persistent criminality*. Oxford University Press.
- Hirsch, D. (2008), 'Estimating the Cost of Child Poverty in Scotland Approaches and Evidence', Scottish Government Social Research, commissioned report, available online at <https://dera.ioe.ac.uk/id/eprint/9549/1/0055652.pdf> available online at [https://cpag.org.uk/sites/default/files/2024-12/Cost\\_of\\_a\\_Child\\_Scotland\\_2024.pdf](https://cpag.org.uk/sites/default/files/2024-12/Cost_of_a_Child_Scotland_2024.pdf)
- Jahanshahi, B., Murray, K. and 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: 751–72.
- Jarjoura, G. R., Triplett, R. A. and Brinker, G. P. (2002), 'Growing Up Poor: Examining the Link Between Persistent Childhood Poverty and Delinquency', *Journal of Quantitative Criminology*, 18: 159–87. doi:[10.1023/a:1015206715838](https://doi.org/10.1023/a:1015206715838)
- Joseph Rowntree Foundation (2025), 'Economic and Employment Growth Alone Will Not Be Enough to Reduce Poverty Levels', Policy Report, available at <https://www.jrf.org.uk/work/economic-and-employment-growth-alone-will-not-be-enough-to-reduce-poverty-levels>
- Kerr, M., Stattin, H. and Burk, W. J. (2010), 'A Reinterpretation of Parental Monitoring in Longitudinal Perspective', *Journal of Research on Adolescence*, 20: 39–64. doi:[10.1111/j.1532-7795.2009.00623.x](https://doi.org/10.1111/j.1532-7795.2009.00623.x)
- Kim, S., Egarter, S., Cubbin, C., Takahashi, E. R. and Braveman, P. (2007), 'Potential Implications of Missing Income Data in Population-Based Surveys: An Example from a Postpartum Survey in California', *Public Health Reports*, 122: 753–63. doi:[10.1177/003335490712200607](https://doi.org/10.1177/003335490712200607)
- Li, M. and Chzhen, Y. (2023), 'Parental Investment or Parenting Stress? Examining the Links Between Poverty and Child Development in Ireland', *European Societies*, 26: 911–51. doi:[10.1080/14616696.2023.2275592](https://doi.org/10.1080/14616696.2023.2275592)
- Li, P., Stuart, E. A. and Allison, D. B. (2015), 'Multiple Imputation: A Flexible Tool for Handling Missing Data', *JAMA*, 314: 1966–7. doi:[10.1001/jama.2015.15281](https://doi.org/10.1001/jama.2015.15281)
- Main, G. and Bradshaw, J. (2012), 'A Child Material Deprivation Index', *Child Indicators Research*, 5: 503–21. doi:[10.1007/s12187-012-9145-7](https://doi.org/10.1007/s12187-012-9145-7)
- Malvaso, C. G., Cale, J., Whitten, T., Day, A., Singh, S., Hackett, L. and Ross, S. (2022), 'Associations Between Adverse Childhood Experiences and Trauma Among Young People Who Offend: A Systematic Literature Review', *Trauma, Violence, & Abuse*, 23: 1677–94.
- Mazza, J. R. S., Boivin, M., Tremblay, R. E., Michel, G., Salla, J., Lambert, J. and Côté, S. 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: 1083–92.
- McAra, L. and McVie, S. (2022), 'Causes and impact of offending and criminal justice pathways: A Follow up of the Edinburgh Study cohort at age 35'. Report to the Nuffield Foundation, available online at <https://www.nuffieldfoundation.org/news/children-exposed-to-poverty-and-trauma-more-likely-to-offend-as-adults>
- McAra, L., & McVie, S. (2025), 'The Impact of Childhood Inequalities on Serious Offending in Adolescence: Insights from the Edinburgh Study of Youth Transitions and Crime', In *Handbook on Crime and Inequality*, 350–75. Edward Elgar Publishing.
- McLaughlin, K. A., Hatzenbuehler, M. L., Mennin, D. S. and Nolen-Hoeksema, S. (2011), 'Emotion Dysregulation and Adolescent Psychopathology: A Prospective Study', *Behaviour Research and Therapy*, 49: 544–54. doi:[10.1016/j.brat.2011.06.003](https://doi.org/10.1016/j.brat.2011.06.003)
- Merton, R. K. (1938), 'Social Structure and Anomie', *American Sociological Review*, 3: 672–82. doi:[10.2307/2084686](https://doi.org/10.2307/2084686)
- Miller, W. B. (1958), 'Lower Class Culture as a Generating Milieu of Gang Delinquency', *Journal of Social Issues*, 14: 351–63.

- Moffitt, T. E. (1993), 'Adolescence-Limited and Life-Course-Persistent Antisocial Behavior: A Developmental Taxonomy', *Psychological Review*, 100: 674–701.
- Mok, P. L., Antonsen, S., Pedersen, C. B., Carr, M. J., Kapur, N., Nazroo, J. and Webb, R. T. (2018), 'Family Income Inequalities and Trajectories Through Childhood and Self-Harm and Violence in Young Adults: A Population-Based, Nested Case-Control Study', *The Lancet Public Health*, 3: e498–507.
- Moore, J. C., Stinson, L. L. and Welniak, E. J. (2000), 'Income Measurement Error in Surveys: A Review', *Journal of Official Statistics-Stockholm*, 16: 331–62.
- NASUWT. (2024), 'Increased offending rates are part of rising trend in youth violence,' NASUWT Teachers Union Report, available at <https://www.nasuwt.org.uk/article-listing/rising-trend-in-youth-violence.html>
- Phillips, D. (2021), 'How and why has the Scottish Government's funding changed in recent years?' Institute for Fiscal Studies. Scottish Election Analysis Briefing Note 1, available online at [https://ifs.org.uk/sites/default/files/output\\_url\\_files/BN321-How-and-why-has-the-Scottish-Governments-funding-changed-in-recent-years-2.pdf](https://ifs.org.uk/sites/default/files/output_url_files/BN321-How-and-why-has-the-Scottish-Governments-funding-changed-in-recent-years-2.pdf)
- Ponnet, K. (2014), 'Financial Stress, Parent Functioning and Adolescent Problem Behavior: An Actor–Partner Interdependence Approach to Family Stress Processes in Low-, Middle-, and High-Income Families', *Journal of Youth and Adolescence*, 43: 1752–69. doi:10.1007/s10964-014-0159-y
- Pryor, L., Strandberg-Larsen, K., Andersen, A. M. N., Rod, N. H. and Melchior, M. (2019), 'Trajectories of Family Poverty and Children's Mental Health: Results from the Danish National Birth Cohort', *Social Science & Medicine*, 220: 371–8.
- Rekker, R., Pardini, D., Keijsers, L., Branje, S., Loeber, R. and Meeus, W. (2015), 'Moving In and Out of Poverty: The Within-Individual Association Between Socioeconomic Status and Juvenile Delinquency', *PLoS One*, 10: e0136461. doi:10.1371/journal.pone.0136461
- Revolving Doors. (2022), 'Majority of UK public believe rising poverty will lead to increase in crime – and this shouldn't lead to prison,' Revolving Doors, available online at <https://revolving-doors.org.uk/majority-of-uk-public-believe-rising-poverty-will-lead-to-increase-in-crime-and-this-shouldnt-lead-to-prison/>
- Sampson, R. J., and Laub, J. H. (1993), *Crime in the making: Pathways and turning points through life*. London: Harvard University Press.
- Schenck-Fontaine, A., et al. (2019), Many Kinds of Poverty: Three Dimensions of Economic Hardship, Their Combinations, and Children's Behavior Problems. *Demography*, 56: 2279–305. doi:10.1007/s13524-019-00833-y
- Scottish Children's Reporter Administration Dashboard. (2024), 'SCRA's Official Statistics 2023/2024,' SCRA, available online at <https://www.scra.gov.uk/2024/06/scras-official-statistics-2023-2024/>
- Scottish Government. (2011), *Child Poverty Strategy for Scotland*, available online at <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2011/03/child-poverty-strategy-scotland/documents/0114783-pdf/0114783-pdf/govscot%3Adocument/0114783.pdf>
- Scottish Government. (2022a), 'Tackling Child Poverty Delivery Plan 2022–26,' Scottish Government, available online at <https://www.gov.scot/news/tackling-child-poverty-delivery-plan-2022-26/>
- Scottish Government. (2022b), 'Tackling Child Poverty Delivery Plan 2022–26,' Annex 4: Cumulative Impact Assessment. Scottish Government, available online at <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/03/annex-4-cumulative-impact-assessment/documents/second-tackling-child-poverty-delivery-plan-2022-2026-annex-4-cumulative-impact-assessment/govscot%3Adocument/second-tackling-child-poverty-delivery-plan-2022-2026-annex-4-cumulative-impact-assessment.pdf>
- Scottish Government. (2022c), 'Renewing Democracy through Independence,' Scottish Government, available online at <https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2022/07/renewing-democracy-through-independence/documents/renewing-democracy-through-independence/renewing-democracy-through-independence/govscot%3Adocument/renewing-democracy-through-independence.pdf>
- Scottish Government. (2024), 'Child Poverty Delivery Plan progress 2023–2024,' Scrutiny by the Poverty and Inequality Commission Executive Summary prepared for the Scottish Government, available online at [https://povertyinequality.scot/wp-content/uploads/2024/06/Executive\\_Summary\\_Child\\_Poverty\\_Delivery\\_Plan\\_progress\\_2023-2024\\_Scrutiny\\_by\\_the\\_Poverty\\_and\\_Inequality\\_Commission.pdf](https://povertyinequality.scot/wp-content/uploads/2024/06/Executive_Summary_Child_Poverty_Delivery_Plan_progress_2023-2024_Scrutiny_by_the_Poverty_and_Inequality_Commission.pdf)
- Scottish Government. (2025), 'Scottish Crime and Justice Survey 2023/24: Main Findings,' available online at <https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2025/06/>

- scottish-crime-and-justice-survey-2023-24-main-findings/documents/main-findings/main-findings/govscot%3Adocument/scjs-2023-24-main-findings.pdf
- Shaw, C. R., and McKay, H. D. (1942), *Juvenile delinquency and urban areas*. University of Chicago Press.
- SPICe (2024), 'Is Scotland going to meet its child poverty targets?' Scottish Parliament Information Centre Blog available online at <https://spice-spotlight.scot/2024/04/16/is-scotland-going-to-meet-its-child-poverty-targets/>
- Svensson, R. and Oberwittler, D. (2021), 'Changing Routine Activities and the Decline of Youth Crime: A Repeated Cross-Sectional Analysis of Self-Reported Delinquency in Sweden, 1999–2017', *Criminology*, 59: 351–86. doi:10.1111/1745-9125.12273
- The Conversation. (2024), 'Rising knife crime in London is linked to austerity cuts to youth services – here's the evidence,' The Conversation, available online at <https://theconversation.com/rising-knife-crime-in-london-is-linked-to-austerity-cuts-to-youth-services-heres-the-evidence-228705>
- The Guardian. (2024), 'Put them in a coffin': could debate over Queensland's 'youth crime crisis' take a dangerous turn?' The Guardian, available online at <https://www.theguardian.com/australia-news/2024/oct/18/queensland-election-youth-crime-crisis-fulfill-steven-miles-ntwnfb>
- The Health Foundation. (2024), 'Trends in persistent poverty,' The Health Foundation, available online at <https://www.health.org.uk/evidence-hub/money-and-resources/poverty/trends-in-persistent-poverty>
- Thornberry, T. P., Krohn, M. D., Hawkins, J. D., Smith, B. H., Hill, K. G., Kosterman, R. and Abbott, R. D. (2003), 'Understanding and Preventing Crime and Violence: Findings from the Seattle Social Development Project', *Taking Stock of Delinquency: An Overview of Findings from Contemporary Longitudinal Studies*: 255–312.
- Tibbetts, S. G. and Piquero, A. R. (1999), 'The Influence of Gender, Low Birth Weight, and Disadvantaged Environment in Predicting Early Onset of Offending: A Test of Moffitt's Interactional Hypothesis', *Criminology*, 37: 843–78. doi:10.1111/j.1745-9125.1999.tb00507.x
- Tittle, C. (1983), Social class and criminal behavior: A critique of the theoretical foundation *Social Forces*, 62: 334–358.
- Tittle, C. R. and Meier, R. F. (1990), 'Specifying the SES/delinquency relationship', *Criminology*, 28: 271–300. doi:10.1111/j.1745-9125.1990.tb01326.x
- UK Government Press Release. (2023a), 'Youngsters to take up football, boxing and rugby in £5 million bid to cut crime,' UK Government Press Release, Ministry of Justice, available online at <https://www.gov.uk/government/news/youngsters-to-take-up-football-boxing-and-rugby-in-5-million-bid-to-cut-crime#:~:text=The%20number%20of%20children%20caught,%C2%A31.5%20billion%20a%20year>
- UK Government Press Release. (2023b), 'Employment boost for thousands of parents on Universal Credit. UK Government Press Release, Department of Work and Pensions,' <https://www.gov.uk/government/news/employment-boost-for-thousands-of-parents-on-universal-credit#:~:text=Parents%20of%203%20to%2012,including%20the%20availability%20of%20childcare>
- USA Today. (2024), 'How a 'horrible perfect storm' fueled a 65% increase in homicides committed by kids,' USA Today, available online at <https://www.usatoday.com/story/news/nation/2024/10/18/guns-juveniles-crime-homicide-increase/75349011007/>
- Valentino, S. W., Moore, J. E., Cleveland, M. J., Greenberg, M. T. and Tan, X. (2014), 'Profiles of Financial Stress Over Time Using Subgroup Analysis', *Journal of Family and Economic Issues*, 35: 51–64.
- Webster, C. S., and Kingston, S. (2014), *Anti-poverty strategies for the UK: Poverty and crime review*, Project Report. Joseph Rowntree Foundation.
- White, H., Leavy, J. and Masters, A. (2003), 'Comparative Perspectives on Child Poverty: A Review of Poverty Measures', *Journal of Human Development*, 4: 379–96. doi:10.1080/1464988032000125755
- Youth Justice Board. (2024), 'Youth Justice Statistics: 2022 to 2023. UK Government,' available at <https://www.gov.uk/government/statistics/youth-justice-statistics-2022-to-2023>
- Yunda, P. (2024), 'There are other ways to tackle the cost of living crisis- just ask France and Spain,' New Economics Foundation, available online at <https://neweconomics.org/2024/01/there-are-other-ways-to-tackle-the-cost-of-living-crisis-just-ask-france-and-spain>