

# Socio-Emotional Characteristics in Early Childhood and Offending Behaviour in Adolescence

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## Summary

**This Data Insight draws on the Ministry of Justice (MoJ) and Department for Education (DfE) dataset to examine how socio-emotional developmental difficulties observed in early childhood are associated with offending behaviour during adolescence.**

This project examines the relationship between early developmental difficulties and the likelihood of offending during adolescence. This includes school-related pathways through which these early difficulties shape later behaviour. Early development is measured using the Early Years Foundation Stage Profile (EYFSP), assessed at the end of the reception year when children are five years old, and criminal records are drawn from the Police National Computer for offences recorded between ages 11 and 17.

Children who went on to offend show lower scores across all indicators of early child development on the EYFSP.

## Background

Early developmental difficulties are key determinants of later life outcomes, including educational attainment, health, and labour market participation. Evidence linking early development to later offending is more limited and often focuses on specific behavioural traits such as low self-control or psychopathy, typically assessed in late adolescence when these characteristics become more pronounced (Armstrong et al., 2020; Keating, 2023). In early childhood, the relevant traits are often more subtle and require large, population-level samples to detect meaningful variation.

Administrative data helps address these limitations by capturing the full range of developmental differences in large, representative populations. This study uses the EYFSP, a teacher-assessed measure of development at age five. Previous research using the EYFSP has focused on children with severe developmental difficulties, particularly in studies of neurodiversity and health (Wright et al., 2019; Ter-Minassian et al., 2022). In contrast, this study analyses the full distribution of EYFSP scores and examines their latent structure to identify early developmental characteristics associated with adolescent offending.

Factor analysis identifies two key underlying dimensions: cognitive and socio-emotional difficulties. The cognitive dimension reflects challenges in language, literacy, problem-solving, reasoning, and numeracy. The socio-emotional dimension is primarily characterized by poor emotional regulation, difficulties in forming relationships, and communication challenges.

After controlling for a range of background characteristics and contextual factors, I find a significant association between early developmental difficulties and the probability of being cautioned or convicted for an offence during adolescence.

The effects of cognitive difficulties on later offending are largely mediated by school-related experiences such as absenteeism, exclusions, and low academic attainment.

Socio-emotional difficulties, however, remain significantly associated with a higher probability of being cautioned or convicted for an offence in adolescence, even after accounting for potential mediating pathways and group-level variability. Moreover, socio-emotional difficulties are particularly linked to violent offences<sup>1</sup> and higher offence counts, with a significant portion of this association operating through school exclusion.

These findings provide evidence that identifying developmental difficulties in early childhood and understanding their long-term impacts can help inform early interventions and strategies to prevent children's involvement in crime.

## What I did

I use data from three cohorts of pupils aged four to five, enrolled in reception during the 2006/2007, 2007/2008, and 2008/2009 school years, all with complete information on the Early Years Foundation Stage Profile (EYFSP).<sup>2</sup> These data are linked to later educational and criminal justice outcomes, including school absences, exclusions, and Key Stage achievement, as well as any cautions or convictions for offences between ages 11 and 17 from the Police National Computer database.<sup>3</sup>

To analyse early development, I apply factor analysis, a technique that identifies underlying patterns or “factors” from a set of variables, to determine how many distinct domains can be derived from the EYFSP data. The resulting latent factors are then used as predictors of the likelihood of engaging in offending behaviour during adolescence.

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<sup>1</sup> I use the Home Office (HO) Offence Code to classify offences into broad categories. Violent offences indicate whether a pupil has ever been cautioned or convicted for violence against the person, sexual offences, or robbery.

<sup>2</sup> Detailed descriptions of the EYFSP point scales are provided in [Qualifications and Curriculum Authority \(2008\)](#)

<sup>3</sup> Further information on the data used in this study can be found in the project's [Data Explained](#).

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I then examine how latent domains of early development affect adolescent offending through intermediate pathways, including educational attainment (measured by Key Stage 2 scores)<sup>4</sup>, absenteeism<sup>5</sup> and exclusions<sup>6</sup>. I use mediation analysis, a method that quantifies both the direct effect of a variable and its indirect effect through a mediator, to assess the extent to which early developmental factors shape later outcomes via these channels.

The primary outcomes of interest are: (1) whether a pupil received a caution or conviction for any offence during adolescence, (2) the type of offence and (3) the total number of offences recorded.

I employ multivariate statistical models that adjust for a range of relevant confounders, including gender, birth order (firstborn), part-time school attendance, eligibility for free school meals, ethnic background, first language, number of siblings, income deprivation decile, and month and year of birth.<sup>7</sup> For robustness, I also estimate models with additional fixed effects, including school and sibling fixed effects.

## What we found

### How developmental difficulties shape school outcomes

**Socio-emotional difficulties are a strong predictor of school exclusion.** A one-standard-deviation increase raises the probability of exclusion by 1.8 percentage points, an 82% increase relative to the baseline rate of 2.2%. These difficulties show particularly strong associations with exclusions for physical assault and serious misconduct.

**Cognitive difficulties are a major driver of poor educational attainment.** Moving from low to high levels of cognitive difficulties (–1 SD to +1 SD) is associated with a 1.3 standard deviation reduction in Key Stage 2 performance.

**Cognitive difficulties are the primary driver of SEN identification.** A one-standard-deviation increase in cognitive difficulties raises the probability of SEN identification by 22 percentage points, far exceeding the association with socioeconomic indicators such as eligibility for free school meals. In contrast, identification as CIN appears to be driven primarily by socio-economic background.

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<sup>4</sup> A standardised score based on national curriculum assessments at Key Stage 2 in Mathematics, Grammar, Punctuation and Spelling, and Reading.

<sup>5</sup> A composite standardised measure obtained from a PCA on variables such as authorised and unauthorised absences as a percentage of all possible sessions, the number of sessions missed due to fixed-term exclusions, and the number of establishments attended recorded from Reception to the year of the KS2 assessment.

<sup>6</sup> Exclusions are represented by a binary indicator equal to one if a pupil has ever been either temporarily or permanently excluded from school.

<sup>7</sup> Ordinary Least Squares (OLS), logistic regression, and negative binomial regression models are employed to account for the distributional characteristics of the outcomes of interest.

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## Key determinants of offending behaviour

**Both cognitive and socio-emotional difficulties are associated with higher offending risk.** A one-standard-deviation increase in either difficulty is associated with a 0.30 percentage point increase in the probability of offending, equivalent to a 15% increase relative to the baseline offending rate of 2%.

**The relationship between developmental difficulties and offending is non-linear.** Pupils with moderate difficulties are more likely to offend than those with severe difficulties. This may occur because severe difficulties trigger earlier support through SEN or CIN identification, which diverts pupils from offending pathways. Alternatively, severe impairments may reduce offending by limiting the capacity to engage in such behaviour.

**School exclusion substantially increases the risk of offending.** Being excluded raises the probability of offending by 2.4 percentage points, more than doubling the baseline rate. To contextualise the magnitude of this effect, eligibility for free school meals is associated with a 2.3 percentage point increase in offending, while boys are 2.7 percentage points more likely to offend than girls.

**Educational attainment acts as a protective factor against offending.** A one-standard-deviation increase in Key Stage 2 (KS2) attainment is associated with a 0.4 percentage point reduction in the probability of offending. Given a baseline offending rate of around 2%, this represents a substantial reduction in offending risk.

## Pathways to offending behaviour

**Cognitive difficulties influence offending primarily through educational attainment.** Once Key Stage 2 performance is included in the model, the association between cognitive difficulties and offending becomes statistically insignificant. This indicates that cognitive difficulties affect offending entirely through their impact on academic achievement, with no direct pathway.

**In contrast, socio-emotional difficulties retain a direct association with offending even after accounting for school-related factors.** A one-standard-deviation increase raises the probability of offending by 0.16 percentage points, roughly half the unconditional effect. Formal mediation analysis reveals that school pathways account for 42% of the total association, with exclusion representing the dominant pathway (39%). The remaining 58% reflects a substantial direct effect not mediated by the school outcomes examined.

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## Extreme difficulties and offending

**SEN and CIN status moderate how socio-emotional difficulties translate into offending.** Among pupils with SEN, socio-emotional difficulties show only a weak association with offending (odds ratio  $\approx 1.02$ ), consistent with evidence that formal support such as Education, Health and Care (EHC) plans may reduce offending risk (Fuller & McNally, 2023). For CIN pupils, the association is attenuated but not significantly different from non-CIN pupils (OR = 1.16 vs 1.21). In contrast, among pupils with neither SEN nor CIN support, a one-standard-deviation increase in socio-emotional difficulties is associated with a 21% increase in the odds of offending. This pattern suggests that severe socio-emotional difficulties trigger formal support that may divert offending pathways.

## Offence types and counts

**Socio-emotional difficulties and school exclusion are associated with both the type and frequency of offending, whereas cognitive difficulties show no direct association once school factors are accounted for.** Socio-emotional difficulties remain associated with violent and property offences, as well as higher offence counts, even after accounting for school pathways. School exclusion emerges as the strongest predictor, increasing the probability of violent and property offences by around 4 percentage points, summary offences by approximately 9 percentage points, and is associated with an average increase of around 0.7 additional offences.

## Robustness of results

Socio-emotional difficulties remain robustly associated with offending across all specifications, including models conditioning on educational attainment, absenteeism, and exclusions. This holds when school fixed effects are included, indicating that within-school differences between pupils, rather than school-level characteristics, drive the results. The association also persists with sibling fixed effects, suggesting that socio-emotional difficulties operate through individual-specific mechanisms rather than shared family circumstances. The effect is particularly strong among male siblings, consistent with large gender differences in offending.

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## Why it matters

**These insights are particularly timely given recent increases in youth offending, especially violent offences.** Following the pandemic, the number of offences committed by children aged 10 to 18 in the UK has risen for two consecutive years, increasing by 4% in the year ending March 2024 (ONS). The sharpest increases occurred in sexual offences, violence against the person, and property-related offences.<sup>8</sup> Understanding the developmental pathways and school-based mechanisms that contribute to these patterns is essential for designing effective prevention strategies that can interrupt the trajectory from early difficulties to adolescent offending.

**Understanding how early behavioural and cognitive difficulties relate to offending, and how support systems shape this relationship, is critical for effective early intervention.** Given the over-representation of SEN and CIN children among those who offend, a key policy question is whether and why these children are more or less likely to engage in offending. These findings arrive at a critical moment: systems designed to support vulnerable children face unprecedented strain. The SEN system (referred to as SEND at the time of writing to explicitly include children with disabilities) has experienced rapid demand growth, leaving many local authorities with substantial deficits and families facing long delays in accessing support. Children in need of social care face similar challenges, with intervention often occurring only after difficulties become visible. Strikingly, around 50% of CIN who offend are first identified as CIN in the same term as their first offence or later (DfE & MoJ, 2022), highlighting the reactive rather than preventive nature of current identification practices.

**School exclusion emerges as a particularly harmful mechanism linking early developmental difficulties to offending.** Existing research documents the damaging effects of exclusion, which removes children from the learning environment and undermines both academic progress and social skill development, with long-lasting consequences including increased offending risk (Farrington, 2021). Consistent with this evidence, the association between socio-emotional difficulties and offending is largely attenuated once school exclusion is included in the model. Importantly, the socio-emotional domain captures not only difficulties in social interaction and emotional regulation but also communication challenges, which are increasingly recognized as critical for managing conflict and preventing behavioural incidents from escalating into disciplinary responses. As noted by London's Violence Reduction Unit, addressing communication difficulties early can prevent classroom conflicts from escalating into exclusions. In 2023, the Violence Reduction Unit invested £3 million in primary schools to support language and communication development, recognizing the elevated risks of poor long-term outcomes, including violent offending, faced by children with communication difficulties.<sup>9</sup>

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<sup>8</sup> See [Youth Justice Statistics: 2023 to 2024](#) for more details.

<sup>9</sup> See: <https://www.bbc.co.uk/news/articles/c5y6l36q6pqq> (Accessed: November 2025).

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**Individual-level interventions targeting socio-emotional difficulties may be effective even when family circumstances cannot be changed.** After accounting for shared family background using sibling fixed effects, socio-emotional difficulties retain a robust association with offending, indicating that effects also operate at the individual level through behavioural and developmental processes that persist beyond shared household environments. This has important implications for prevention: interventions that directly address children's socio-emotional skills and school-based responses to behavioural challenges may reduce offending risk, even where broader family circumstances are difficult to influence through policy.

**The value of rich early developmental information for predicting outcomes and targeting support highlights concerns about recent simplifications to assessment frameworks.** This study shows how detailed early developmental information can predict later outcomes, inform targeted interventions, and enable timely support. This becomes particularly relevant given recent reforms that reduced information collected in early assessments to ease teachers' administrative burden (Tickell, 2011). While this aims to allow teachers to spend more time interacting with children rather than doing paperwork, rigorous evaluation is needed to determine whether benefits of reduced burden outweigh costs of lost information. Recent evidence suggests potential trade-offs: examination of the revised EYFSP found increased clustering of scores, with around 19% of children having identical scores (Bonetti & Blanden, 2020). This clustering indicates lost information about individual differences between children that may be crucial for targeting support and tailoring interventions.

## What next?

Although geographical location is accounted for through local authority fixed effects, which capture substantial variation in offending, an important direction for future research is to decompose this variation by examining how specific local authority characteristics interact with early developmental difficulties to shape offending outcomes. A growing literature documents how characteristics such as income deprivation, population density, and service provision affect children's outcomes. This is particularly relevant given austerity-driven spending cuts between 2010 and 2015, a critical period for the cohort studied here, which had especially adverse effects on vulnerable populations (Fahy et al., 2023; Villa, 2024; Webb & Bywaters, 2018). Future work should integrate individual-level developmental data with measures of local authority spending and service provision to understand how reductions in public investment may have compounded pathways into offending.

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