Department for Education

Education, children's social care and offending: multi-level modelling

Research report

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Executive Summary

What is in this report?

This report looks in detail at the demographic, educational, children's social care and local authority area characteristics of children who have been cautioned or sentenced for any offence and/or a serious violence offence.

What do the results show?

Children who have been cautioned or sentenced for a serious violence offence were more likely to have demonstrated multiple aspects of disadvantage compared to the all-pupil population.

Children who have been cautioned or sentenced for a serious violence offence were more likely to have had multiple risk factors than the all-pupil cohort. Children with higher numbers of risk factors were more likely to be children who were cautioned or sentenced for a serious violence offence, compared to children with fewer multiple risk factors.

However, children with higher numbers of multiple risk factors represented a smaller proportion of children who were cautioned or sentenced for a serious violence offence, compared to children with fewer multiple risk factors. This suggests that targeting support to children demonstrating multiple characteristics is not a clear-cut solution to tackling serious violence. This is because, whilst multiple risk factors were disproportionately represented amongst children who had been cautioned or sentenced for a serious violence offence, if support were only targeted to children demonstrating multiple risk factors, a large proportion of children cautioned or sentenced for a serious violence offence would be overlooked.

Whilst females who have been cautioned or sentenced for a serious violence offence demonstrated higher rates of vulnerability than males, for example they were more likely to be known to children's social care than males, the vast majority of children who were cautioned or sentenced for a serious violence offence were male. Understanding who is most at risk of involvement in serious violence will ensure that support received will have the greatest impact.

Children who have been cautioned or sentenced for a serious violence offence were more likely to follow a disrupted journey through school compared to the all-pupil population.

This may take the form of **moving between different schools and systems**. For example:

- They were more likely to have moved to a school in a different local authority area during secondary school, a key age[1] for establishing support networks and friendship groups

- Alternative provision (AP), and being a looked after child (CLA), were both strong predictors of being cautioned or sentenced for a serious violence offence.

It may also be in the form of **being out of school**. For example, they were more likely to miss school than the all-pupil population as a result of:

- Being suspended, more frequently, and at an earlier age

- Persistent absence for unauthorised other reasons, or severe absence

- Not being registered at a school

- Permanent exclusion

However, many of these events **first started after a child's first serious violence offence**, suggesting that committing **serious violence in itself is a disruptive event**. This meant, that whilst children who have been cautioned or sentenced for a serious violence offence were more likely to experience these compared to the all-pupil population, not all were found to be strongly, or significantly, associated with being cautioned or sentenced for a serious violence. For example, the following were **not strong predictors of being cautioned or sentenced for a serious violence offence, when other factors were controlled for**:

- Persistent absence for unauthorised other reasons, or severe absence

- Being permanently excluded after year 7

- Attending a special school

Characteristics with the strongest association with being cautioned or sentenced for a serious violence offence, when other factors were controlled for, included:

- Males, especially at older ages

- Receiving a first suspension

- Having a Black Caribbean ethnicity

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[1] The social context of adolescent relationships | Educating 21st Century Children : Emotional Well-being in the Digital Age | OECD iLibrary (oecd-ilibrary.org)

- Being cautioned or sentenced for a separate non-serious violence offence

Children who have been cautioned or sentenced for serious violence offence often experience a disparity in the age at which they first receive extra support for higher needs compared to all pupils.

Special educational needs (SEN) were often first identified at younger ages across all pupils and the offending groups. However, of those issued with an education, health and care (EHC) plan, the all-pupil cohort were more likely to be first issued with one at an early age, whereas **children who were cautioned or sentenced for a serious violence offence were more likely to be first issued with an EHC plan when they were much older**. This could reflect the nature of identification of social, emotional, and mental health needs (SEMH), the most common type of need identified amongst children cautioned or sentenced for a serious violence offence; or other events occurring in the child's life. However, due to data limitations, we cannot determine the reason for a child being issued with an EHC plan, and why the disparity in age to first be issued with one was so large between children amongst the offending groups and all pupils.

Where systems of support were in place for children with high needs, these were associated with a lower likelihood of being cautioned or sentenced for a serious violence offence. For example:

- Children who had been issued with an EHC plan were less likely to be cautioned or sentenced for a serious violence offence compared to those who did not have an EHC plan.

- For children who attended AP, those who also had SEN were less likely to be cautioned or sentenced for a serious violence offence than those who did not also have SEN.

- For children who were looked after, those who also had SEN were less likely to be cautioned or sentenced for a serious violence offence than those who did not also have SEN[2].

Characteristics relating to the individual had the biggest influence on the likelihood of a child being cautioned or sentenced for a serious violence offence, compared to characteristics of the school attended or local authority area. However, population density and low income were aspects of the local authority area in which the child attended school in that were consistently and significantly associated with how likely the child was to be cautioned or sentenced for a serious violence offence.

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[2] Note that a high proportion of children in state-funded AP have SEN and/or are known to children's social care.

What conclusions should we draw?

The identification of single, or even multiple, characteristics does not dictate that a child be cautioned or sentenced for a serious violence offence.

This analysis quantifies the association between certain factors and a child being cautioned or sentenced for a serious violence offence and **the findings are not to be interpreted as causal**. For example, whilst it can be said that most children who have ever been cautioned or sentenced for a serious violence offence have also been eligible for free school meals (FSM) at some stage, the vast majority of children eligible for FSM do not have a serious violence offence. The wider context should also be considered as there are many additional factors, but not measured or controlled for within this data, which could influence a child's offending behaviour[3]. Findings discussed here may not be directly comparable with other published government analysis.

The drivers behind, and the factors associated with, serious violence are complex.

Using seven multi-level regression models, we have demonstrated that different risk factors may be more or less predictive of being cautioned or sentenced for a serious violence offence, depending on age and whether the timeframe for offending was short or long term. Whilst there were characteristics that were consistently identified in the analysis as having a stronger association with being cautioned or sentenced for a serious violence offence than others, at the same time there was no stand-alone characteristic or event that perfectly predicted serious violence. It is also important to consider the findings, not in isolation, but instead how they sit within the context of the other characteristics modelled, as otherwise, potentially stronger associations could be missed. This is key to challenging preconceptions and ensuring that support is targeted at children who are most vulnerable or at risk of being cautioned or sentenced for a serious violence offence.

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[3] The offending metric used in this report refers to children who have been cautioned or sentenced for offences as recorded in the Police National Computer (PNC). This metric does not account for offences which were unrecorded, or for offences whereby the perpetrator(s) was/were not identified and can reflect potential underlying differences in policing priorities. Therefore, findings may differ to other published analysis where the metric of self-reported offending is used instead.

Introduction

This report has been produced to provide greater insight into the demographic, education and children's social care background of children who have been cautioned or sentenced for a serious violence offence[4].

Section 1 includes high-level descriptive analysis of demographic, education and children's social care variables for children who have been cautioned or sentenced for a serious violence offence. For comparison, we have also included trends for children who have been cautioned or sentenced for an offence more generally, and the all-pupil population. This analysis will allow us to answer questions such as: 'how do the characteristics of males who have been cautioned or sentenced for a serious violence offence differ from females?' and 'how does the identification of SEN and provision of support differ among children in offending groups compared to all pupils?'

Section 2 uses a rich set of control variables, including pupil level information on free school meal eligibility, absence, suspensions, permanent exclusions, special educational needs and children's social care interactions, and characteristics of the local authority area, to test which factors are more or less strongly associated with serious violence. We also identify how the strength of relationship between these characteristics and serious violence can change depending on a child's age. Modelling in this way may help ensure support is targeted at children most vulnerable or at risk of being cautioned or sentenced for a serious violence offence, and in a timely manner. This analysis will allow us to answer questions such as 'which characteristics among children in year 8 are associated with being cautioned or sentenced for a serious violence offence in years 9 or 10, and how do these differ from the characteristics displayed in year 10'?

Analysis was conducted using the Ministry of Justice and Department for Education data share that took place in 2022. For more details on the data share, and any externally sourced data utilised in Section 2, refer to the separately published technical report. Underlying figures of the analysis in this report are presented in the accompanying tables.

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[4] Please note, the analysis in this report is considered separate to the local authority level dashboard published in March 2023 that uses the same updated data: Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

Defining the study population

All-pupil cohort

The all-pupil cohort provides a comparison group of the combined 1.53 million[5] children who finished key stage 4 (KS4) in academic years 2015/16, 2016/17 or 2017/18[6] [7]. Pupils who do not have a KS4 record, or who attended an independent primary or secondary school, have been excluded from the data, except for those registered in independent alternative provision settings. A breakdown of the all-pupil cohort by academic year and national curriculum year group can be found in the technical report.

Offending groups

Two offending groups have been included in this analysis:

1. 'Children cautioned or sentenced for an offence' refers to all children and young people in the linked data who finished KS4 in the academic years noted in the previous section and had been cautioned or sentenced for any offence recorded on the Police National Computer (PNC) over the defined coverage period[8]. The analysis identified approximately 46,500 children who had been cautioned or sentenced for an offence, which is equivalent to 3% of the all-pupil cohort.

2. 'Children who had been cautioned or sentenced for a serious violence offence' (approximately 14,900 children, equivalent to 1% of the all-pupil cohort). The definition of serious violence offences is based broadly on the following categories of offence groups and offence types: indictable only 'violence against the person' offences, indictable only 'robbery offences', and triable either way or indictable only 'possession of weapons offences'[9]. These children represent a small, atypical group of young people and their

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[5] Figures for the offending groups and pupil population quoted in this analysis may differ when analysing different education variables, since the information on these variables may not be recorded for all children.
[6] Please note, these cohorts differ to those used for analysis in 'Education, children's social care and offending: Descriptive Statistics'.
[7] The updated data share contains Police National Computer data up to the end of calendar year 2020, and National Pupil Database data up to the end of academic year 2020/21. Therefore, these are the most recent cohorts available with complete data from both data sources covering up to the end of Year 13.
[8] The coverage period is between: 2010 and 31 August 2018 for the offending group finishing KS4 in 2015/16, 2011 and 31 August 2019 for those finishing KS4 in 2016/17, and 2012 and 31 August 2020 for those finishing KS4 in 2017/18. This means that offences from age 10 and above are included only.
[9] A full list of offences included in the definition can be found in the accompanying technical report. Analysts and policy officials in the DfE and MoJ assessed the full list of offences to ensure that it was as exhaustive as possible – this means that some offences that fit into the above categorisation have been removed from the definition of serious violence used for the analysis, whilst some offences which do not fit into the above categorisation have been defined as serious violence for the purpose of this work. The rationale applied for omitting or incorporating offences was challenged and applied consistently in all cases.

results should not be assumed to be representative of all children who have been cautioned or sentenced for an offence, or children more generally.

Both groups in this analysis were limited to ages 10 and over, and the last year of offending data would be during Year 13 (or equivalent). This was to ensure that each child had the same amount of time to offend and means that the analysis does not account for offending after Year 13 (or equivalent) or offending into adulthood.

The analysis looks separately and independently at children who have been cautioned or sentenced for an offence and children cautioned or sentenced for a serious violence offence and does not consider any interactions between the two groups. Serious violence is considered a subset of all offences (see Figure 1) and therefore the findings for each offending group should not be summed, as some individuals will be found in both groups.

Further information about the sample can be found in the accompanying technical report.

Figure 1: The proportion of children who had been cautioned or sentenced for an offence that had also been cautioned or sentenced for a serious violence offence, and the proportion of all pupils who had been cautioned or sentenced for an offence (Source: Table 1.1.1)

3% of **all pupils** were children who were cautioned or sentenced for an **offence**

32% of children who were cautioned or sentenced for an **offence** had also been cautioned or sentenced for a **serious violence offence**
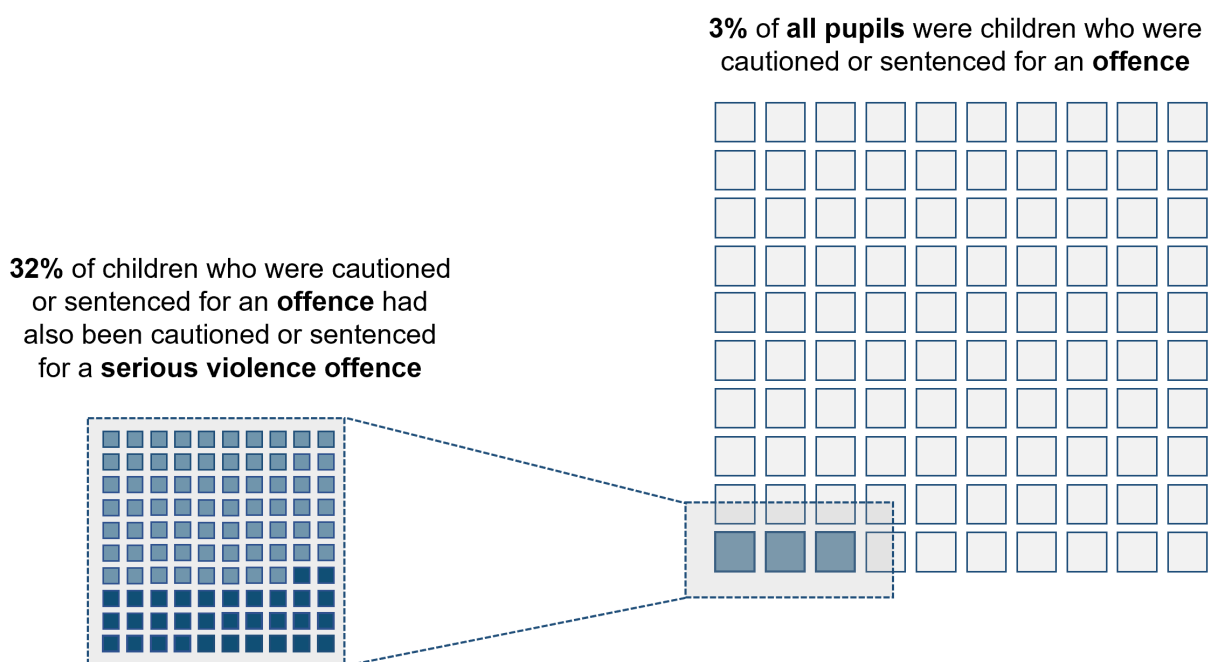
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Please note that the analysis refers to children who have been cautioned or sentenced for offences as recorded in the PNC. It does not account for offences which were

unrecorded, or for offences whereby the perpetrator(s) was/were not identified. Therefore, the number of children who have been cautioned or sentenced for an offence is likely an under-estimate of the number of children who have committed an offence, and figures presented throughout the report may differ to other published analysis that use measures of self-reported offending. The date the offence took place as recorded in the PNC has been used in the analysis, not the date on which the child was cautioned or sentenced.

Interpreting results

The analysis explores associations between education and children's social care characteristics, and offending. Care should be taken when interpreting the findings as they do not imply causality, nor do they attempt to profile children and young people displaying such characteristics. This can be in relation to a serious violence offence and/or between other events identified in the data. For example, due to data limitations we are unable to determine the reason for a child being issued with an EHC plan, including whether an external event prompted an assessment for one. The analysis can only identify that the child was issued with one (note, this is not exclusive to EHC plans and is applicable to other events recorded in the data also). Unless otherwise specified, the analysis does not control for other factors.

In this analysis, when referencing whether a child has "ever" had a certain characteristic, all periods up to the end of KS4 are considered (and therefore could include periods after a first serious violence offence) unless otherwise specified. For this reason, figures discussed here may not be directly comparable with other published government statistics. Where relevant, figures may differ from that quoted in previous analysis[10] due to the use of different cohorts of children.

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[10] [Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)](#)

Section 1: Descriptive Statistics

This section compares the characteristics of the all-pupil cohort with children who had been cautioned or sentenced for any offence, and/or a serious violence offence. The following findings are purely descriptive and as such do not imply a causal link between the characteristics discussed, and serious violence. Section 2 builds on this by estimating the strength and significance of association between these characteristics and being cautioned or sentenced for a serious violence offence. Whilst Section 2 starts to consider the sequencing of events, it still does not imply the direction, and therefore any causal nature, of relationship between the characteristics discussed, and serious violence.

Key findings

The number of children ever cautioned or sentenced for an offence, or a serious violence offence, fell between 2012/13 and 2017/18. 6.1% of all pupils finishing KS4 in 2012/13 had been cautioned or sentenced for an offence and 1.3% for a serious violence offence. The equivalent figures for those finishing KS4 in 2017/18 were 2.6% and 0.9% respectively.

Only a small proportion of all pupils (approximately 1%) had ever been cautioned or sentenced for a serious violence offence, of which females represented a very small group (13%). However, of those that did offend, females:

- had higher rates of persistent absence, including for unauthorised other reasons, and severe absence,
- were more likely to be known to children's social care,
- were more likely to offend at an earlier age compared to males.

Children in the offending groups were more likely to:

- receive multiple suspensions (and miss more time out of school as a result) at a younger age, than the all-pupil cohort,
- have missing or incomplete school records compared to the all-pupil cohort, indicating that they were less likely to follow a standard trajectory through school,
- be identified with multiple aspects of disadvantage, compared to the all-pupil cohort, including SEN, attending AP, being severely persistent absent and being a child who was looked after,
- have attended school in more than one local authority, compared to the all-pupil cohort, with their first move more likely to occur during secondary school,
- have first been identified with SEN at a younger age (similar all-pupils). However, of those issued with an EHC plan, children in the offending groups were more likely to first be issued with one much later compared to all-pupils.

Table 1: The number and proportion of children identified as being cautioned or sentenced for any offence, and/or for a serious violence offence (Source: Table 1.1.1)

	Any offence	Serious violence offence	All pupils
Number of children	46,495	14,909	1,532,545
Percentage of all pupils	3%	1%	100%
Percentage of any offence cohort	100%	32%	n/a

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Patterns of offending over time

For those finishing KS4 between 2012/13 and 2017/18, the number of children cautioned or sentenced for an offence, or a serious violence offence had fallen over time. However, serious violence represented a larger proportion of all offences.

This analysis compares the proportion of children cautioned or sentenced for any offence, or a serious violence offence, across six[11] cohorts of children with KS4 academic year 2012/13 – 2017/18. This is the only time that six cohorts of children have been included in the analysis. This is to highlight how patterns of offending have changed over time for the cohorts included in this analysis, compared with previous[12] analysis.

A child who had been cautioned or sentenced for any offence who finished KS4 in 2017/18 was 1.6 times more likely to have been cautioned or sentenced for a serious violence offence than a child cautioned or sentenced for any offence who finished KS4 earlier in 2012/13[13] (see Table 2).

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[11] An additional three cohorts of children were included within this analysis to allow for comparison of the composition of cohorts used in analysis for the publication 'Education, children's social care and offending: Descriptive Statistics'. These additional cohorts of children include all pupils who finished key stage 2 (KS2) in 2007/08, 2008/09 or 2009/10 and were aged 10 at the start of these academic years. Therefore, this cohort has a key stage 4 (KS4) academic year of 2012/13, 2013/14 or 2014/15 amounting to approximately 1.63 million pupils.
[12] Please see here for more information: Education, children's social care and offending - GOV.UK (www.gov.uk)
[13] Please note that this is likely, at least in part, a reflection of the revision of the Offences Brought to Justice (OBTJ) target and the introduction of the Youth Crime Action Plan in Spring 2008. Please see here

Table 2: The proportion of children cautioned or sentenced for any offence who had also been cautioned or sentenced for a serious violence offence (Source: Table 1.1.1)

KS4 academic year	Proportion of all pupils with any offence	Proportion of all pupils with serious violence offence	Proportion of any offence with serious violence offence
2012/13	6.1%	1.3%	22.0%
2013/14	4.9%	1.1%	23.4%
2014/15	4.1%	1.1%	25.9%
2015/16	3.5%	1.0%	29.3%
2016/17	3.0%	1.0%	32.5%
2017/18	2.6%	0.9%	35.5%
Percentage point difference over period	-3.5	-0.4	+13.5

For pupils finishing KS4 in academic years 2012/13 – 2017/18

The analysis for the remainder of Section 1, and Section 2, was conducted on the three cohorts of children who finished KS4 in academic years 2015/16, 2016/17 and 2017/18, unless otherwise specified.

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for analysis into how these initiatives were related to a fall in first time entrants to the youth justice system observed from 2007: An analysis of trends in first time entrants to the youth justice system (publishing.service.gov.uk)

Gender

This analysis looks at the differences in key demographic, education and children's social care characteristics between males and females[14].

Males were over-represented amongst the offending groups, with 87% of children cautioned or sentenced for a serious violence offence being male[15]. Females therefore represented a very small proportion of children who had been cautioned or sentenced for a serious violence offence.

Age

Age at first offence (including serious violence offences) tended to peak in the mid-teens.

Within the age range of 10-17, age at first offence[16] (any offence) tended to peak in the mid-teens. However, there were differences between males and females.

Females' peak age at first offence (including serious violence offences), tended to be earlier than males, at 14 and 16 years old respectively (see Figures 2 and 3).

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[14] Where a child's gender changes over time, the most recent gender has been taken.
[15] Please note, this figure may differ to that quoted in previous analysis due to the use of different cohorts of children.
[16] All offences were included in the analysis of age at first offence for children who had been cautioned or sentenced for an offence, irrespective of whether they were also serious violence offences.

Figure 2: The proportion of children relative to their age at first offence for males and females (Source Table 1.2.1)
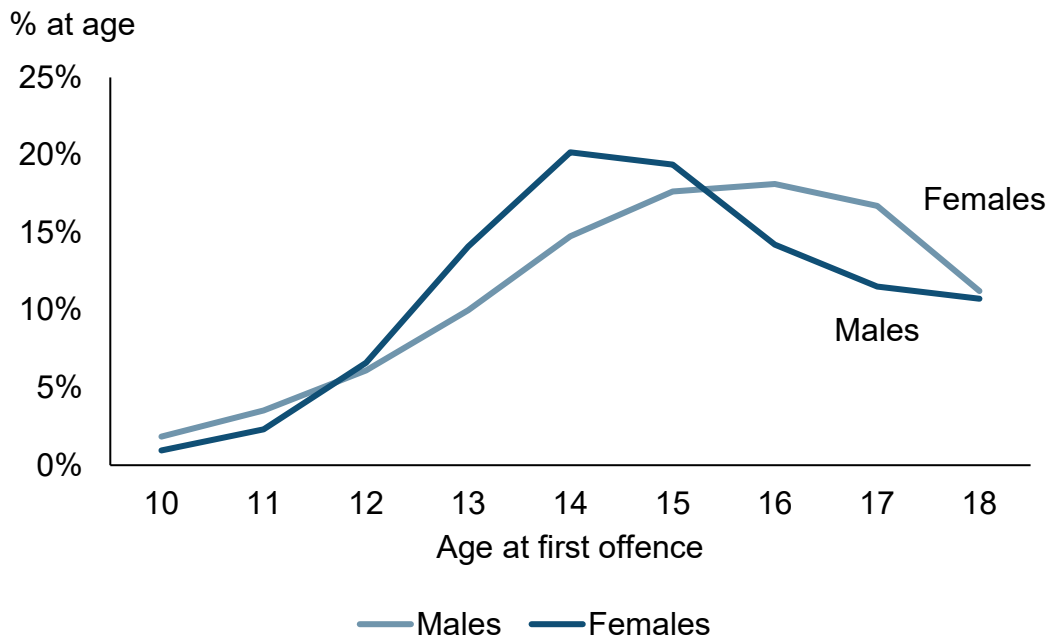
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Figure 3: The proportion of children relative to their age at first serious violence offence for males and females (Source Table 1.2.1)
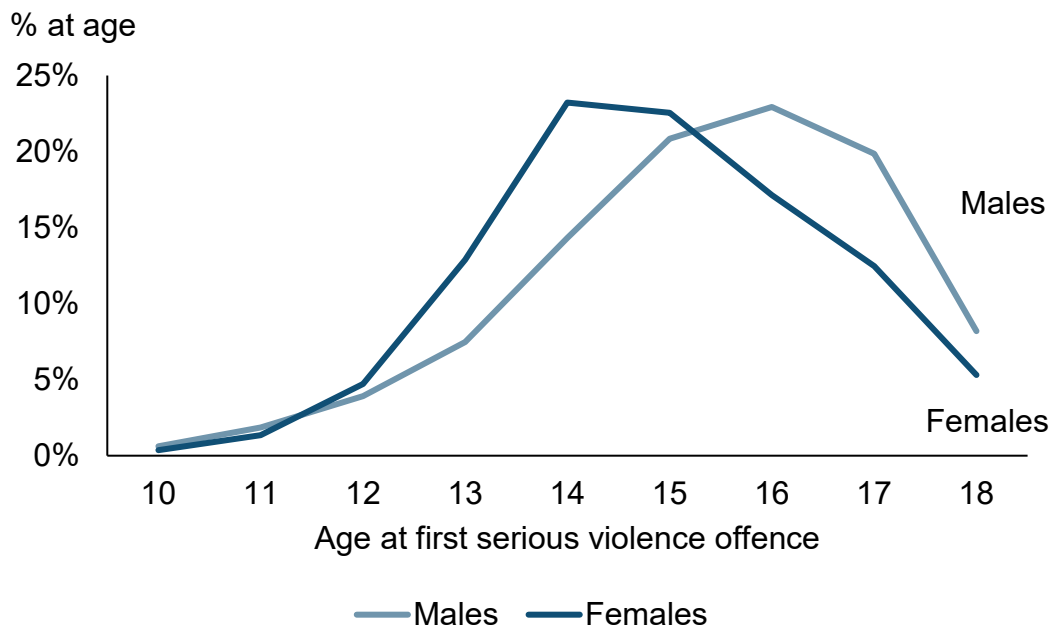
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Previous offences

Around a third of children were cautioned or sentenced for an offence prior to their first serious violence offence.

29% of females, and 35% of males, had been cautioned or sentenced for an offence prior to their first serious violence offence. 16% of females, and 13% of males, had previously been cautioned or sentenced for common assault and battery, the most common prior offence.

School experience

- Children among the offending groups were more likely to be identified with the following characteristics: persistent absence, SEN, being suspended and/or permanently excluded, attending alternative provision or being FSM eligible.

- Females who were cautioned or sentenced for a serious violence offence represented a very small cohort of children. However, those that did offend had higher rates of persistent absence, including for unauthorised other reasons, and severe persistent absence, compared to males that were cautioned or sentenced for a serious violence offence.

Females in the offending groups had higher rates of persistent absence[17]. For example, 57% of females with a serious violence offence had ever been persistently absent for unauthorised other reasons[18], compared to 42% of males with a serious violence offence, which is a difference of 15 percentage points. Just 8% of the female, and male, all pupil cohort had ever been persistently absent for unauthorised other reasons.

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[17] A child is said to be persistently absent if they miss 10% or more of the sessions (most sessions represent a half-day) they could possibly have attended in an academic year or term, and includes all possible reasons for absence, both authorised and unauthorised. Note that this was changed from 15% to 10% in September 2015. Please see here for more information: Pupil absence statistics: methodology, Methodology – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)
[18] The analysis has looked at persistent absence for unauthorised other reasons as a way of differentiating those whose absence was not authorised and were unable to provide a valid reason for that absence, from those not attending school for any reason.

However, only a minority of children who had ever been persistently absent for unauthorised other reasons (2% of females, and 9% of males) were also cautioned or sentenced for a serious violence offence (see Table 3[19]).

Caution should be taken when drawing comparisons between males and females in the offending groups, especially given that females that have been cautioned or sentenced for a serious violence offence represent a very small cohort of children.

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[19] A summary of characteristics for males and females cautioned or sentenced for any offence can be found in Table 15 in Annex B.

Table 3: Characteristics of all pupils and children cautioned or sentenced for a serious violence offence, including the proportion of children with a characteristic that had also been cautioned or sentenced for a serious violence offence[20] (Source: Tables 1.2.3 and 1.2.4)

Characteristic[21]	Proportion of all pupils with characteristic		Proportion of pupils with serious violence offence who had characteristic		Proportion of pupils with characteristic who had a serious violence offence	
	Males	Females	Males	Females	Males	Females
Free school meals[22]	35%	35%	74%	80%	4%	1%
Special educational needs	52%	36%	84%	81%	3%	1%
Persistent absence	46%	46%	85%	93%	3%	1%
Persistent absence (unauthorised other)	8%	8%	42%	57%	9%	2%
Severe persistent absence	3%	3%	26%	31%	14%	3%
Suspended	20%	9%	84%	82%	7%	2%
Excluded	1%	0%	18%	15%	22%	9%
Alternative provision	4%	2%	44%	47%	17%	5%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

[20] Note that, when referencing whether a child has 'ever' been identified with a characteristic in this table, all periods up to the end of KS4 are considered, unless otherwise specified. For this reason, figures discussed here may not be directly comparable with other published government statistics.
[21] This analysis refers to whether a child has "ever" had a certain characteristic and considers all periods up to the end of KS4, unless otherwise specified. For this reason, figures discussed here may not be directly comparable with other published government statistics.
[22] The metric for free school meals (FSM) used in this analysis is FSM eligibility. Children are FSM eligible if a claim has been made by them, or on their behalf, and eligibility has been confirmed.

Attainment

> Children among the offending groups had lower attainment at KS2 and KS4 than the all-pupil cohort.

Children who were cautioned or sentenced for an offence, or for a serious violence offence were less likely to achieve the key stage 2 (KS2) or key stage 4 (KS4) benchmarks, compared to the all-pupil cohort. At KS2[23], across all groups females tended to perform better in English and across the offending groups males tended to perform better in Maths (see Figure 4).

Figure 4: Proportion of all males and females who achieved level 4 or above in English and Maths at key stage 2 (KS2) by offending and pupil group (Source: Table 1.2.5)
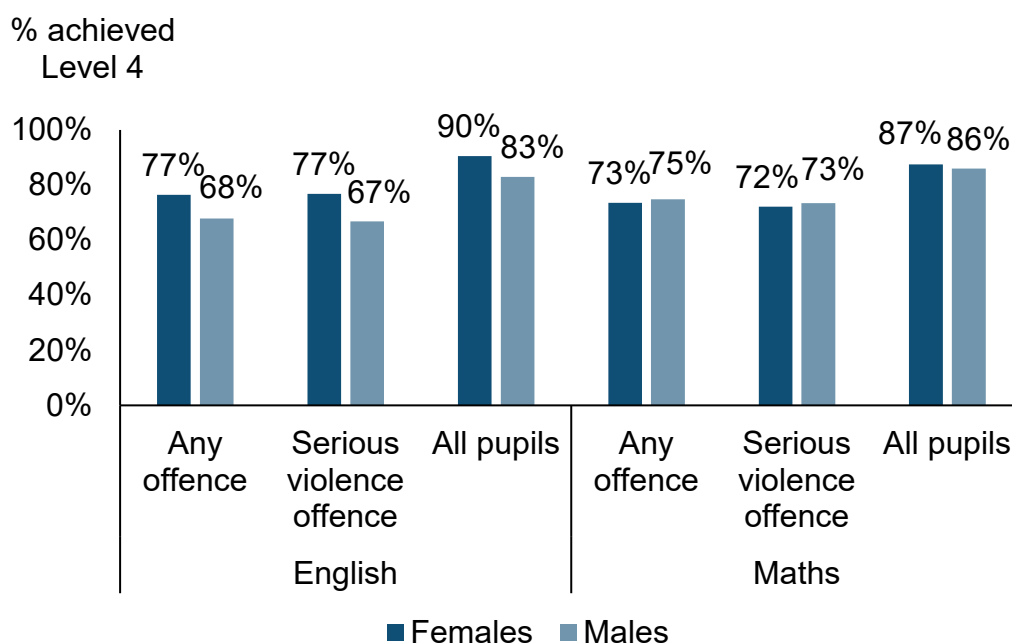
For pupils matched to KS4 academic years 2017/18 only

There were marginal differences between males and females across the various KS4 benchmarks. Please refer to the accompanying tables for further detail.

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[23] Please note, the figures discussed here are results for pupils matched to KS4 academic year 2017/18 (those with KS2 academic year 2012/13) only. Due to changes in English measures made in 2012, results are not directly comparable with previous years. Please see here for further information regarding the assessment changes: National curriculum assessments: key stage 2, 2013 (revised) - GOV.UK (www.gov.uk)

Children known to children's social care

- Children among the offending groups were more likely to have been known to children's social care than the all-pupil cohort.

- Females that were cautioned or sentenced for a serious violence offence represented a very small cohort of children. However, those that did offend were more likely to be known to children's social care than males.

The next set of findings look at the proportion of children who had been cautioned or sentenced for an offence that were recorded as being children in need (CIN) or children who are looked after (CLA)[24] in any given year, as defined by the Children Act 1989, between 2012/13 – 2019/20[25] [26]. CIN here refers to children who are designated under a number of different social care classifications: children on a child in need plan; children on a child protection plan; and children who are looked after. As such, CLA figures are included in the figures for CIN.

When reading the findings related to children looked after (CLA), it is important to note that the introduction of the Legal Aid, Sentencing and Punishment of Offenders Act 2012 (LASPOA) meant that, from 3rd December 2012, children up to the age of 18 who are remanded to youth detention accommodation as a result of being charged with or convicted of an offence will be 'looked after' by the designated local authority[27]. Therefore, caution should be taken when considering the findings related to CLA and offending, as the child may have become CLA due to offending.

Children among the offending groups were more likely to have been a child in need, or a child who was looked after in any given year when aged between 10 and 17[28], than the all-pupil cohort, with females were more likely than males. However, only a minority of

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[24] Children's social care records for this analysis have been obtained from the Longitudinal CIN Dataset (LCD)

[25] This diverges from the definition of Ever CIN used in the CIN Review, which looks at whether the child was recorded as so in the previous 6 years. Please see here for further details: Children in need of help and protection: data and analysis - GOV.UK (www.gov.uk)

[26] Figures reported here are likely an under-estimate of the number of children that have ever been a child in need, or a child who was looked after, and who have (or who have not) offended as the matched data only includes children of school age recorded as being CIN and/or CLA from 2012/13 onwards as held in the LCD. This means that any child who started to be looked after and ceased to be looked after prior to school age will not appear in this matched data as ever being CLA.

[27] Please see here for more information: Children looked after return 2022 to 2023: guide - GOV.UK (www.gov.uk)

[28] Children are included in the analysis for CIN and CLA if they have been recorded as such in any period between the ages of 10 and 17. Those matched to earlier years in the KS4 attainment data will as a result have less coverage than those matched to later years. For example: those with KS4 academic year 2015/16 have coverage from age 12 and above.

those who had ever been a child in need (1% of females, and 7% of males) had also been cautioned or sentenced for a serious violence offence. Children in the all-pupil cohort were less likely to have been known to children's social care (see Table 4[29]).

Caution should be taken when drawing comparisons between males and females in the offending groups, especially given that females who have been cautioned or sentenced for a serious violence offence represent a very small cohort of children.

Table 4: Children's social care characteristics of all pupils and children cautioned or sentenced for a serious violence offence, including the proportion of children with a characteristic that had also been cautioned or sentenced for a serious violence offence (Source: Tables 1.2.3 and 1.2.4)

Characteristic	Proportion of all pupils with characteristic		Proportion of pupils with serious violence offence who had characteristic		Proportion of pupils with characteristic who had a serious violence offence	
	Males	Females	Males	Females	Males	Females
CIN between ages 10 - 17	13%	14%	59%	77%	7%	1%
CLA between ages 10 - 17	2%	2%	24%	36%	21%	5%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

The analysis for the remainder of Section 1 refers to the three groups of children overall and does not split the findings by gender unless otherwise stated.

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[29] A summary of characteristics for males and females cautioned or sentenced for any offence can be found in Table 16 in Annex B.

Suspensions and permanent exclusions

Among children who were suspended:

- Children in the offending groups were more likely to receive multiple suspensions, and at a younger age, than the all-pupil cohort.

- Children in the offending groups were more likely to miss more time out of school as a result of suspension, and at a younger age, than the all-pupil cohort.

The following analysis investigates the number of suspensions[30] [31] and permanent exclusions[32] received per year between years 7 and 11 for children cautioned or sentenced for an offence, or a serious violence offence, compared to the all-pupil cohort. All suspensions that were received whilst the child attended school during years 7 - 11 have been included in the analysis[33]. Note that, where a child received multiple suspensions throughout the school year, the number of school sessions missed from each suspension have been summed together to give the cumulative amount of school time missed within that year.

Children among the offending groups were more likely to be suspended during years 9 and 10, whereas the peak for children in the all-pupil cohort was much more pronounced in year 10. The average number of suspensions received per suspended pupil[34] was higher amongst the offending groups also, peaking at 2.8 suspensions for children cautioned or sentenced for any offence in year 9, 2.7 suspensions for children cautioned or sentenced for a serious violence offence in years 8 - 10 and 2.1 suspensions for the all-pupil cohort in years 9 and 10 (see Figure 5 and Table 5).

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[30] A suspension is where a pupil has been temporarily removed from the school. Suspension means a 'fixed period' non-attendance on disciplinary grounds. It can't be open-ended but must have a defined end date that is fixed at the time when the suspension is first imposed.

[31] Prior to 2019/20, suspensions were referred to as fixed term exclusions.

[32] A permanent exclusion is when a pupil is no longer allowed to attend a school.

[33] Note, suspensions data can include lunchtime suspensions, but suspensions during lunchtime have not been included in this analysis. Please see full definition here: Pupil exclusion statistics: methodology, Methodology – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[34] This was calculated for children that had ever been cautioned or sentenced for an offence, and were suspended during year 10.

Figure 5: Proportion of children who received a suspension between years 7-11, by offending and pupil group (Source: Table 1.3.1)
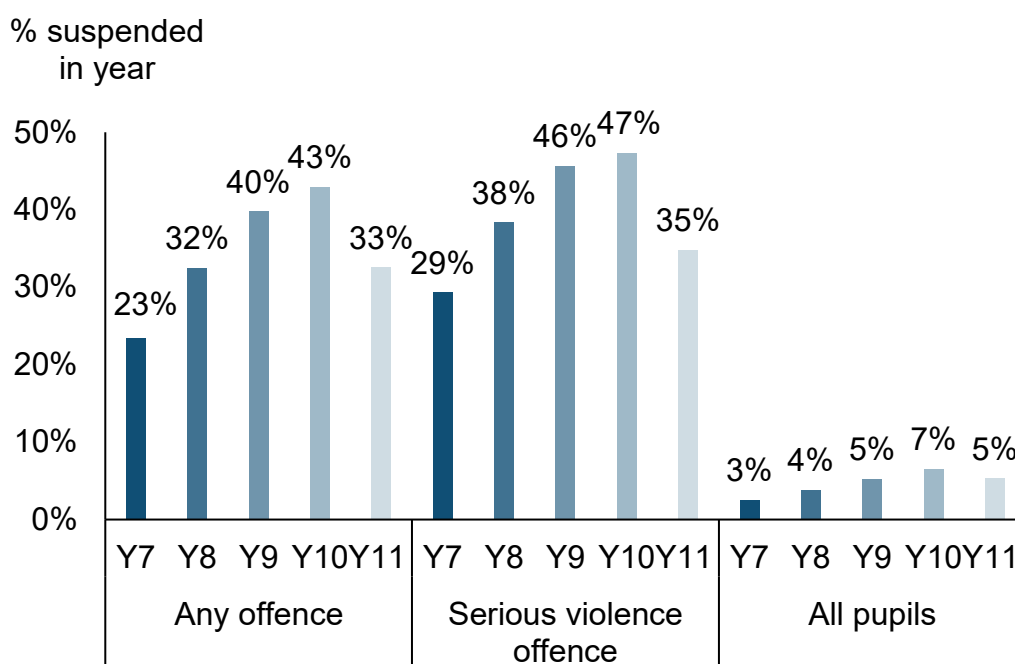
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

The average number of days missed[35] as a result of suspension during a school year[36] was higher among the offending groups compared to the all-pupil cohort. The highest average number of days missed per suspended pupil for children cautioned or sentenced for an offence was 6.6 days during year 9, 6.9 days during year 8 for those with a serious violence offence, and 4.6 days during years 9 and 10 for the all-pupil cohort (see Table 5).

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[35] Where a child is not present in school due to receiving a suspension or permanent exclusion they will be marked as absent for the first six consecutive days of that suspension or permanent exclusion provided no alternative provision has been arranged within those six days, which will negatively influence the child's attendance rate. Where alternative provision has been arranged, they will be marked as attending that setting.

[36] A child may be suspended for one or more fixed periods up to a maximum of 45 school days in a single academic year. Please see here for more information: School suspensions and permanent exclusions - GOV.UK (www.gov.uk)

Table 5: Average number of suspensions received, and average number of days missed resulting from suspension, per suspended pupil within a given year between years 7-11, by offending and pupil group (Source: Tables 1.3.1 and 1.3.2)

	Average suspensions received[37]			Average days missed[38]		
	Any offence	Serious violence offence	All suspended pupils	Any offence	Serious violence offence	All suspended pupils
Year 7	2.6	2.6	1.9	6.2	6.5	4.3
Year 8	2.7	2.7	2.0	6.4	6.9	4.5
Year 9	2.8	2.7	2.1	6.6	6.8	4.6
Year 10	2.7	2.7	2.1	6.5	6.7	4.6
Year 11	2.3	2.2	1.9	5.1	5.3	3.9

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

A similar pattern held for permanent exclusions such that it was more likely for children to be permanently excluded during years 9 and 10 than other years across all groups (see Figure 6). However, the average number of exclusions received per pupil during a school year remained constant (1), regardless of school year across all groups, as it was uncommon for children to be permanently excluded more than once during a school year.

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[37] Per suspended pupil.
[38] Per suspended pupil.

Figure 6: Proportion of children who were permanently excluded between years 7-11, by offending and pupil group (Source: Table 1.3.1)

% permanently
excluded in year
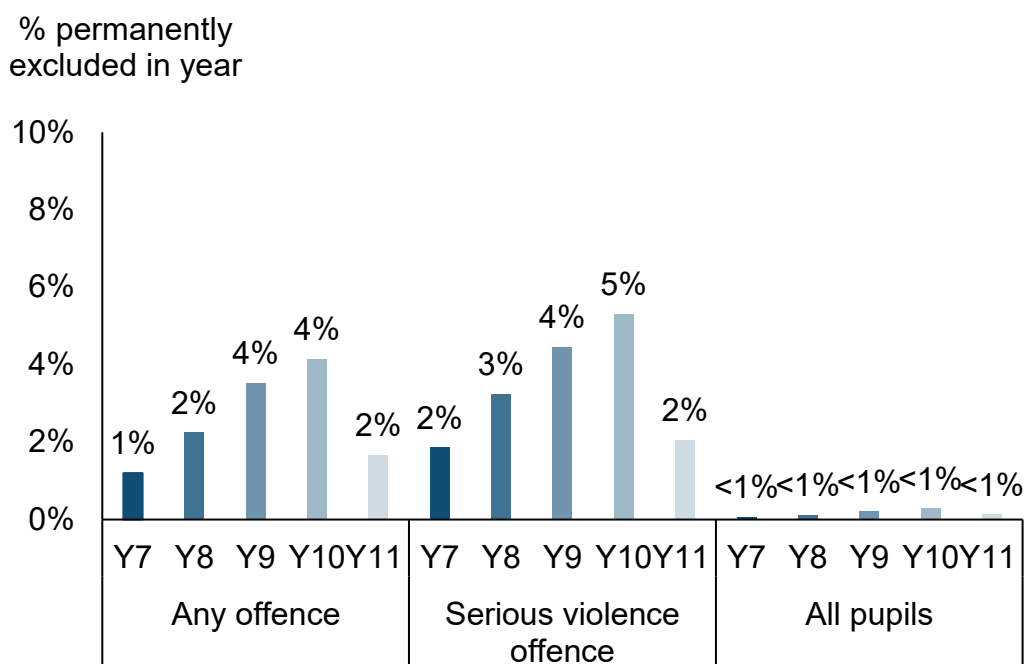
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Missing or incomplete records

Children among the offending groups were more likely to have missing or incomplete school records compared to the all-pupil cohort. This indicates that, between years 7 and 11, children among the offending groups were less likely to follow a standard trajectory through school than the all-pupil cohort.

This analysis looks at the proportion of children who were identified as having not been registered[39] at a school in England, for at least one academic term, or at least one academic year, between year 7 and 11[40] [41].

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[39] This includes whether there is a record of a main or subsidiary registration for the child.
[40] Please note, this is not to be confused with pupil absence. A child might not be matched with a school record for many reasons, such as: they may be home-schooled, attending an unregistered AP, or registered at a school outside of England (not an exhaustive list). A child is marked as absent when they do not attend a session at the school they are on roll at, that would have otherwise been a possible attendance.
[41] This differs slightly to the definition of children missing education, who are children of compulsory school age who are not registered pupils at a school and are not receiving suitable education otherwise than at a school. Please see here for more information: Stat guidance template (publishing.service.gov.uk)

Children among the offending groups were more likely to have missing or incomplete school records compared to the all-pupil cohort (see Figure 7). For example, approximately a quarter of children who had been cautioned or sentenced for a serious violence offence were identified as having not been registered at school for at least one academic term between years 7 and 11, compared to just 4% of the all-pupil cohort.

Figure 7: Proportion of pupils missing a school record between years 7-11 by offending and pupil group (Source: Table 1.4.1)

% missing a school record
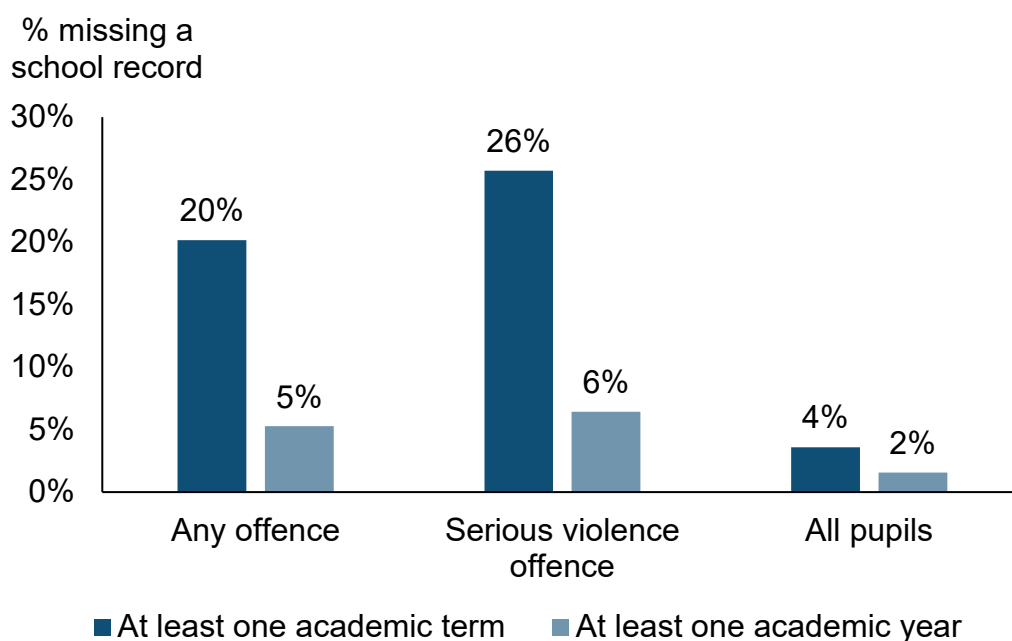
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Special educational needs (SEN)

Special educational needs were often first identified at younger ages across all pupils and the offending groups. However, of those issued with an EHC plan, children who were cautioned or sentenced for a serious violence offence were more likely to be issued with one much later compared to all-pupils.

This analysis first looks at the age[42] at which children among the three groups were first identified[43] with special educational needs (SEN)[44], and/or with an education, health and care (EHC) plan[45]. This is followed by analysis of children who have ever been identified with social, emotional and mental health needs (SEMH)[46] [47] and whether they received SEN support[48], or an EHC plan. Please note that this analysis considers all periods up to the end of KS4, and therefore could include periods after a first serious violence offence. As such, figures may differ to other published statistics.

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[42] Refers to age at the start of the academic year. Therefore, ages stated in this analysis refer to the lower bound of the possible age range applicable for that national curriculum year.

[43] The child must have been on roll at the school on the day the census was collected to have been included within the counts.

[44] The Children and Families Act 2014 and the SEND Code of Practice (2015) covers children and young people with Special Educational Needs and Disabilities (SEND). A child or young person has SEN if they have a learning difficulty or disability which calls for special educational provision to be made for them. Children and young people have a disability if they have a physical or mental impairment which has a long-term and substantial adverse effect on their ability to carry out normal day-to-day activities. Children and young people with a disability do not necessarily have SEN, or vice-versa, but there is a significant overlap between disabled children and young people and those with SEN. Data collected and published by Department for Education only records children and young people identified with SEN. Please see here for more information: SEND code of practice: 0 to 25 years - GOV.UK (www.gov.uk)

[45] From 2014 education, health and care plans were introduced. Under previous legislation pupils could be eligible for Statements of SEN. The period for local authorities to transfer children and young people with Statements of SEN to EHC plans started in September 2014 and ended on 31 March 2018. For the purposes of this analysis, 'EHC plan' will be used to describe both Statements of SEN and EHC plans unless stated otherwise in the particular context.

[46] Primary and secondary types of need recorded at main and subsidiary settings have been considered for this analysis. Please note that SEN type was collected for pupils with School Action Plus (and SEN support from 2015) and with Statements (or EHC plans from 2015). This means that for the period up to and including 2014, type of need was not collected for School Action pupils. Additionally, type of need was only collected in the AP census from 2017/18. There were also changes to the classification of type of need in 2015 when the previous code of 'Behaviour, emotional and social difficulties (BESD)' was removed, and a new code 'Social, emotional and mental health (SEMH)' was introduced. However, those with a need of BESD in 2014 were not all expected to move to SEMH in 2015. The analysis combined results for the two types of SEN, whilst understanding that SEMH was not intended to be a direct replacement for BESD. Results for types of SEN prior to 2014/15 will include BESD rather than SEMH. Therefore, figures presented may be an under-estimate of the number of children who have ever had SEMH, and who have (or who have not) offended and should be treated cautiously due to the classification change.

[47] In practice, individual children or young people often have needs that cut across all four broad areas of need (as outlined in the SEND Code of Practice (2015)) and their needs may change over time. Given that children with social, emotional and mental health difficulties may experience a wide range of social and emotional difficulties which manifest themselves in many ways, SEMH may be subject to a broader, less quantifiable, definition compared to other types of need. Findings related to SEMH should therefore be treated cautiously. Please see paragraph 6.27 and 6.32 for more information: SEND_Code_of_Practice_January_2015.pdf (publishing.service.gov.uk)

[48] Prior to 2014, this category was School Action or School Action Plus. The term 'SEN support' describes the actions taken to support children in mainstream settings who have been identified as having SEN, but who do not have an EHC plan. These children receive support and provision from resources already available within the school. Should a child require additional resources that the existing schools SEN support system does not include, then an application can be made for a more detailed EHC plan, which outlines the educational, health and social needs of the individual and the specific provisions in place to support them.

When looking at the age at which children were first identified as having SEN, a similar pattern emerges across the three groups. There was a distinctly large peak around age 5, and another, albeit smaller, peak around age 11 (see Figure 8). For example, 25% of children cautioned or sentenced for a serious violence offence with SEN, were first identified as having SEN at age 5. These ages coincide with transitional periods between key stages at school, for example moving from KS2 in primary school to KS3 in secondary school.

Figure 8: The proportion of children who had ever been identified with special educational needs (SEN), relative to their age at first identification of SEN, by offending and pupil group (Source: Table 1.5.1)[49] [50]
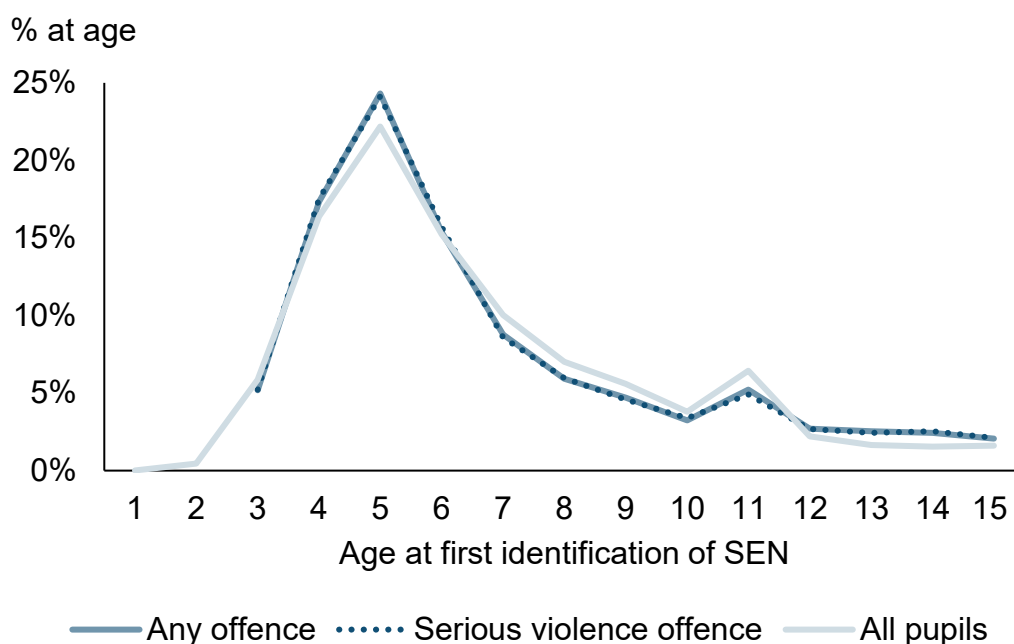
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

However, when looking at the age at which children were first issued with an EHC plan, a different pattern emerges. For children in the offending groups, the peak age to be first identified with an EHC plan was age 13 – 14% of children cautioned or sentenced for a serious violence offence who had been issued with an EHC plan were first issued with

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[49] Some figures have been suppressed to prevent the disclosure of personal information.
[50] The age at which children who have been cautioned or sentenced for a serious violence offence were first identified with SEN has been represented with a dashed line to distinguish from children who were cautioned or sentenced for any offence, as the trend lines/patterns for the two offending groups are very similar.

one at age 13. The peak age for all pupils occurred much earlier on, at age 4[51]. All three groups experienced a relatively smaller peak at age 10 also (see Figure 9).

This suggests that children in the offending groups were more likely to have first been identified with SEN at a younger age (peak age 5) which was similar to the all-pupil population. However, of those issued with an EHC plan, children who were cautioned or sentenced for a serious violence offence were more likely to be issued with one much later compared to all-pupils.

Figure 9: The proportion of children who had ever been issued with an education, health and care (EHC) plan relative to the age they were first issued with an EHC plan, by offending and pupil group (Source: Table 1.5.2)[52]
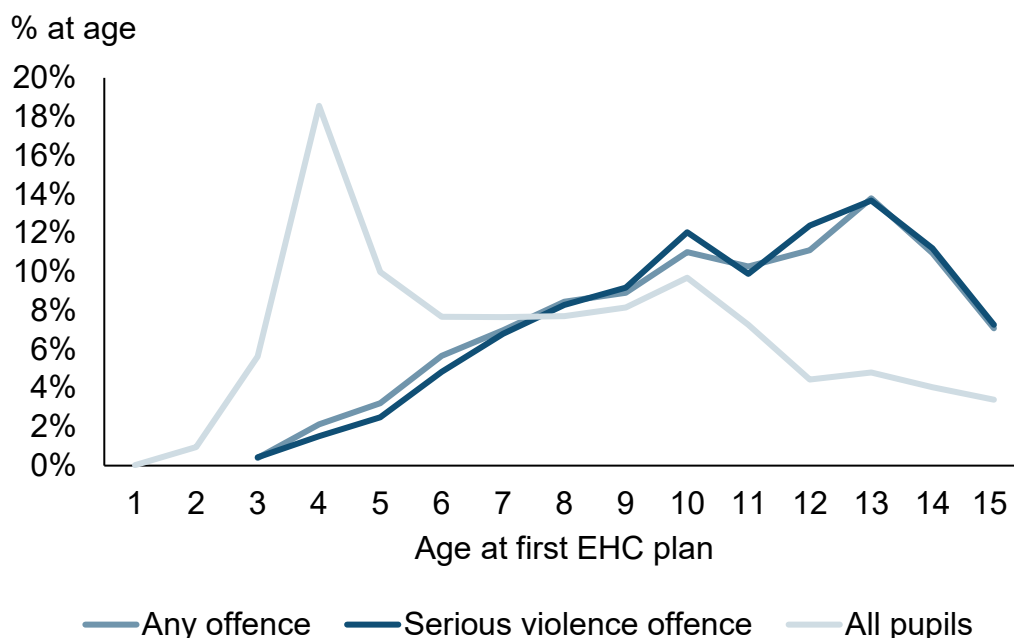
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Previous analysis has demonstrated that SEMH was the most common type of SEN identified amongst children who were cautioned or sentenced for a serious violence

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[51] In the year up to January 2023, 21,000 children aged under 5 had an EHC plan, which equates to 4.1% of all children and young people with EHC plan: 'Caseload - Age groups' from 'Education, health and care plans', Permanent data table – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[52] Some figures have been suppressed to prevent the disclosure of personal information.

offence[53]. Children in the offending groups, who had also been identified with SEMH[54], were more likely to have an EHC plan than the all-pupil cohort (see Figure 10).

Figure 10: Children who had ever been identified with social, emotional and mental health needs (SEMH), and whether they received SEN support[55] or an EHC plan, by offending and pupil group (Source: Table 1.5.3)

% SEMH

Group	SEN support	EHC plan
Any offence	72%	28%
Serious violence offence	71%	29%
All pupils	80%	20%

■ SEN support ■ EHC plan

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

It is worth noting that SEMH as a type of need is not commonly identified amongst children (all pupils) of younger ages and is more likely to be identified amongst children who are of secondary school age, especially when compared to other types of need[56]. This, plus the findings in Figure 10, could support the patterns displayed in Figure 9.

However, previous analysis also demonstrated that where a child who was cautioned or sentenced for a serious violence offence and had also been identified with SEMH, 84%

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[53] 'Types of special educational needs (SEN) by offending and pupil groups at local authority and national level' from 'Education, children's social care and offending: local authority level dashboard', Permanent data table – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)
[54] As either a primary or secondary type of need.
[55] SEN support here refers to children that have ever been identified with SEN, but never with an EHC plan.
[56] In 2022/23, 8% of children identified with SEMH as a primary type of need were aged 5 or under, whereas 50% were aged between 11 and 16. However, 30% of children identified with Speech, Language and Communication needs (SLCN) as a primary type of need were aged 5 or under, whereas 20% were aged between 11 and 16. Please see here for more information: https://explore-education-statistics.service.gov.uk/data-tables/permalink/56d8f7d8-06ce-4958-1b63-08db839d58e2

had first been identified with SEMH before their first serious violence offence[57]. Due to data limitations, we are unable to determine the reason for a child being issued with an EHC plan, or whether an event prompted an assessment for one. Therefore, we can only conclude that, of those who had been issued with an EHC plan, children who were cautioned or sentenced for a serious violence offence were more likely to be issued with one much later compared to all-pupils.

Overlapping characteristics

Children among the offending groups were more likely to be identified with multiple characteristics of disadvantage, compared to the all-pupil cohort, including SEN, attending AP, being severely persistent absent and being a child who was looked after.

This analysis compares the proportion of children cautioned or sentenced for an offence, or for a serious violence offence, that had ever been identified with multiple demographic, education and children's social care characteristics, with the all-pupil cohort, as well as the proportion of children with those characteristics who were also in the offending groups.

Given that there are multiple different combinations of pairwise overlapping characteristics that could be considered, we have first selected characteristics that were identified as being over-represented amongst children in the offending groups in previous analysis[58], as well as are known to commonly co-exist. For example, children attending alternative provision schools have higher rates of persistent, and severely persistent, absence than children attending state-funded schools in general[59].

We then go on to look more generally at the numbers of characteristics children from each group have been identified with, as once we start to consider specific combinations of three or more overlapping characteristics, the resulting subsets of children become quite small, especially amongst the offending groups.

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[57] Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[58] Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[59] The percentage of persistent absentees for all state-funded schools in 2021/22 was 23%, and 2% for severely persistent absentees. The percentage of persistent absentees in PRU's in 2021/22 was 81%, and 35% for severely persistent absentees. Please see here for more information: Pupil absence in schools in England, Academic year 2021/22 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

Children among the offending groups were more likely to be identified with multiple characteristics of disadvantage, compared to the all-pupil cohort, however it is not possible to conclude from these findings that there is a causal relationship between these characteristics and serious violence (or vice versa). Whilst it can be said that many children who have ever been cautioned or sentenced for a serious violence offence have also displayed overlapping characteristics of disadvantage at some stage, it is not true that most children with these characteristics are also cautioned or sentenced for a serious violence offence.

SEN and AP

AP is full or part-time education arranged by: local authorities, either directly or working with schools, for pupils who, because of permanent exclusion, illness or other reasons, would not otherwise receive suitable education; schools for pupils to improve their behaviour off-site, or during a suspension[60]. The education can either take place in the 'state place-funded schools' such as pupil referral unit (PRU), AP academy or free school, or in 'non-state funded settings' which comprises of independent schools, FE College and providers who do not meet the criteria for registration as a school.

Due to data limitations, we are unable to determine whether the reason for placement by local authorities in the non-state funded sector meets the above definition of alternative provision or is to allow local authorities to make educational provision for children and young people with EHC plans under their duties in the Children and Families Act 2014.

For the purpose of this analysis, children have been recorded as having attended AP if they have attended state place funded AP or have had a local authority placement in an independent school, FE college and/or unregistered provider as recorded in the AP census. This is consistent with the approach taken in previous analysis[61]. However, instances where children have attended non-maintained special schools and/or independent special schools have been recorded as attending a special school rather than alternative provision.

34% of children cautioned or sentenced for an offence, and 43% of children with a serious violence offence, had ever been identified with SEN and had ever attended AP. The equivalent figure for the all-pupil cohort was 3%. However, of those that had ever been identified with SEN and had ever attended AP, 34% were cautioned or sentenced for any offence, and 14% for a serious violence offence (see Figure 11).

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[60] Please see here for the AP statutory guidance (page 3 for full definition): Additional health needs guidance (publishing.service.gov.uk)
[61] Please see here for more information: Education, children's social care and offending - GOV.UK (www.gov.uk)

Figure 11: The proportion of children who had been cautioned or sentenced for a serious violence offence and had ever been identified with special educational needs (SEN) and had ever attended alternative provision (AP), and all pupils who had ever been identified with SEN and had ever attended AP (Source: Table 1.6.1)

43% of children who were cautioned or sentenced for a **serious violence offence** had been identified with **SEN**, and attended **AP**

14% of those identified with **SEN** and had attended **AP** were children who were cautioned or sentenced for a **serious violence offence**
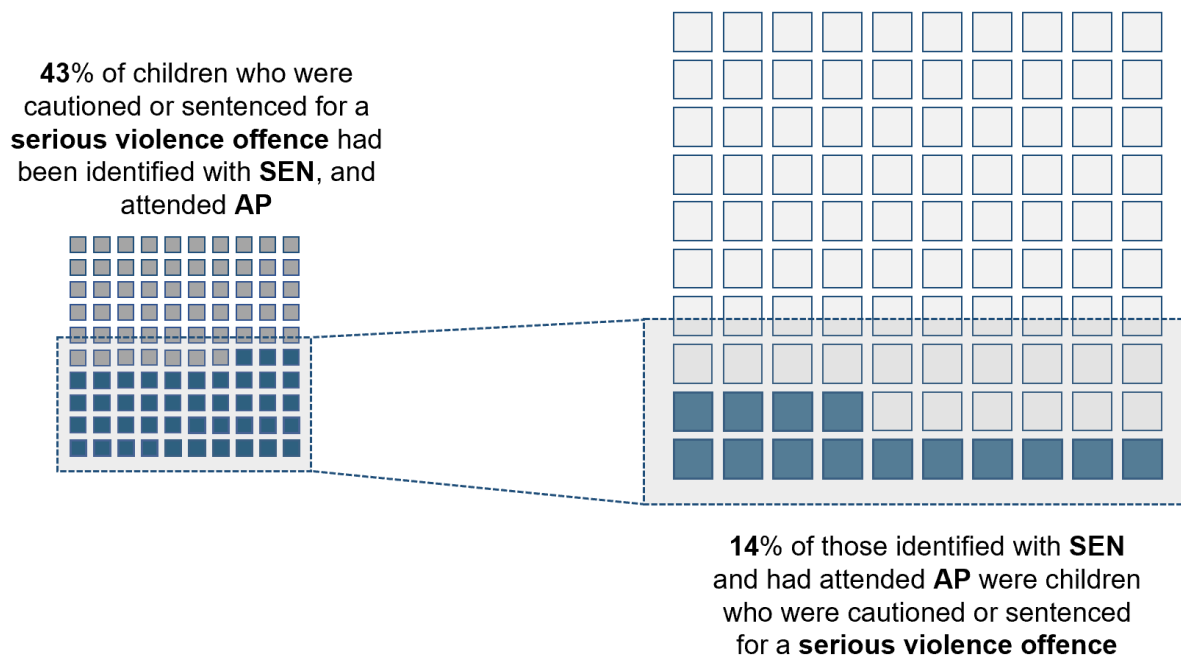
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

SEN and CLA

17% of children cautioned or sentenced for an offence, and 24% of children with a serious violence offence, had ever been a child who was looked after (CLA) and had ever been identified with SEN. The equivalent figure for the all-pupil cohort was 2%. However, of those that had ever been identified with SEN and had ever been CLA, 32% were cautioned or sentenced for any offence, and 14% for a serious violence offence (see Figure 12).

Figure 12: The proportion of children who had been cautioned or sentenced for a serious violence offence and had ever been identified with special educational needs (SEN) and had ever been a child who was looked after (CLA) between the ages of 10-17, and all pupils who had ever been identified with SEN and had ever been CLA (Source: Table 1.6.1)

24% of children who were cautioned or sentenced for a **serious violence offence** had been identified with **SEN**, and had ever been **CLA**

14% of those identified with **SEN** and ever been **CLA** were children who were cautioned or sentenced for a **serious violence offence**
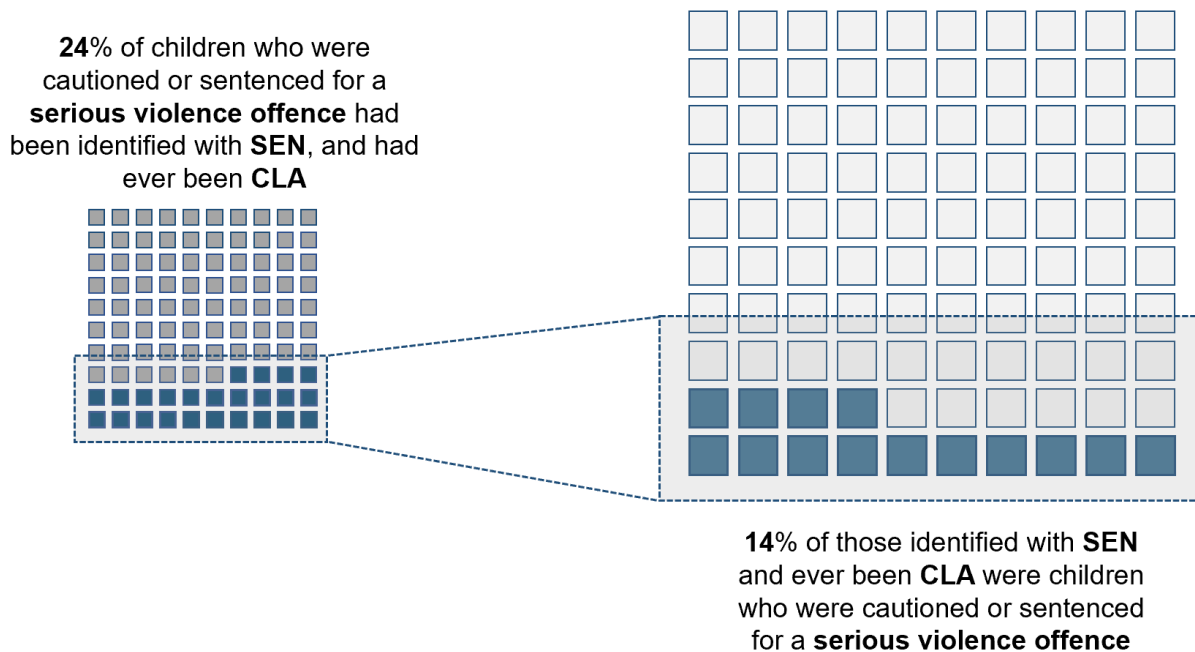
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

AP and severe persistent absence

15% of children cautioned or sentenced for an offence, and 19% with a serious violence offence, had ever attended AP[62] and had ever been severely persistent absent[63]. The equivalent figure for the all-pupil cohort was much lower at 1%. However, 39% of children who had ever attended AP and had ever been severely persistent absent had also been cautioned or sentenced for an offence, and 16% for a serious violence offence (see Figure 13).

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[62] Refers to both state and non-state funded AP.

[63] A child is said to be severely persistently absent if they miss 50% or more of the sessions (most sessions represent a half-day) they could possibly have attended in an academic year or term, and includes all possible reasons for absence, both authorised and unauthorised.

Figure 13: The proportion of children who had been cautioned or sentenced for a serious violence offence and had ever attended alternative provision (AP) and been severely persistent absent, and all pupils who had ever attended AP and been severely persistent absent (Source: Table 1.6.1)

19% of children who were cautioned or sentenced for a **serious violence offence** had attended **AP**, and been **severely persistent absent**

16% of those that had attended **AP** and ever been **severely persistent absent** were children who were cautioned or sentenced for a **serious violence offence**
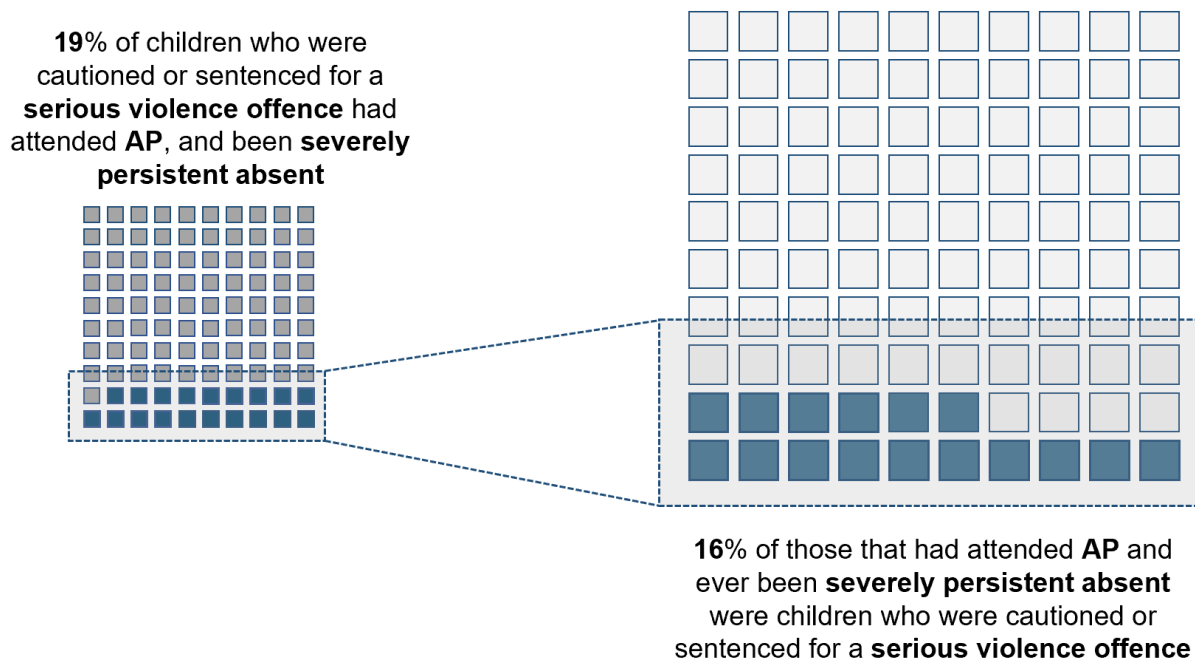
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

SEN and ethnicity

Children from ethnic minority groups (including White minorities) with SEN were over-represented among the offending groups. When looking at ethnic group major, 7% of children cautioned or sentenced for an offence, and 12% of children cautioned or sentenced for a serious violence offence, were Black, and had been identified with SEN. The equivalent figure for the all-pupil cohort was just 3%.

60% of children who were cautioned or sentenced for an offence, and 54% of children cautioned or sentenced for a serious violence offence, were White, and had been identified with SEN. The equivalent figure for the all-pupil cohort was much lower at 34% (see Figure 14).

Figure 14: Children who had ever been identified with special educational needs (SEN) and their major ethnic group, by offending and pupil group (Source: Table 1.6.1)[64]
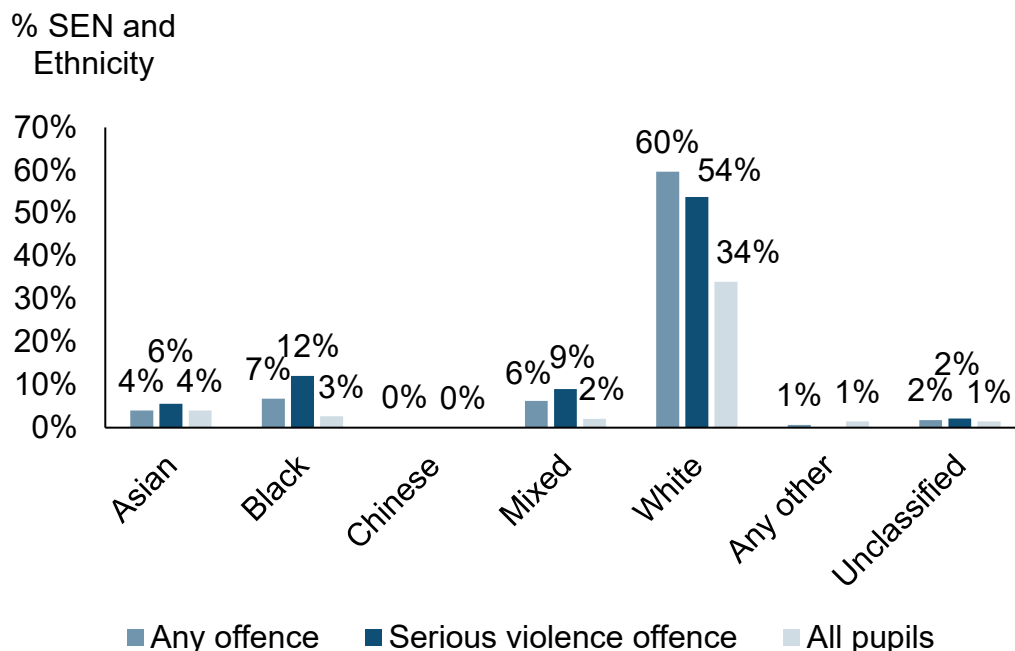
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

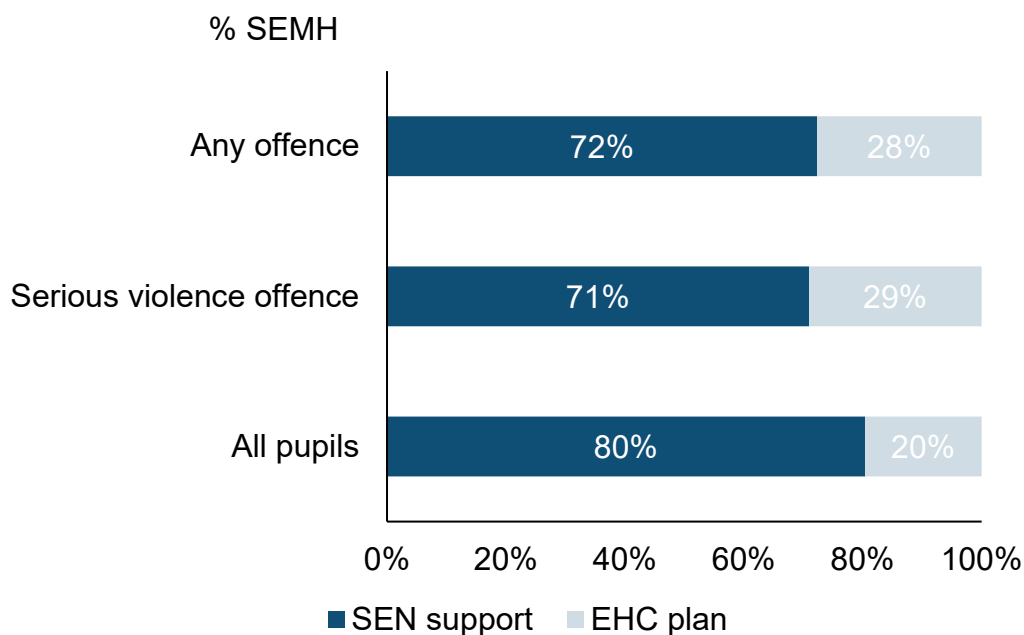In the following analysis we look at the cumulative number of education and children's social care characteristics children who have been cautioned or sentenced for a serious violence offence[65] had been identified with, compared to all pupils. The selection of characteristics here includes ever being identified as: FSM eligible, having SEN, persistently absent for unauthorised other reasons, severely absent, suspended, permanently excluded, attended AP, CIN and CLA[66].

Children who were cautioned or sentenced for a serious violence offence were more likely to have multiple characteristics of disadvantage, compared to the all-pupil cohort. For example, 37% of children with a serious violence offence had been identified with at least six characteristics[67], compared to 2% of all pupils. Children cautioned or sentenced for a serious violence represented a larger proportion of each group as the number of characteristics increased. For example, 2% of children who had ever been identified with at least one characteristic of disadvantage had been cautioned or sentenced for a

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[64] Some figures have been suppressed to prevent the disclosure of personal information.
[65] A summary for children cautioned or sentenced for any offence can be found in Table 17 in Annex B
[66] Please note that, since CLA is a subset of CIN, any child that has been looked after will also automatically be recorded as CIN.
[67] From the following list: FSM, SEN, persistent absence for unauthorised other reasons, severe absence, suspended, permanently excluded, AP, CIN and CLA.

serious violence offence, compared to 19% of children who had ever been identified with at least six characteristics of disadvantage (see Table 6).

Table 6: Proportions of all pupils and children cautioned or sentenced for a serious violence offence with multiple characteristics, including the proportion of children with multiple characteristics who had also been cautioned or sentenced for a serious violence offence[68] (Source: Table 1.6. 2)

Number of characteristics	Proportion of all pupils with multiple characteristics	Proportion of pupils with serious violence offence who had multiple characteristics	Proportion of pupils with multiple characteristics who had a serious violence offence
At least one	62%	98%	2%
At least two	32%	92%	3%
At least three	15%	81%	5%
At least four	8%	67%	9%
At least five	4%	52%	13%
At least six	2%	37%	19%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Local authority

Although it was most common for children to have attended school in one local authority, children among the offending groups were more likely to have attended school in more than one local authority[69], compared to the all-pupil cohort.

For children that did move local authority, their first move was more likely to occur during secondary school for children in the offending groups, and before secondary school for all pupils.

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[68] Note that, when referencing whether a child has 'ever' been identified with a characteristic in this table, all periods up to the end of KS4 are considered, except for CIN and CLA, which considers periods between the ages of 10 -17. For this reason, figures discussed here may not be directly comparable with other published government statistics.
[69] This could be due to a number of reasons, for example, children among the offending groups are more likely to attend, or move to, AP, whether that be as a main or subsidiary registration, which could be located in a different local authority to any previous schools attended.

The following analysis looks at the number of local authorities children have attended school in between years 1 and 11, and 7 and 11, and seeks to understand how the geographical stability amongst children in the offending groups compares to all pupils. Local authority information has been obtained for the school[70] in which the pupil attended the majority of sessions in an academic term[71] [72]. This therefore may differ to the local authority area in which the serious violence occurred.

Between years 7 to 11, the majority of children, irrespective of whether they were in an offending group, had attended school in one local authority only. Higher proportions of the offending groups had attended school in two local authorities, compared to the all-pupil cohort, and minimal numbers had attended school in greater than two local authorities (see Figure 15).

Figure 15: The number of local authorities attended school in between years 7-11, by offending and pupil group (Source: Table 1.7.1)[73]
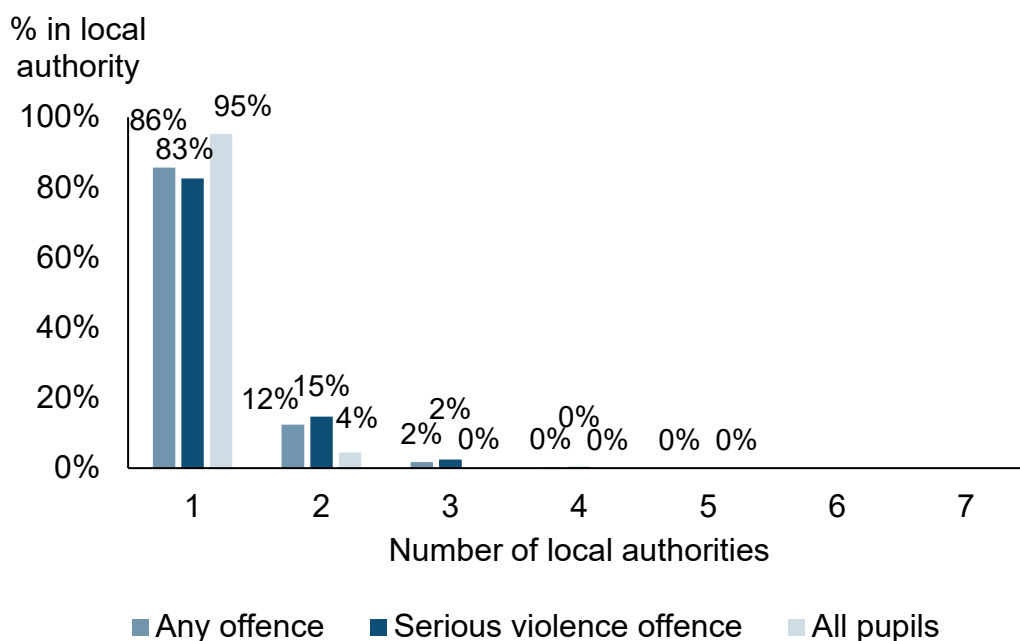
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

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[70] This analysis does not include any information on where the child has lived, and it cannot be assumed that the local authority the child attended school in and has resided in are the same.
[71] Where a child has attended school within a local authority that has undergone a local government reorganisation and the name of that local authority has changed, this will be counted towards the number of local authorities that child has attended school in.
[72] Figures as such could be an underestimate of the true number of local authorities attended school in, if, for example, the child had a subsidiary registration in a school that was located in a different local authority.
[73] Some figures have been suppressed to prevent the disclosure of personal information.

When expanding to look at the child's entire school career (between years 1 to 11), a similar pattern was observed. It was most common for children to have only attended school in one local authority, however, 32% of children cautioned or sentenced for a serious violence offence had attended school in two or more local authorities (see Figure 16).

Figure 16: The number of local authorities attended school in between years 1-11, by offending and pupil group (Source: Table 1.7.1)[74]
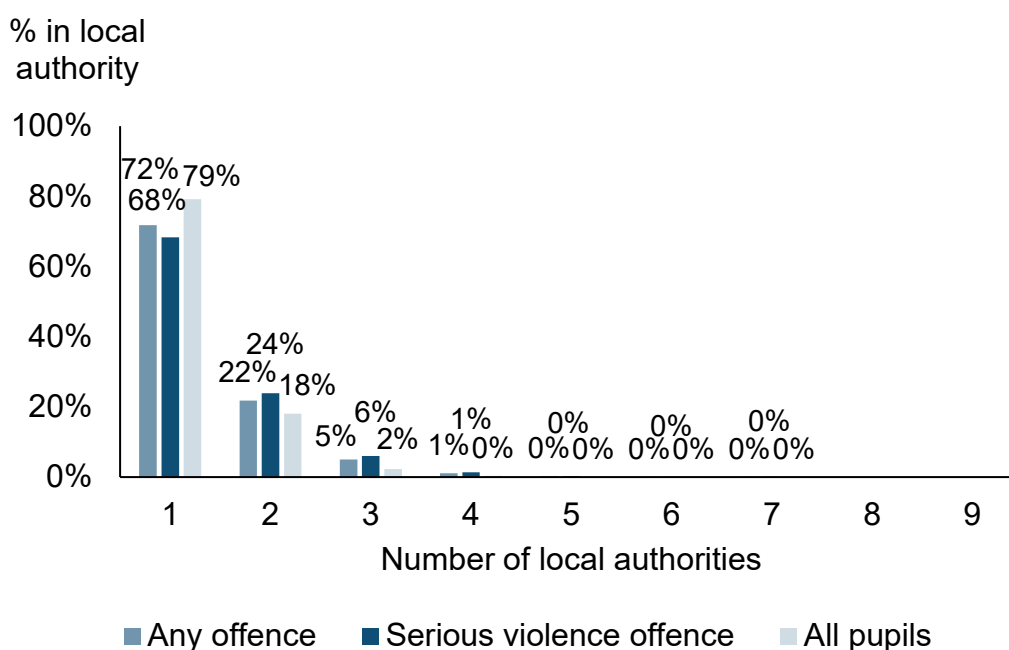
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

In this analysis, we look at the top 20 local authorities by number of males and females cautioned or sentenced for a serious violence offence. Local authorities with larger numbers of pupils overall were more likely to feature in this list, given that ranking in this way will simply reflect the size and population of that local authority area. To account for this, we also looked at the *proportion* of males and females in a local authority who had been cautioned or sentenced for a serious violence offence.

Local authority information was obtained for the school in which the pupil held a KS4 record when aged 15[75]. This therefore may differ to the local authority area in which the serious violence occurred.

Birmingham had the highest number of males cautioned or sentenced for a serious violence offence. 8 of the top 20 local authorities for males cautioned or sentenced for a

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[74] Some figures have been suppressed to prevent the disclosure of personal information.
[75] Please see the accompanying technical report for full methodology.

serious violence offence were in London[76] (see Figure 17). This contrasts with the highest ranking 20 local authorities by number of males overall, whereby no London boroughs featured. Manchester was the highest-ranking local authority by number of males cautioned or sentenced for a serious violence offence that did not appear in the highest ranking 20 local authorities by number of males overall.

Figure 17: The top 20 local authorities by number of males cautioned or sentenced for a serious violence offence (Source: Table 1.7.2)
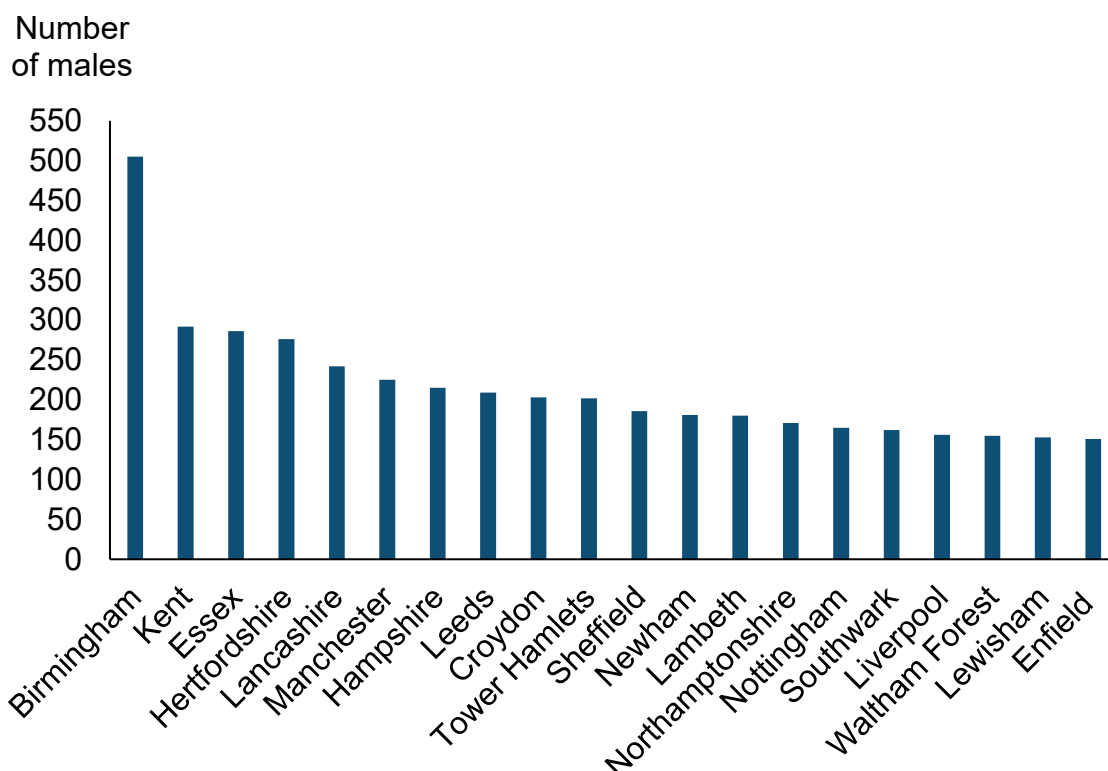
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Kent had the highest number of females cautioned or sentenced of a serious violence offence. 4 of the top 20 local authorities for females cautioned or sentenced for a serious violence offence were in Yorkshire and the Humber (see Figure 18). Sheffield was the highest-ranking local authority by number of females cautioned or sentenced for a serious violence offence that did not appear in the highest ranking 20 local authorities by number of females overall.

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[76] Please see here for more information on regions: Regions_and_local_authorities_at_01-04-21.pdf (publishing.service.gov.uk)

Figure 18: The top 20 local authorities by number of females cautioned or sentenced for a serious violence offence (Source: Table 1.7.2)

Number of females
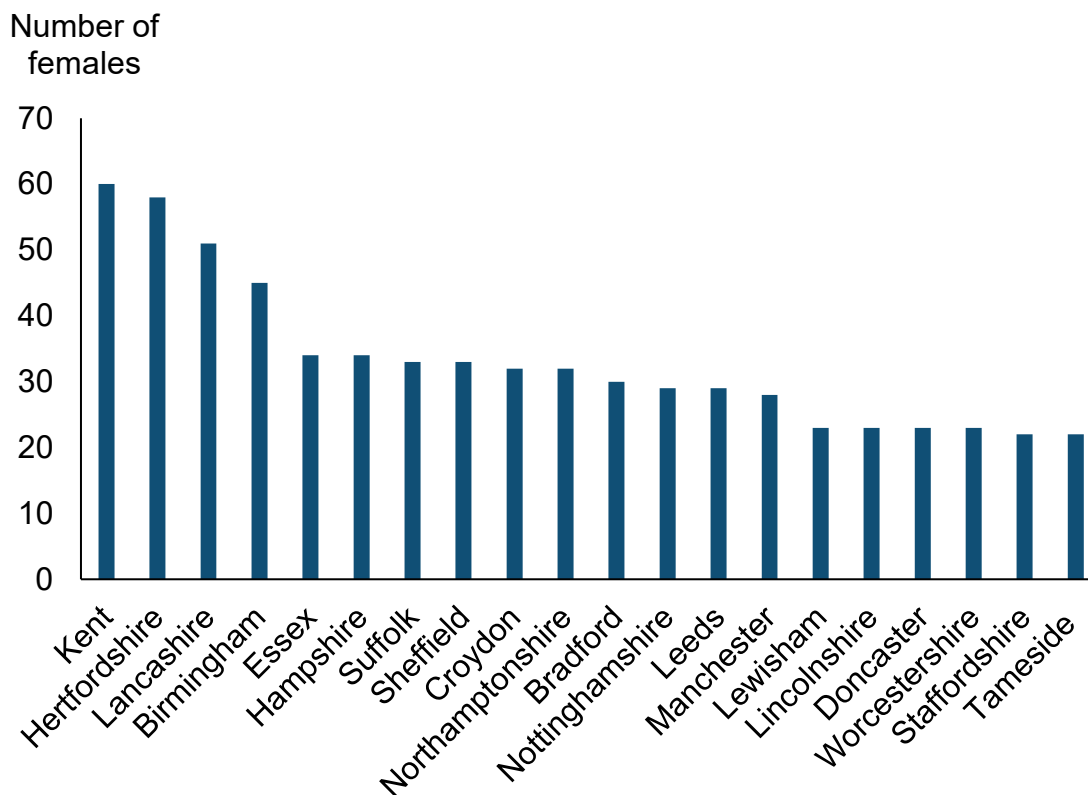
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

When looking at males cautioned or sentenced for a serious violence as a proportion of all males in a local authority area, Lambeth ranked the highest (6%). The top 20 highest ranking local authorities by proportion of males cautioned or sentenced for a serious violence offence were much more concentrated to one region, with 17 based in London (see Figure 19).

Figure 19: The top 20 local authorities by proportion of males cautioned or sentenced for a serious violence offence (Source: Table 1.7.3)
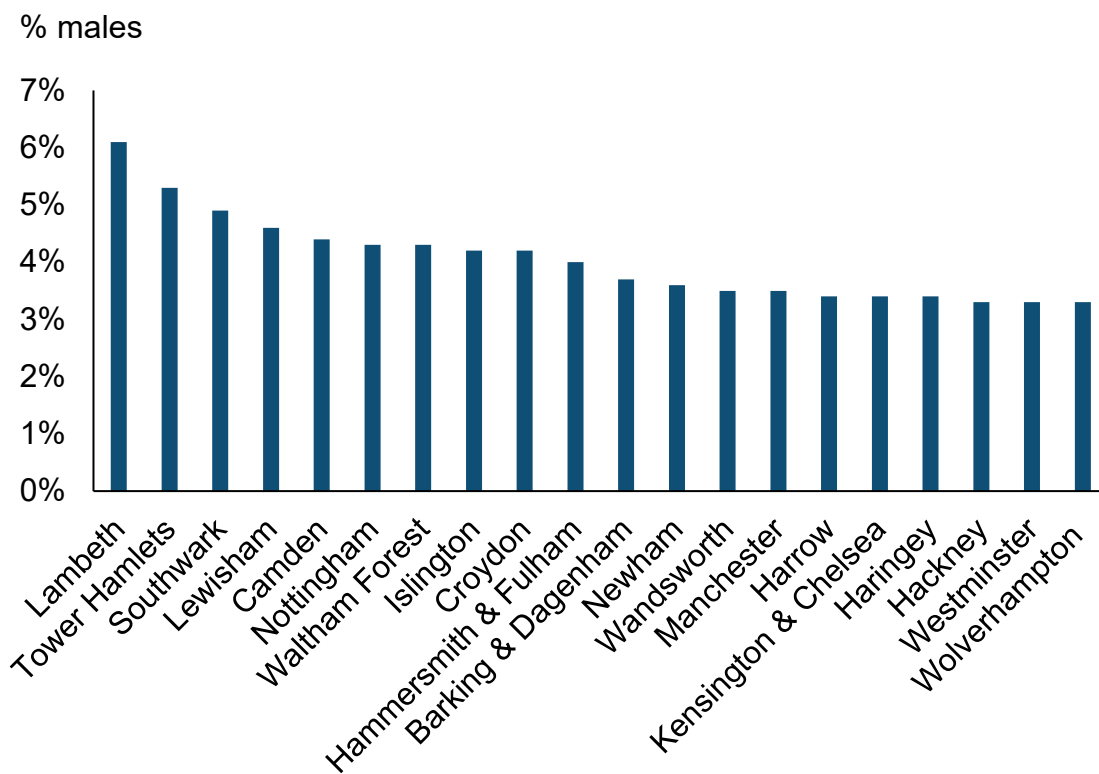
% males

Lewisham had the highest proportion of females cautioned or sentenced for a serious violence offence (0.8%). 10 out of the top 20 local authorities by proportion of females cautioned or sentenced for a serious violence offence were in London (see Figure 20).

Figure 20: The top 20 local authorities by proportion of females cautioned or sentenced for a serious violence offence (Source: Table 1.7.3)
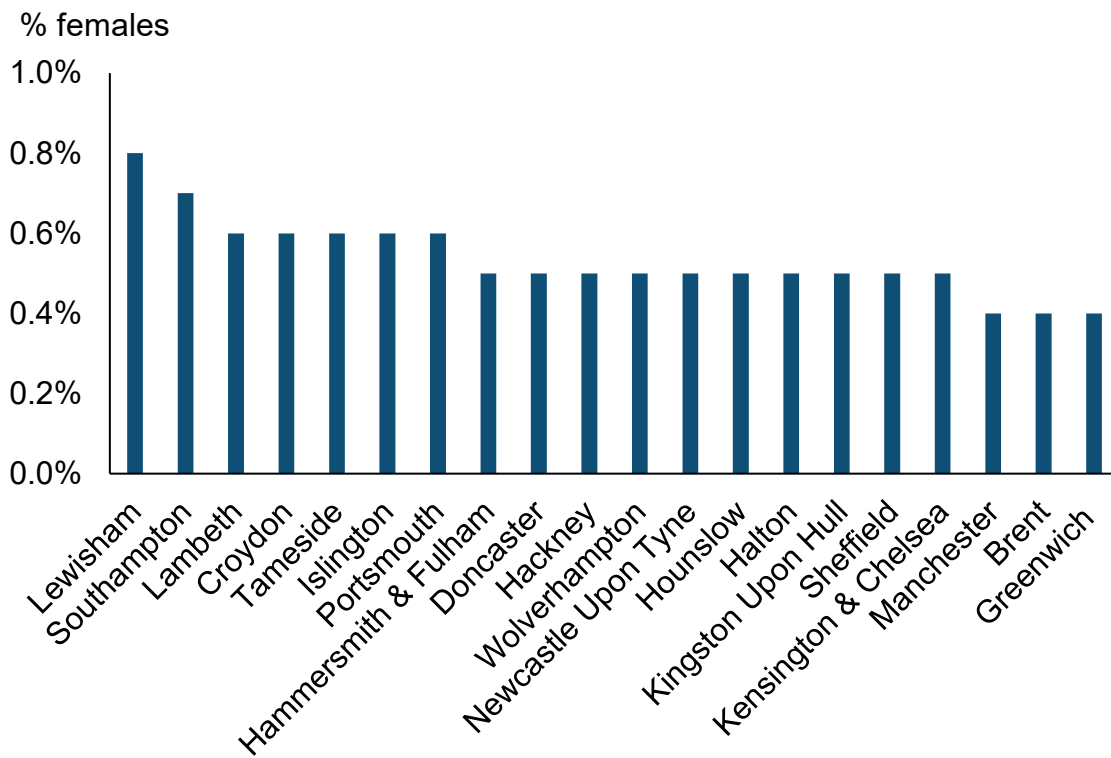
For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Section 2: Analysis of factors associated with serious violence

This section describes the data, methodology and results of multi-level modelling of demographics, education, children's social care, and local authority area characteristics associated with being cautioned or sentenced for a serious violence offence. This analysis enables us to describe the relationship between these characteristics and offending as: 'a child with x characteristic could be y times as likely of being cautioned or sentenced for a serious violence offence, compared to a child without that characteristic, holding all other factors constant'. This may help in ensuring support is targeted at children most vulnerable or at risk of involvement in serious violence, and in a timely manner.

Key findings

When holding all other factors constant, the following characteristics were:

1) *Strongly associated* with being cautioned or sentenced for a serious violence offence:
   - Male, especially at older ages
   - Having received a first suspension
   - Having a Black Caribbean ethnicity[77]
   - Cautioned or sentenced for a separate non-serious violence offence

2) Stronger predictors of being cautioned or sentenced for a serious violence at *younger* ages:
   - Eligible for FSM
   - Receiving multiple suspensions
   - Being permanently excluded
   - Attending school in local authority areas with increasing proportions of households occupying unsanitary or overcrowded housing

3) Associated with a lower likelihood of being cautioned or sentenced for a serious violence offence:
   - EHC plan in place
   - For children who attended AP, also having SEN (compared to not having SEN)
   - For children who attended AP, also having severe absence (compared to not having severe absence)
   - For children who were looked after, also having SEN (compared to not having SEN)

4) *Not strong* predictors of being cautioned or sentenced for a serious violence offence, when controlling for other factors:
   - Persistent absence for unauthorised other reasons, or severe absence
   - Permanent exclusion after year 7
   - Attending a special school
   - Being cautioned or sentenced for common assault and battery

Some children also first experienced the following after their first serious violence offence, suggesting that committing serious violence itself is a disruptive event:
   - Suspension
   - Persistent absence for unauthorised other reasons, or severe absence
   - Missing at least one academic term
   - Attending AP

> - Being a looked after child
>
> When holding all other factors constant, children who attended school in local authority areas that:
> - were densely populated, or
> - had high proportions of families on low incomes
>
> were more likely to be cautioned or sentenced for a serious violence offence than those that didn't. Disparities *between* local authority areas for these characteristics had a stronger association with a child being cautioned or sentenced for a serious violence offence, than year-on-year differences within a local authority area.

Methodology

This report contains the results of 7 hybrid effects multi-level binary logistic regressions which estimate how individual and local authority area characteristics were associated with serious violence. The time frame over which the individual level explanatory variables were measured varied slightly between each model, to establish not only which characteristics were associated with serious violence, but how the relationship between those characteristics and serious violence might change with time.

Whilst we cannot draw causal links between the characteristics modelled in this report and serious violence, modelling association at the individual level does provide unique insights into serious youth violence in England. This analysis is exploratory, and there are many unmeasured factors within this data which have not been accounted for here, but may be influential, such as peer effects, family structure and health characteristics. It should be noted this analysis does not seek to identify or profile individual children.

By running a variance components model (a model with the outcome variable, and in this instance a school, and a local authority, random intercept, but no explanatory variables), we calculated that between 49-78% of the variation in the propensity to be cautioned or sentenced for a serious violence offence lies between individuals, 15-44% of the variation lies between schools, and between 4-8% of the variation lies between local authorities, when schools and local authorities are accounted for as levels. This means that:

- of the three levels investigated, *characteristics relating to the individual had the biggest influence on the likelihood of a child being cautioned or sentenced for a serious violence offence*, by up to nearly 80%.

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[77] Findings may differ to other published analysis due to using offending data as recorded in the PNC as the main offending metric, as opposed to other metrics such as self-reported offending, which may produce contrasting results.

- the difference between attending school A versus attending school B could influence the likelihood of a child being cautioned or sentenced for a serious violence offence by up to nearly a half.

- the difference between attending school in local authority area A versus attending school in local authority area B could influence the likelihood of a child being cautioned or sentenced for a serious violence offence by up to 8%.

Although the degree of clustering at the local authority area level was lower, relative to the school level, it was consistent with relevant literature[78]. We chose to investigate how the characteristics of the local authority area were associated with serious violence to inform the evidence base on the role played by the local authority area practice and policy in preventing and reducing serious violence[79]. Reasons for this included:

- Deprivation has consistently been found to be strongly associated with rates of serious violence[80]. However, composite measures such as the index of multiple deprivation (IMD) can have such an overpowering effect on statistical modelling to the point where no other factors are estimated to be significant[81]. Breaking down this composite measure into its component parts would allow us to understand which domains of deprivation were most important, of which data is available and recorded annually at the local authority area level.

- Accounting for school as a level may improve the model statistically, as it would recognise that children attending the same school are clustered. For example, children attending school A will adhere to the policies set out by that school which may differ to the policies adhered to by children attending school B.

  o However, without annual quantitative school level data available to understand which aspects of a school's policies, if any, may be associated with being cautioned or sentenced for a serious violence offence at the individual level, we would be limited to just capturing the effect of the school as a level, which could reflect a variety of factors. For example, peer effects are potentially contributing to, and overstating, the school level clustering. However, the extent of this cannot be investigated due to data unavailability, therefore peer level and school level effects cannot currently be distinguished.

[78] Methods for evaluating area-wide and organisation-based interventions in health and health care: a systematic review (nihr.ac.uk) page 27
[79] Serious Violence Duty - Statutory Guidance (publishing.service.gov.uk)
[80] Serious violence (parliament.uk)
[81] Understanding serious violence among young people in London - London Datastore

- As an alternative, we have included information about the type of school the child has attended as explanatory variables.

- Differences in policing priorities, for example arrest or stop and search rates, between local authority and police force areas will likely contribute to the variation in likelihood of a child being cautioned or sentenced for a serious violence offence. Therefore, including local authority area as a level should capture some of this variation.

Lastly, the models were estimated using the three cohorts of children defined in Section 1. Annual measurements of local authority area level data were recorded coinciding with the academic years the three cohorts were in years 7-11, or the academic year they finished KS4 – more details are highlighted in the next section. We utilised a hybrid effects multi-level model to estimate separately how differences in characteristics *between* local authority areas, and over time *within the same* local authority area were associated with serious violence at an individual level. Please see the accompanying technical report for more information on how the underlying data was clustered and further discussion on the results and interpretation of the variance components models.

Model 1

Model 1 refers to any instance of a child being identified with a characteristic, irrespective of when that characteristic was identified or experienced, and its association with being cautioned or sentenced for a serious violence.

Table 7: Model 1 summary

	Model 1
What is estimated?	The association between ever having been identified with a characteristic and the outcome of ever having been cautioned or sentenced for a serious violence offence.
Measurement period of: a) **pupil-level explanatory variables** b) **local authority area level variables** c) **dependent variable**	a) All periods up to the end of KS4 (unless otherwise specified[82]). b) For the local authority and academic year the child attended school whilst aged 15[83] (2015/16 – 2017/18). c) All first serious violence offences cautioned or sentenced for between the ages of 10 and 17.
What can it tell us?	The strength of relationship between a child's characteristics and serious violence, irrespective of the order in which the events occur.
Limitations	Characteristics can be identified before or after a serious violence offence, increasing the risk of endogeneity. This means we won't be certain of the direction of the relationship between the explanatory variables and being cautioned or sentenced for a serious violence offence.

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[82] See Data section for more details.
[83] Taken from KS4 records – refer to technical report for full methodology as to how this was derived.

Model 2

Model 2 reduces the potential for endogeneity by only considering characteristics that were identified or experienced *before* a child's first serious violence offence.

Table 8: Model 2 summary

	Model 2
What is estimated?	The association between ever being identified with a characteristic *before* a serious violence offence and having ever been cautioned or sentenced for a serious violence offence.
Measurement period of: a) **pupil-level explanatory variables** b) **local authority area level variables** c) **dependent variable**	a) For children who have a serious violence offence, all periods before their first serious violence offence. For children who *do not* have a serious violence offence, same as for Model 1. b) Same as for Model 1. c) Same as for Model 1.
What can it tell us?	The strength of relationship between a child's characteristics and serious violence, accounting for the order in which the order of events occur.
Limitations	The time frame over which explanatory variables are measured is not the same for all pupils.

A comparison of the results between Models 1 and 2 could help to gauge the severity and direction of any bias caused by endogenous relationships between any of the explanatory variables and the outcome variable.

Years 7-11 models

We ran five models, one for each school year, between years 7 and 11. For example, the year 7 model estimated the association between being identified with a characteristic during year 7 and being cautioned or sentenced for a serious violence offence at any point during years 8 and 9. This two year period was selected for the outcome variable to increase precision in estimating trajectories of children who had been cautioned or sentenced for a serious violence offence over Models 1 and 2, whilst also allowing sufficient time for any potential associations between individual level characteristics and serious violence to be identified. This does mean however, that there may be characteristics that if identified in one year, for example year 7, were associated with serious violence in a period later than two years, for example in year 11, that will not have been picked up in the years 7-11 models. Similarly, there may be characteristics that if identified, are associated with serious violence within a very short timeframe, for example a few weeks, that also will not have been picked up in the years 7 – 11 models. Model 2 will pick up on these characteristics somewhat but will not be able to quantify the exact time period, only that the characteristics were identified before the first serious violence offence.

Table 9: Summary of the Years 7 – 11 models

	Years 7 – 11 models
What is estimated?	The association between being identified with a characteristic during one academic year, and the outcome of being cautioned or sentenced for a serious violence offence at any point in the following two academic years.

Measurement period of:
  a) **pupil-level explanatory variables**
  b) **local authority area level variables**
  c) **dependent variable**
	a) One academic year per pupil per model.
	
	b) For the local authority and academic year the child attended school during that year[84] (2011/12 – 2017/18[85] [86]).
	
	c) All serious violence offences cautioned or sentenced for in the following two academic years.

What can they tell us?	Allows the strength of coefficients to change with age, demonstrating whether:
	  a) Different factors become more or less predictive with age.
	  b) The risk of offending increases over time and if that risk is different for children with different characteristics.

Limitations	Caution should be taken when considering the results of the year 7 model due to a reduced sample size (see Table 10). Offences that occur within the same academic year, or in a period later than two years are not accounted for.

Estimating a separate model for each year group allowed for year-on-year changes in individual level characteristics, and for a more accurate representation of a child's potential movements between local authorities over time compared to Models 1 and 2. It also meant we could take measurements for local authority area level characteristics that

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[84] Taken from school census – refer to technical report for full methodology.

[85] Local government reforms that occurred after 2018 are therefore not reflected in this analysis. For example, Bournemouth and Poole are considered separate unitary authorities and do not reflect the 2019 reform under which they are known collectively as Bournemouth, Christchurch and Poole council.

[86] For example, the year 7 model will include measurements of local authority level characteristics for years 2011/12 – 2013/14, as these are the years the cohorts of children defined in Section 1 were in year 7.

changed relative to the academic year, which allowed for a more accurate representation of the characteristics of a local authority area compared to Models 1 and 2.

Limitations

The outcome of these models - whether the child had been cautioned or sentenced for a serious violence offence or not – is a binary observation. It therefore takes no account of the number of serious violence offences that children in the data had been cautioned or sentenced for.

We limited the data to only include local authorities that had 30 or more children who had been cautioned or sentenced for a serious violence offence, as this is deemed a sufficiently large sample to assume that the sample means are normally distributed. Given that serious violence is an infrequent event and peaks in the mid-teens, there were much fewer instances of serious violence offending when modelling younger year groups, which disproportionately affected the sample sizes of younger year models (see Table 10).

The results show association, not causation. This means the models give an insight into the strength of association between certain characteristics being cautioned or sentenced for a serious violence offence but do not show which factors cause children to offend. There are factors not included in these models that would likely impact on a child's likelihood of being cautioned or sentenced for a serious violence offence, such as peer or family effects, which if included might change the coefficients.

Please see the technical report for further discussion on the limitations of the models.

Table 10: Sample sizes, including number of observations and local authorities, for the 7 multi-level regression models

	Model 1	**Model 2**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**
Local authorities	142	142	22	58	88	95	87
All pupils (limited sample)	1,498,603	1,498,603	419,536	822,696	1,138,658	1,190,533	1,114,727
All pupils (original sample)	**1,530,943**	**1,530,943**	**1,525,224**	**1,524,149**	**1,523,321**	**1,520,369**	**1,514,045**

Data

This section discusses the structure of the data and the explanatory variables used in the multi-level modelling.

Explanatory variables

Based on the results in Section 1, and from previous analysis[87], individual level explanatory variables listed in Table 11 and local authority area level variables in Table 12 have been included in the models.

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[87] Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

Table 11: Pupil level explanatory variables

Category	Variable	Comments
Demographic	Gender	
	Ethnicity[88]	
	Free school meals (FSM) eligibility	
School experience	Suspensions (including two or more suspensions[89]) and permanent exclusions	
	School type	AP and/or special school[90]
	SEN[91], EHC plans and SEMH[92]	
	Persistent unauthorised other absence and severe persistent absence	Persistent absence[93] not included due to high rates among the all-pupil cohort[94]
Children's social care[95]	CIN[96] and CLA[97]	
Criminal justice system interactions[98]	Non-serious violence offence	
	Common assault and battery[99]	
Interaction terms	SEN / AP	
	SEN / CLA	
	AP / severe persistent absence	

[88] Ethnic group minor categories include Bangladeshi, Indian, Any Other Asian Background, Pakistani, Black African, Black Caribbean, Any Other Black Background, Chinese, Any Other Mixed Background, White and Asian, White and Black African, White and Black Caribbean, Information Not Yet Obtained, Any Other Ethnic Group, Refused, White British, White Irish, Traveller of Irish Heritage, Any Other White Background, Gypsy/Roma

[89] Please see the technical report for details as to why the threshold of 2 or more suspensions was modelled.

[90] Children are identified as having attended a special school if they have had a main or subsidiary registration at any of the following types of schools: foundation special school, community special school, non-maintained special school, academy special converter, academy special sponsor led, free schools special, other independent special school, special post 16 institution.

[91] Either with SEN support or with an EHC plan.

Deprivation indices, such as the income deprivation affecting children index (IDACI)[100], have not been included, as these indicators are not calculated annually[101]. FSM eligibility does provide some insight into the economic circumstances of the household and is here used a proxy for child poverty; however, some information is lost with it being reduced to a binary measure. For example, children from two different households may both be eligible for FSM but because their household has met different criteria – one may be on a low income, whereas one may be out of work. FSM eligibility also means that some children living in households in relative income poverty but in work, would not be included. Therefore, we will not be able to differentiate between effects of having no income vs a low income using the FSM eligible variable.

As an alternative, local authority area level characteristics that align with the domains of deprivation in the index of multiple deprivation[102] (IMD) have been included where possible, in the model (see Table 12). Characteristics aligning with the health deprivation and disability, and the crime domain have not been included at a local authority area level due to issues of data availability for the cohorts of children used in this analysis[103]. Further information regarding the local authority area level characteristics, including how they compare with the results of the IMD for each domain can be found in the technical report.

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[92] Or BESD, where relevant. As a primary or secondary type of need.

[93] A child is said to be persistently absent if they miss 10% or more of the sessions (most sessions represent a half-day) they could possibly have attended in an academic year or term.

[94] Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

[95] The Longitudinal CIN dataset was used for models 1 and 2. Termly CIN and CLA data was provided internally for the years 7 – 11 models, which provided CLA data from 2004/05.

[96] Due to data coverage, one of the cohorts of children only has CIN data for term 3 in year 7, the other two cohorts of children have full CIN data in the year 7 model. The CIN census was introduced in 2008/09, and initially covered a reduced 6-month period. A full year collection was introduced in 2009 – 2010, however a number of local authorities were unable to provide a complete, clean children in need return for that year. Reviews were carried out on the CIN census and resulted in some data items being removed from the 2010 – 2011 collection onward.

[97] Refers to whether the child was identified as CIN or CLA between the ages of 10-17 for models 1 and 2.

[98] Only principal offences have been included in these measures to reduce collinearity with the outcome variable.

[99] Note that common assault and battery is a subset within non-serious violence offences.

[100] The Income Deprivation Affecting Children Index (IDACI) measures the proportion of all children aged 0 to 15 living in income deprived families. Family is used here to indicate a 'benefit unit', that is the claimant, any partner and any dependent children for whom Child Benefit is received. For more information, please see: The English Indices of Deprivation 2019 (publishing.service.gov.uk)

[101] English indices of deprivation - GOV.UK (www.gov.uk)

[102] The English Indices of Deprivation 2019 (publishing.service.gov.uk)

[103] Health datasets were commonly reported at Clinical Commission Group (CCG) level, and crime datasets were commonly reported at Community Safety Partnership (CSP) level. Whilst CCGs and CSPs equate in the majority of instances to local authority areas, there are still boundary differences which don't align with the local authority areas used in this analysis.

Table 12: Local authority area level explanatory variables[104]

Category	Variable	Comments
Income deprivation	Children[105] within tax credit[106] recipient families[107] as a proportion of children[108] within child benefit recipient families.	Proxy for families on low income
Employment deprivation	Workless households[109] as a proportion of all households[110].	Proxy for unemployment
Barriers to housing and services	Number of households[111] on the waiting list for accommodation as they are: a) homeless[112] b) occupying unsatisfactory or overcrowded housing.	Per 10,000 people
Living environment	Number of people[113] per square kilometre in a local authority area.	Proxy for population density
SEN	Proportion of children and young people[114] with an EHC plan attending a mainstream school[115]	

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104 Links to externally sourced local authority area level data can be found in the technical report.
105 Includes qualifying young people up to age 19.
106 Working tax credits and/or child tax credits. This measure also includes out of work families with children who receive the same level of support as provided by child tax credits, but where it is paid as child allowances in Income Support or income-based Jobseeker's Allowance (IS/JSA).
107 Formed of at least one person aged at least 16 responsible for a child or young person(s).
108 Includes qualifying young people up to age 19.
109 Defined as no individuals aged 16 and over are in employment.
110 Defined as a single person, or a group of people living at the same address who have the address as their only or main residence and either share one main meal a day or share living accommodation (or both).
111 Defined as one person or a group of people (not necessarily related) who have the accommodation as their only or main residence, and (for a group) share cooking facilities and share a living room or sitting room or dining area. Please see here for more information: Housing statistics and English Housing Survey glossary - A to Z - Guidance - GOV.UK (www.gov.uk)
112 Homeless within Part 7 of the Housing Act 1996 For more information, please see: Local authority housing statistics guidance 2020-21 (publishing.service.gov.uk)
113 Refers to all ages.
114 Up to age 25.
115 Note that this measure refers to state funded mainstream schools only. This measure differs to that collected in SEN2, which is collected by the local authority that maintains the EHC plan and therefore may include out of area placements ie: the EHC plan may be maintained by one local authority, however the child attends school in a different local authority area. The measure used in this analysis refers strictly to the proportion of children with an EHC plan that attend school within that local authority area, irrespective of which local authority maintains the EHC plan. Please see the technical report for more information.

Spearman's correlation coefficients were calculated for most of the variables included in the multi-level models, to assess whether any collinear relationships existed. Discussion of the results can be found in the technical report, and a full table of cross correlations and their associated p values can be found in the accompanying tables. Discussion of the variance inflation factors regarding suspected cases of multicollinearity amongst the explanatory variables can also be found in the technical report, with complete breakdowns by model available in the accompanying tables.

Results

This section discusses and compares the results of the seven multi-level models. The results are presented as odds ratios. For local authority area level variables, they indicate the increase in odds associated with a 1 standard deviation increase in the variable. Standard errors are included in the odds ratio tables, which indicate uncertainty in estimates. Error bars in the odds ratio charts are included and indicate the 95% confidence intervals, this is a similar measure representing the range in which the true coefficient would lie in 95% of experiments if the experiment was repeated. Odds ratios are included in the model results in Tables 18 and 19 (Annex C).

Odds ratios explained

Odds ratios for each variable show the odds of being cautioned or sentenced for a serious violence offence relative to the reference group (for example, the odds ratio for male children is relative to the reference group of female children). They are used to approximate how many more, or less, times likely children in one group are to be cautioned or sentenced for a serious violence offence than those in another group.

Odds ratios:

- **Greater than 1:** indicate higher odds compared to the reference group
- **Equal to 1:** indicate equal odds compared to the reference group
- **Less than 1:** indicate lower odds compared to the reference group

For example, an odds ratio of 2 indicates the group is approximately twice as likely to be cautioned or sentenced for a serious violence offence than the reference group, while an odds ratio of 0.5 would indicate they are approximately half as likely.

Results highlighted with an asterisk indicate that the finding was statistically significant at the 95% level or above, *whilst holding all other variables included in the model constant*.

The number of asterisks indicate whether the odds ratios was significantly high, significantly low, or significant and equal to 1[116]. Unless otherwise stated, the reference category for the individual level variables refers to the instance where the characteristic has not been observed. For example, the odds ratio of being cautioned or sentenced for a serious violence offence for children eligible for FSM has been estimated relative to children who are not eligible for FSM.

Results for each variable across Models 1 and 2, and the years 7 – 11 models, have been collated onto the same charts for efficiency. Given that the models have been estimated using different sample sizes (as displayed in Table 10), the results should be interpreted independently. We cannot directly compare the differences in odds ratios for the same characteristic between models[117] nor can we assume that where error bars do not cross for the same characteristic across models in the charts displayed, they wouldn't cross in a repeated experiment. Where error bars have not been displayed, this is due to results either being estimated with large confidence intervals or no confidence interval being estimated[118]. The findings for both Models 1 and 2 will be displayed for comparison purposes, however discussion will primarily focus on the results of Model 2, given the potential for Model 1 to over-emphasise the importance of the relationship between certain factors and serious violence as it does not take into account sequencing.

It is important to note that the odds ratios calculated for the years 7 – 11 models are estimating the combined association between, explicitly, a child being identified with a characteristic, and implicitly, *their age during that year,* and being cautioned or sentenced for a serious violence offence, and therefore may appear higher than those calculated for Models 1 and 2. Given the peak age at first serious violence offence is 16[119], we would generally expect odds ratios to be higher in the Year 9 or Year 10 models.

Overview

Before discussing the findings for the explanatory variables individually, it is important to highlight, not just the strength of association of these characteristics with serious violence, but also the *context* in which the estimates have been derived, i.e. considering how characteristics compare with others more widely rather than in isolation. We have

[116] Therefore, where there are no asterisks present, this indicates that the odds ratio was not found to be statistically significant at the 95% level or above.
[117] Models 1 and 2 have been estimated using the same sample and therefore the results for these two models can be compared.
[118] The odds ratios for the interacted variables in Tables 18 and 19 are not directly interpretable or additive. Post-estimation analysis was required to achieve the estimates of the interaction variables' odds ratios that are discussed in the main body of the report and therefore whilst statistical significance could be determined, confidence intervals could not. Please see Annex C for more information.
[119] Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

therefore collated the odds ratios of the individual level characteristics[120] for Model 2 and the Year 10 model (see Figures 21 and 22) to demonstrate:

a) Whilst a certain characteristic in isolation may appear to have a strong association with being cautioned or sentenced for a serious violence offence, when considering the context in which it sits with other characteristics, there may in fact be others whose association is stronger. This is key to ensuring that support is targeted at children who are most vulnerable or at risk of involvement in serious violence.

b) The similarities and differences generated in the results by changing the way in which we study serious violence.

Odds ratios for all other models can be found in Annex D.

The characteristics with some of the highest odds ratios of ever being cautioned or sentenced for a serious violence estimated by Model 2 included being male, being suspended and having a non-serious violence offence (4.1, 4 and 3 respectively). The variation in odds ratios of ever being cautioned or sentenced for a serious violence offence in this model was quite small (see Figure 21).

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[120] All individual level characteristics that were modelled have been included in the charts except for ethnicity. To prevent overcrowding on the chart, we have selected the ethnic backgrounds with the two highest and two lowest estimated odds ratios from each model. This does mean that the ethnic backgrounds displayed may differ between charts.

Figure 21: Model 2 individual level odds ratios[121]
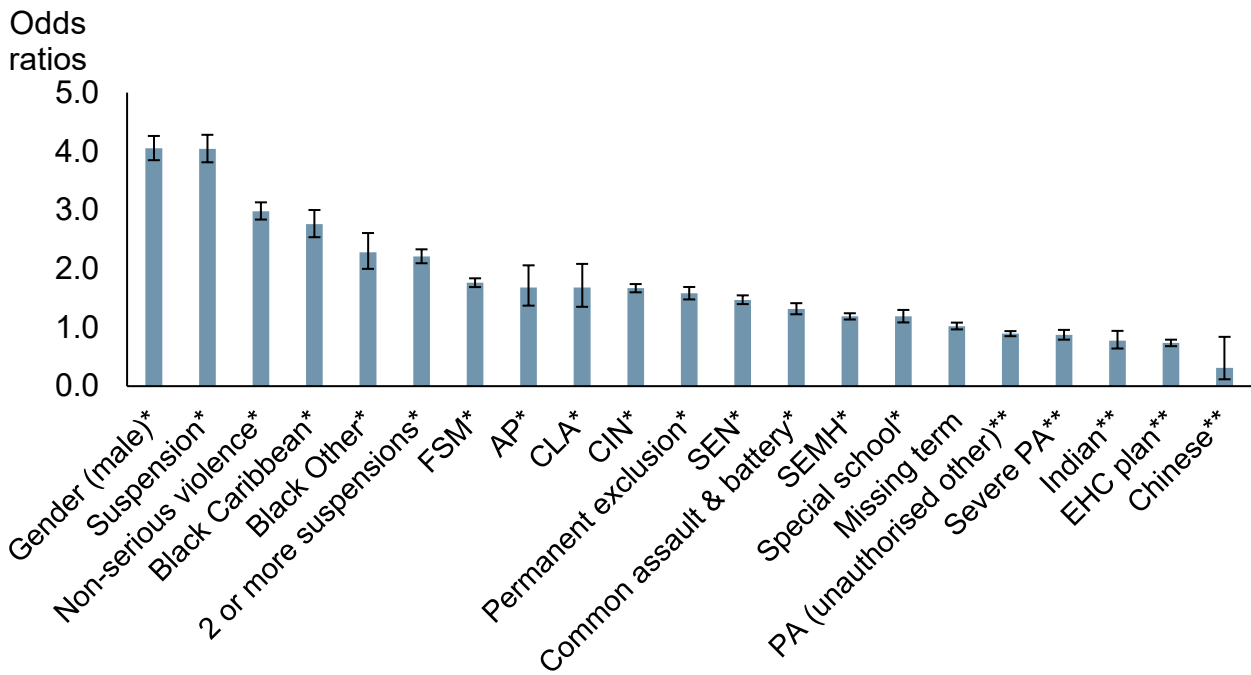
However, when we consider a shorter and more defined timeframe for offending, we see that, being male, being suspended and having a Black Caribbean ethnicity in year 10 were all characteristics that had the highest estimated odds ratios of being cautioned or sentenced for a serious violence offence in years 11 or 12 (7.7, 4.4 and 4 respectively). The variation in odds ratios was larger in this model compared to model 2 (see Figure 22).

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[121] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Figure 22: Year 10 model individual level odds ratios[122]
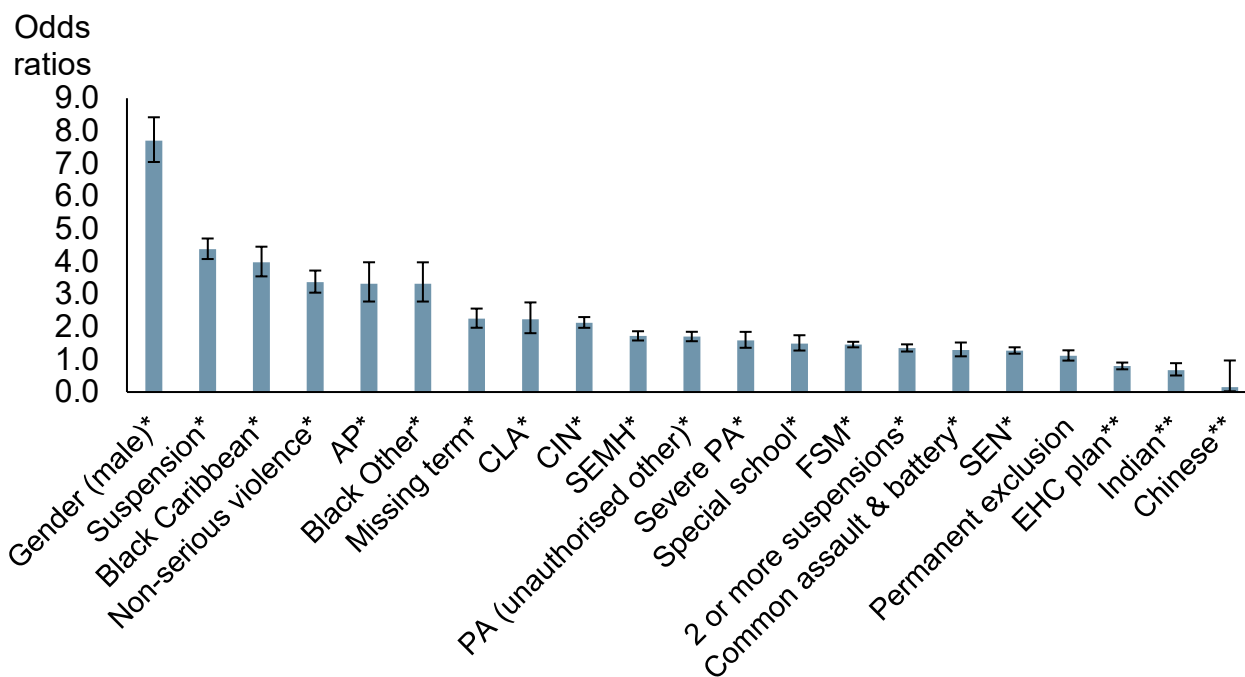
This demonstrates that whilst there were characteristics that were consistently identified as having a larger association with being cautioned or sentenced for a serious violence offence than others, irrespective of how the outcome was modelled, it also demonstrates that there was no stand-alone characteristic that perfectly predicted serious violence. When viewed in isolation, a characteristic may appear to have a strong association with serious violence. It is important however to consider how that result sits within the context of the other characteristics modelled as otherwise potentially stronger associations could be missed. It should also be noted that the characteristics modelled here reflect only a small aspect of a child's life and there are many other factors which could not be accounted for here but may be equally as important.

It is also worth reiterating that the following characteristics and events discussed are not to be interpreted as causal, and they certainly are not deterministic, of being cautioned or sentenced for a serious violence offence. Many children with these characteristics or experiencing these events are not cautioned or sentenced for a serious violence offence.

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[122] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Gender

> Males, in all models, were more likely to be cautioned or sentenced for a serious violence offence than females, and being male was one of the largest predictors of all the characteristics modelled.

In Models 1 and 2, males were up to four times more likely than females of ever being cautioned or sentenced for a serious violence offence. Note, gender was a time invariant variable[123], therefore there was little variation between results for these two models (see Figure 23).

Figure 23: Odds ratios of ever being cautioned or sentenced for a serious violence offence for males (reference category: female)[124]
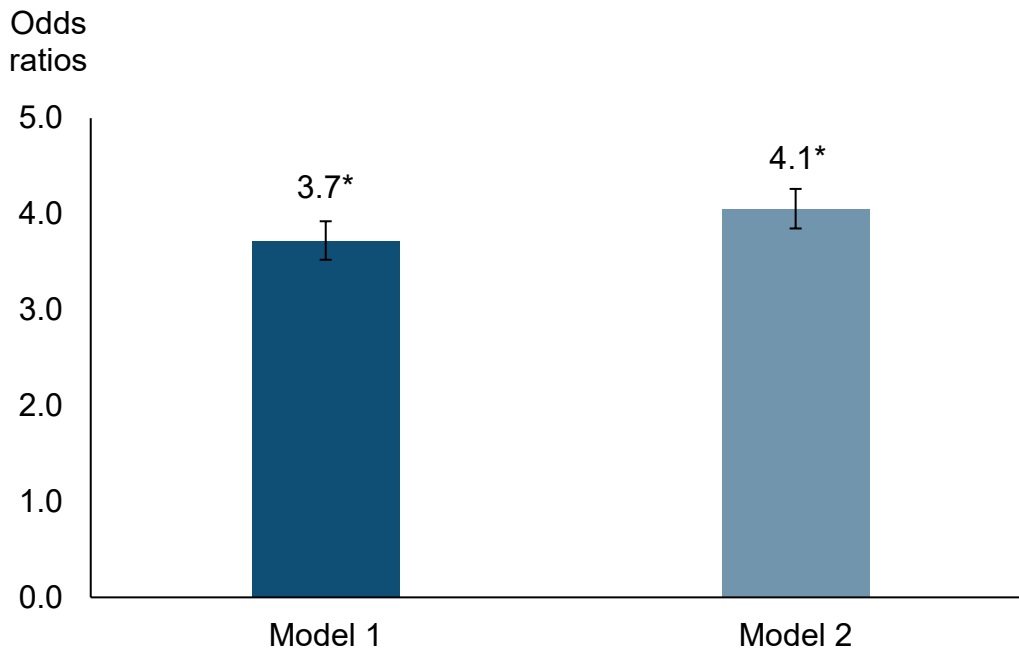
As males got older, the association with being cautioned or sentenced for a serious violence offence in the following two years grew stronger relative to females. For example, a male in year 7 was just over twice as likely as a female to be cautioned or sentenced for a serious violence offence in years 8 or 9, however a male in year 11 was

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[123] Where a child's gender changes over time, the most recent record of gender was used in this analysis to reflect the child's gender identity most accurately.
[124] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

nearly ten times more likely than a female to be cautioned or sentenced for a serious violence offence in years 12 or 13 (see Figure 24).

This is consistent with the findings in Section 1, that males were over-represented amongst children who are cautioned or sentenced for a serious violence offence, and that the peak age at first serious violence offence for males was in the mid to late teens.

Figure 24: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years for males by year group (reference category: female)[125]
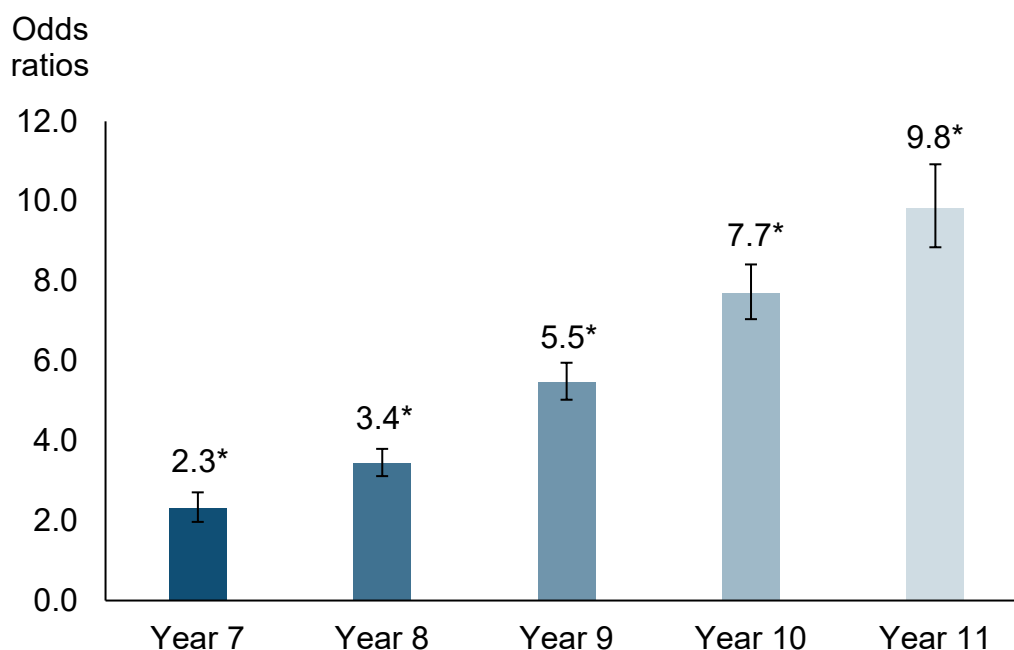
Ethnicity

Children from ethnic minority groups (including White minorities) tended to have higher odds of being cautioned or sentenced for a serious violence offence compared to White British children.

In Models 1 and 2, having a Black Caribbean ethnicity[126] had the strongest association with ever being cautioned or sentenced for a serious violence offence, and were almost three times more likely than White British children to be cautioned or sentenced, followed by any other Black background who were between 2.3 – 2.5 times more likely, and Mixed

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[125] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[126] Out of the 20 minor ethnic groups accounted for.

White and Black Caribbean who were between 2 – 2.2 times more likely. Having a Chinese ethnicity had the weakest association with ever being cautioned or sentenced for a serious violence offence[127]. Note, ethnicity was a time invariant variable[128], therefore there was little variation between results for these two models.

Figure 25: Odds ratios of ever being cautioned or sentenced for a serious violence offence by ethnicity (reference category: White British)
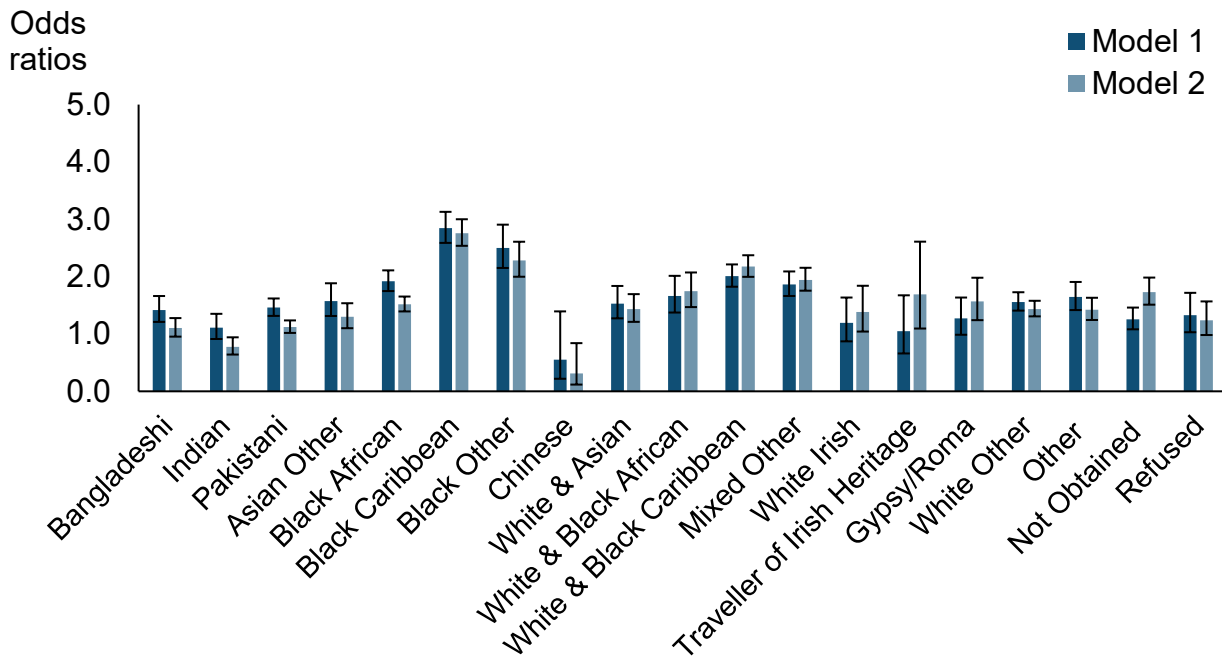
Similarly in the yearly models, having a Black Caribbean, any other Black background or a Mixed White and Black Caribbean background had the strongest association with being cautioned or sentenced for a serious violence offence in the following two academic years compared to White British children, whereas having a Chinese ethnicity had the weakest. Odds ratios tended to be highest in the years 9 -11 models, with the exception of children with a Traveller of Irish Heritage or Chinese ethnicity, whose highest were in Years 7 and 8 respectively. To avoid over-crowding, odds ratios for the year 10 model only have been displayed in Figure 26.

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[127] The results highlighted here simply refer to the highest and lowest odds ratios estimated for the different ethnic groups. All results were statistically significant at the 95% level or above, except Indian, Chinese, White Irish, Traveller of Irish Heritage and Gypsy/Roma in Model 1 and Bangladeshi and Refused in Model 2.

[128] Where a child's ethnicity changes over time, the most recent record of ethnicity was used in this analysis to most accurately represent the child's ethnic group.

Figure 26: Odds ratios for children in year 10 of being cautioned or sentenced for a serious violence offence in years 11 or 12 (or equivalent) by ethnicity (reference category: White British)[129]
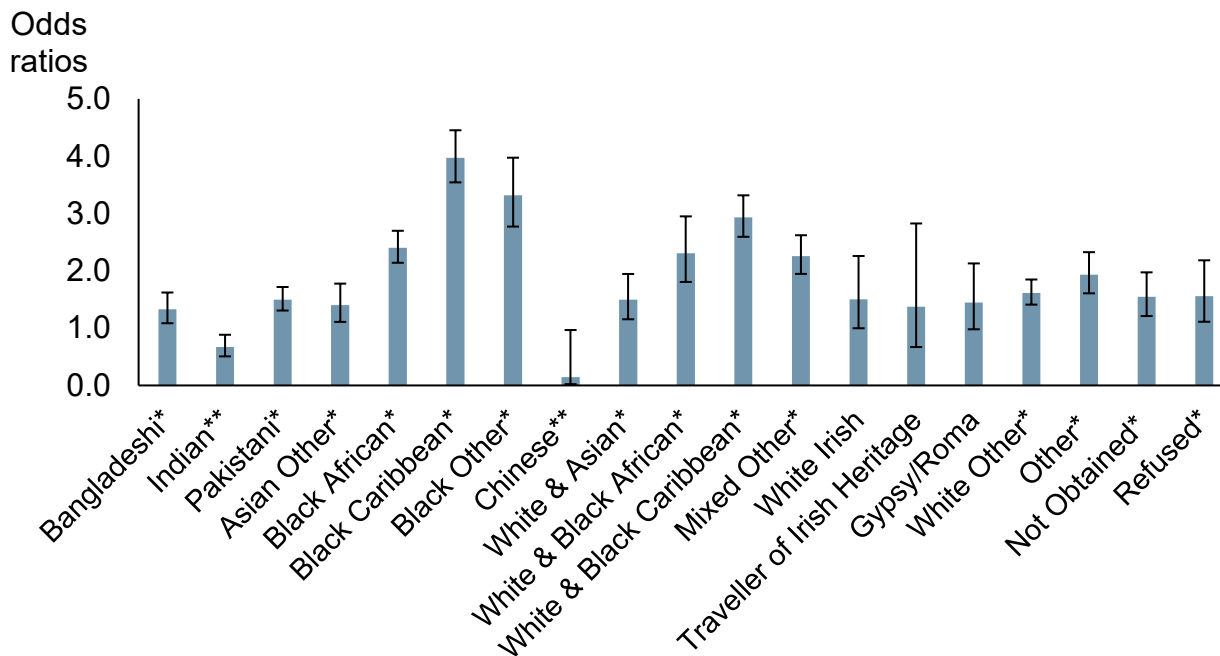
Free school meals

Children who were eligible for free school meals (FSM) were more likely to be cautioned or sentenced for a serious violence offence than those who were not eligible.

Children who were eligible for FSM in year 7 were twice as likely to be cautioned or sentenced for a serious violence offence in years 8 or 9, relative to those who were not eligible. However, children who were eligible for FSM in year 11 were 1.4 times more likely to be cautioned or sentenced for a serious violence offence in years 12 or 13, relative to those who were not eligible.

This suggests that being eligible for FSM was a stronger predictor of serious violence at younger ages than older ages.

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[129] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

A comparison of the results for Models 1 and 2 suggest that: children who had ever been FSM eligible[130] were slightly more likely to have ever been cautioned or sentenced for a serious violence offence than those who had not; and it was more likely that children cautioned or sentenced for a serious violence offence to have first become FSM eligible before their first serious violence offence (see Figure 27).

Figure 27: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been eligible for free school meals (FSM)[131]
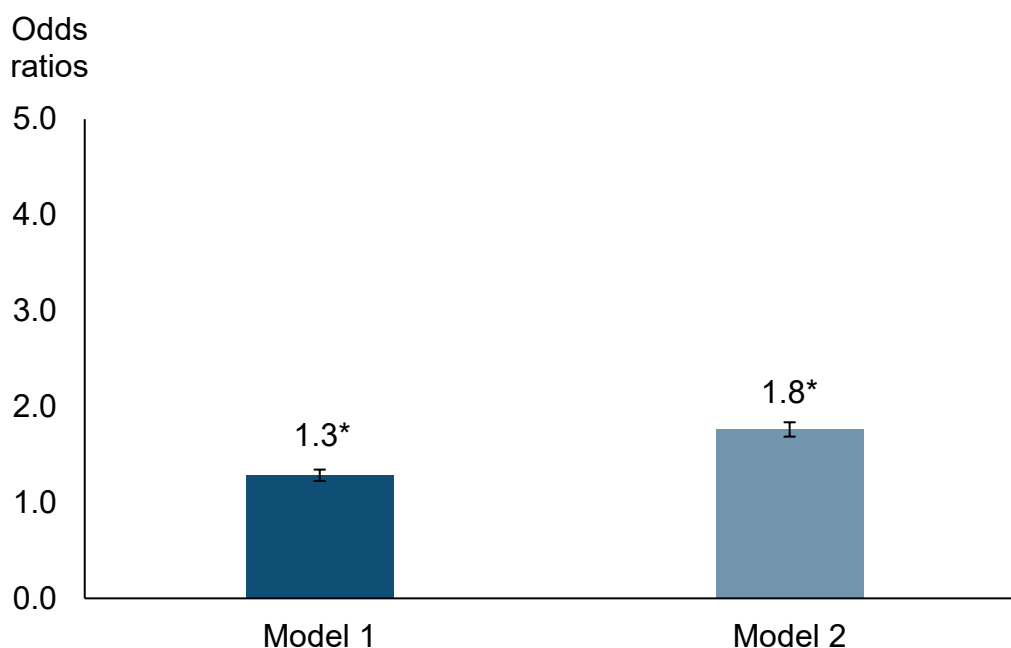
Being eligible for FSM had a stronger association with being cautioned or sentenced for a serious violence offence in the following two years in younger years, compared to not being eligible. For example, a child who was eligible for FSM in year 7 was approximately twice as likely as a child who was not eligible for FSM of being cautioned or sentenced for serious violence offence in years 8 or 9. However, this dropped to 1.4 times more likely for a child who was eligible for FSM in year 11 (see Figure 28).

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[130] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2.
[131] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 28: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was eligible for free school meals (FSM) within that year[132]
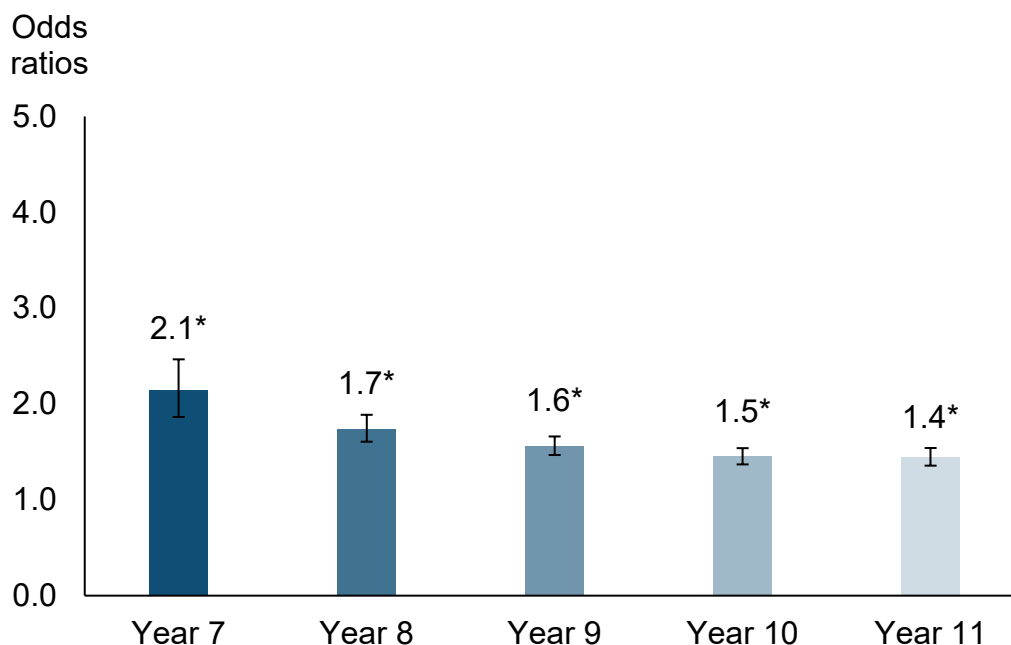
Suspensions

Being suspended had one of the strongest associations with being cautioned or sentenced for a serious violence offence out of all the characteristics modelled. This was strongest in years 8 and 9.

However, the analysis also indicates that there were children who were first suspended *after* their first serious violence offence.

Once controlling for a first suspension, receiving any subsequent suspensions further strengthened the association with being cautioned or sentenced for a serious violence offence. Receiving more than one suspension was a strong predictor at younger ages (year 7) but became weaker as the child got older.

The results for Models 1 and 2 indicate that children who had ever been suspended[133] were more likely to ever be cautioned or sentenced for a serious violence offence

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[132] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[133] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2.

compared than those who had not been suspended. The slight drop in odds ratios of being cautioned or sentenced for a serious violence offence for a child that was suspended between Models 1 and 2 suggests that a number of first suspensions were received after a first serious violence offence (see Figure 29).

Figure 29: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been suspended[134]
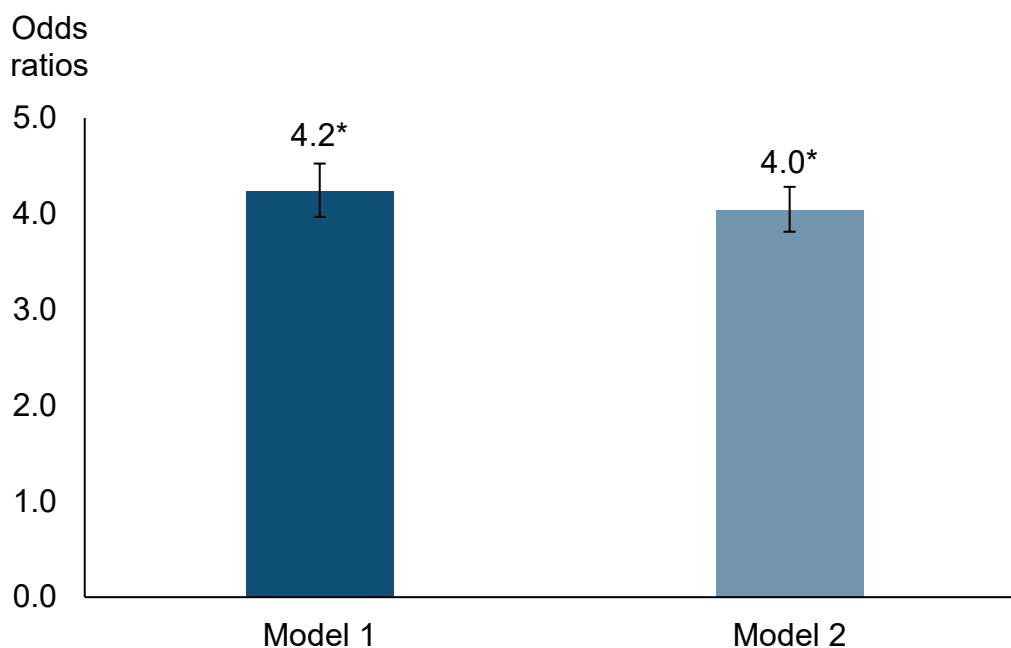
Odds ratios of being cautioned or sentenced for a serious violence offence in the following two years tended to peak for children who were suspended in years 8 and 9 (see Figure 30). This slightly diverges from the pattern seen in Section 1, that whilst nearly a half of children cautioned or sentenced for a serious violence offence had been suspended in year 10 (Figure 5), receiving a suspension at an earlier age (years 8 or 9) had a slightly stronger association with being cautioned or sentenced for a serious violence offence in the following two years than receiving a suspension later on (year 10 onwards). Being suspended, compared to not being suspended, had one of the largest odds ratios of being cautioned or sentenced for a serious violence offence across all models.

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[134] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 30: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was suspended within that year[135]
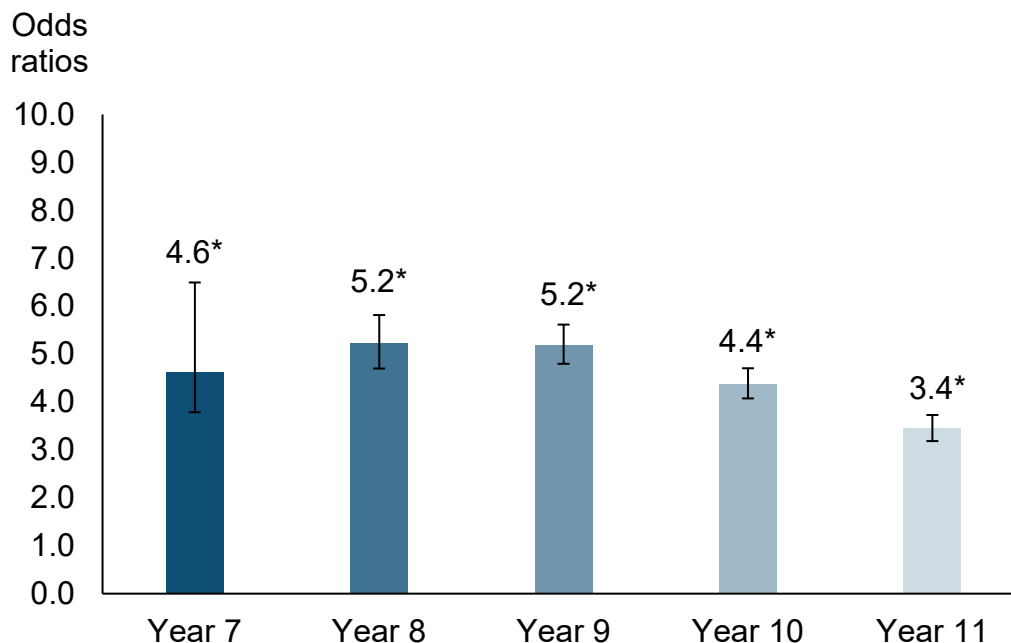
Receiving multiple suspensions[136] also had a strong association with being cautioned or sentenced for a serious violence offence compared to not receiving multiple suspensions (see Figure 31). Please note that the reference category for this variable can include both children who have never been suspended and children who have been suspended, but only once. Therefore, this variable is modelling the association between receiving subsequent suspensions, *once controlling for a first suspension*, and being cautioned or sentenced for a serious violence offence.

These results, combined with those displayed in Figure 29, suggest that receiving at least one suspension is a strong predictor of being cautioned or sentenced for a serious violence offence, compared to not, even though a number of first suspensions were actually received after the first serious violence offence[137]. Once controlling for a first suspension, where a child did receive further suspensions, these were more likely to accumulate before a first serious violence offence, provided their first suspension was

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[135] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[136] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2.
[137] 11% of first suspensions were first received after a first serious violence offence. Please see here for more information: Education, children's social care and offending: local authority level dashboard, Academic year 2019/20 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk).

also prior to a first serious violence offence. In Model 2, receiving subsequent suspensions[138], once controlling for a first suspension, further strengthened the association with ever being cautioned or sentenced for a serious violence offence twofold[139].

Figure 31: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been suspended more than once[140]
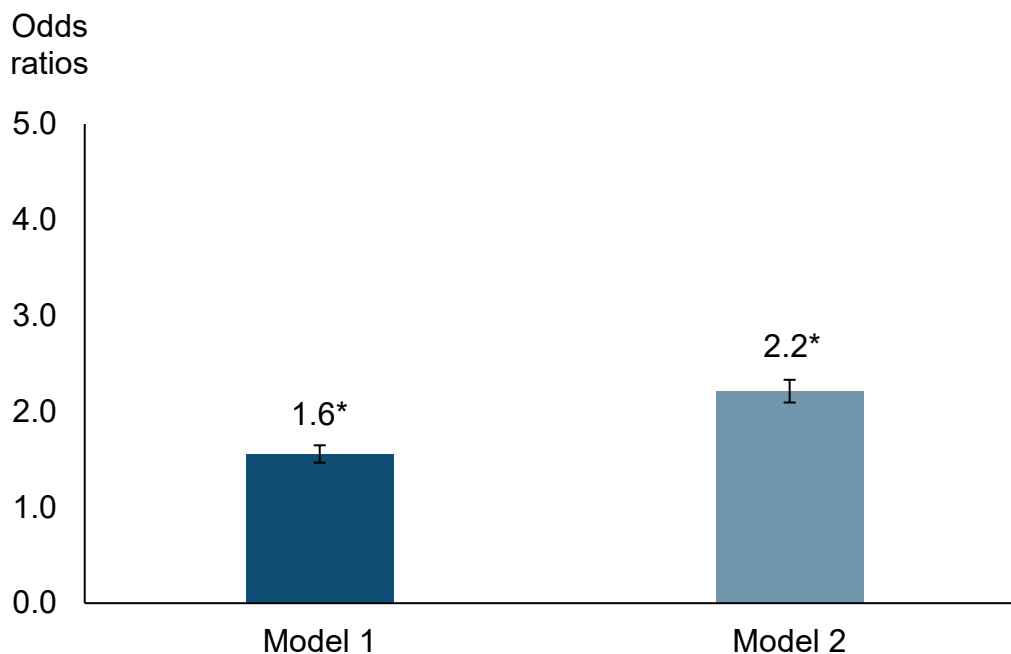
Being suspended more than once during the school year had a stronger association with being cautioned or sentenced for a serious violence offence in the following two years when the child was younger compared to not being suspended more than once. For example, a child who was suspended more than once in year 7 was twice as likely as a child who was not suspended more than once of being cautioned or sentenced for serious violence offence in years 8 or 9. However, a child who was suspended more than once in year 11 was almost equally as likely as a child who was not suspended more than once to be cautioned or sentenced for a serious violence offence in years 12 or 13 (see Figure 32).

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[138] In any period before a first serious violence offence (where relevant).

[139] Please note that the odds ratios for being suspended and receiving multiple suspensions are not additive due to an overlap in reference category ie: children who have received multiple suspensions will be included in the measure of those who have been suspended at least once, however children who have been suspended can be included within the measure of those who have received multiple suspensions and the reference category of those who have received multiple suspensions, depending on the number of suspensions received.

[140] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

A comparison of Figures 29 – 32 suggest that being suspended at least once, compared to not being suspended was a strong predictor of being cautioned or sentenced for a serious violence offence. Once controlling for a first suspension, receiving additional suspensions further strengthened the likelihood of being cautioned or sentenced for a serious violence offence. This was stronger in younger years.

Figure 32: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was suspended more than once within that year[141]
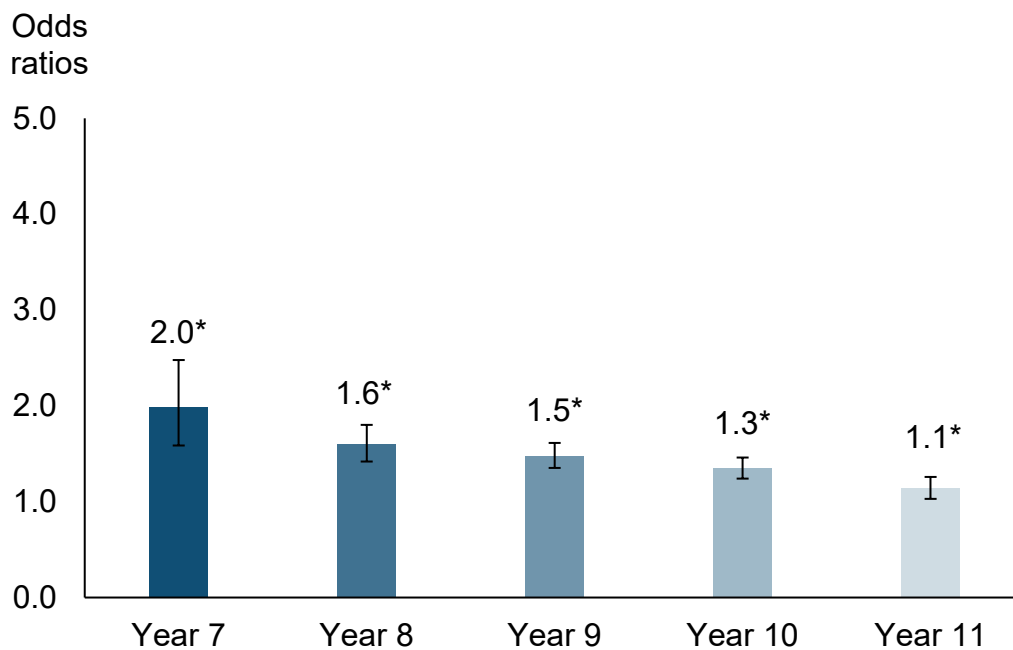
[141] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Permanent exclusions

Being permanently excluded was a strong predictor at younger ages (year 7) but became weaker as the child got older. Children who were permanently excluded in year 7 were twice as likely to be cautioned or sentenced for a serious violence offence in years 8 or 9 than children who were not. However, children who were permanently excluded in year 11 were 30% less likely to be cautioned or sentenced for a serious violence offence in years 12 or 13, compared to children who were not permanently excluded.

This suggests that being permanently excluded did not have the strongest association with being cautioned or sentenced for a serious violence offence, when other factors were controlled for.

Children who had ever been permanently excluded[142] were more likely to ever be cautioned or sentenced for a serious violence offence compared to those who had not been permanently excluded. In Model 2, a child who had ever been permanently excluded was 1.6 times more likely to have ever been cautioned or sentenced for a serious violence offence compared to a child who had not (see Figure 33).

[142] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2.

Figure 33: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been permanently excluded[143]
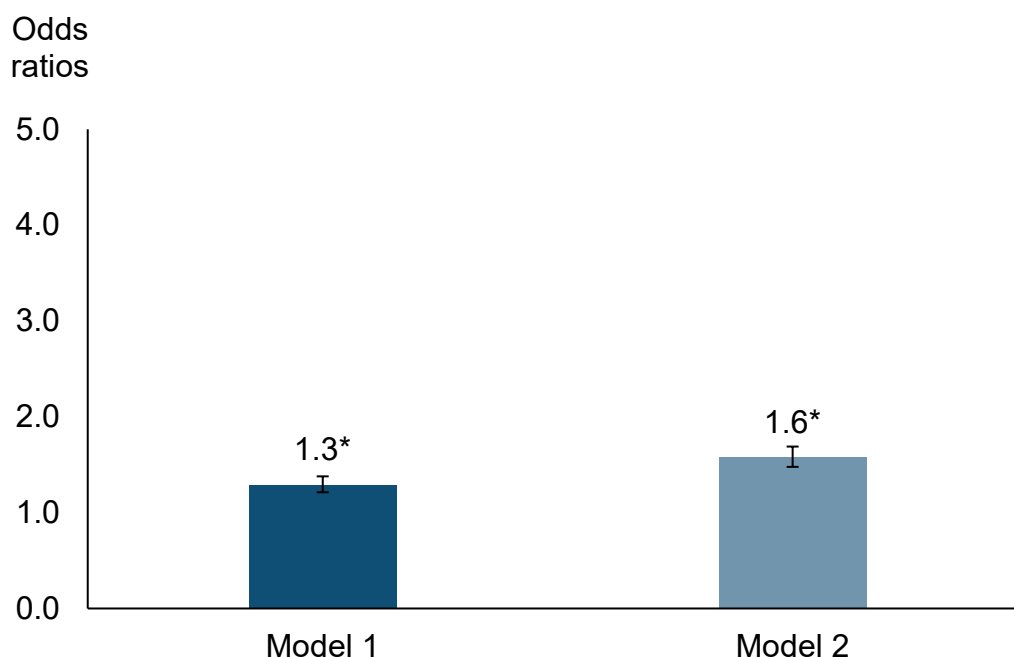
Children who were permanently excluded during the school year were more likely to be cautioned or sentenced for a serious violence offence in the following two years when they were younger, compared to children who were not permanently excluded. For example, a child who was permanently excluded in year 7 was almost twice as likely as a child who was not permanently excluded of being cautioned or sentenced for serious violence offence in years 8 or 9. However, a child who was permanently excluded in year 11 was 30% less likely to be cautioned or sentenced for a serious violence offence in years 12 or 13 than a child who was not (see Figure 34).

Children who were permanently excluded in years 8 and 10 were almost as equally likely to be cautioned or sentenced for a serious violence offence in the following two years as those who were not permanently excluded, although these estimates were not statistically significant.

These results suggest that being permanently excluded was a stronger predictor of being cautioned or sentenced for a serious violence offence when experienced at a younger age (year 7) compared to not being permanently excluded. However, it was a relatively weak predictor as the child gets older.

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[143] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 34: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was permanently excluded within that year[144]
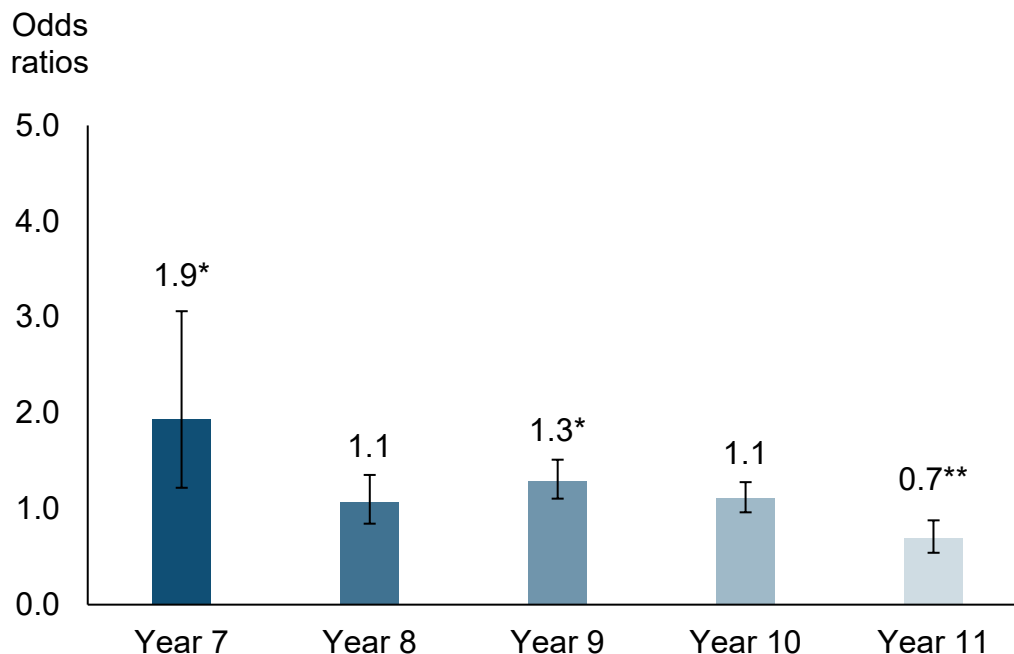
Absence

> Children who were persistently absent for unauthorised other reasons were more likely to be cautioned or sentenced for a serious violence offence than those who were not.
>
> However, the analysis also indicates that there were children who started being persistently absent for unauthorised other reasons *after* their first serious violence offence, and that when considering the sequencing of the two events, other factors will also play a part in being cautioned or sentenced for a serious violence.

The results for Model 2 suggest that ever being persistently absent for unauthorised other reasons[145] was not a particularly strong predictor of ever being cautioned or sentenced for a serious violence offence. Children who had ever been persistently absent for unauthorised other reasons were slightly less likely to ever be cautioned or sentenced for a serious violence offence than those who had not. The drop in odds ratios of being cautioned or sentenced for a serious violence offence for a child who was

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[144] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.
[145] In all periods before a first serious violence offence (where relevant) for model 2.

persistently absent for unauthorised other reasons between Model 1 and 2 suggests that a number of children started being persistently absent for unauthorised other reasons after a first serious violence offence (see Figure 35).

Figure 35: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been persistently absent for unauthorised other reasons[146]
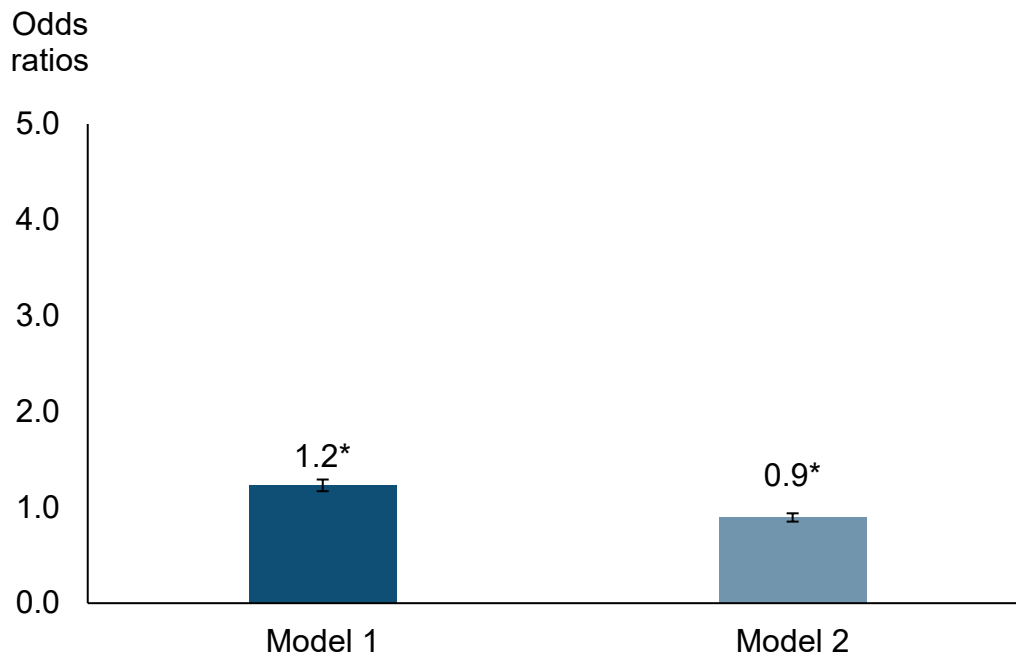
However, when looking at a shorter and more defined timeframe for offending, children who had been persistently absent for unauthorised other reasons during the year were more likely to be cautioned or sentenced for a serious violence offence in the following two years than those who had not been persistently absent for unauthorised other reasons – ranging between 1.5 – 2 times as likely (see Figure 36).

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[146] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Figure 36: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was persistently absent for unauthorised other reasons within that year[147]
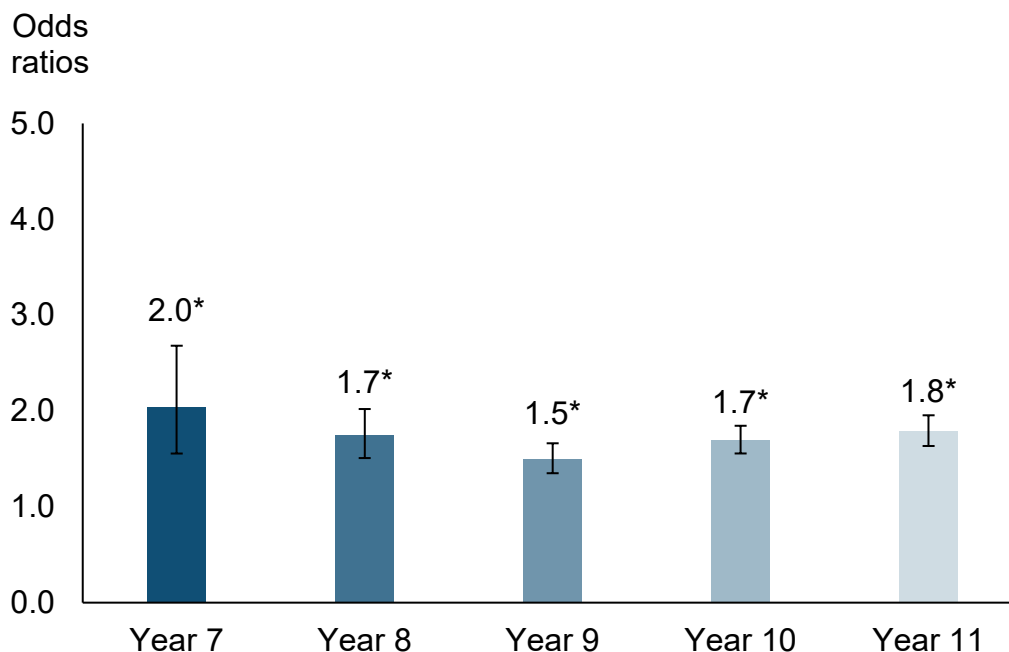
Special educational needs

Children with an education, health and care (EHC) plan were less likely to be cautioned or sentenced for a serious violence offence compared to those who had not been issued with an EHC plan. However, the relationship between EHC plans and serious violence was not clear-cut.

The results suggest that children among the offending groups were more likely to be issued with an EHC plan at an older age, compared to other children, which could include only first being issued with one after their first serious violence offence.

Children who were identified with social, emotional, and mental health (SEMH) needs (as either their primary or secondary type of need) between years 7 – 11 were up to twice as likely to be cautioned or sentenced for a serious violence offence in the following two years, compared to children who did not have SEMH.

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[147] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

The results for Model 2 suggest that ever being identified with social, emotional and mental health (SEMH) needs[148] [149] was not a particularly strong predictor of ever being cautioned or sentenced for a serious violence offence. Children who had ever been identified with SEMH were almost equally as likely as children who had not been identified with SEMH to be cautioned or sentenced for a serious violence offence (see Figure 37).

Figure 37: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been identified as having social, emotional and mental health (SEMH) needs[150]
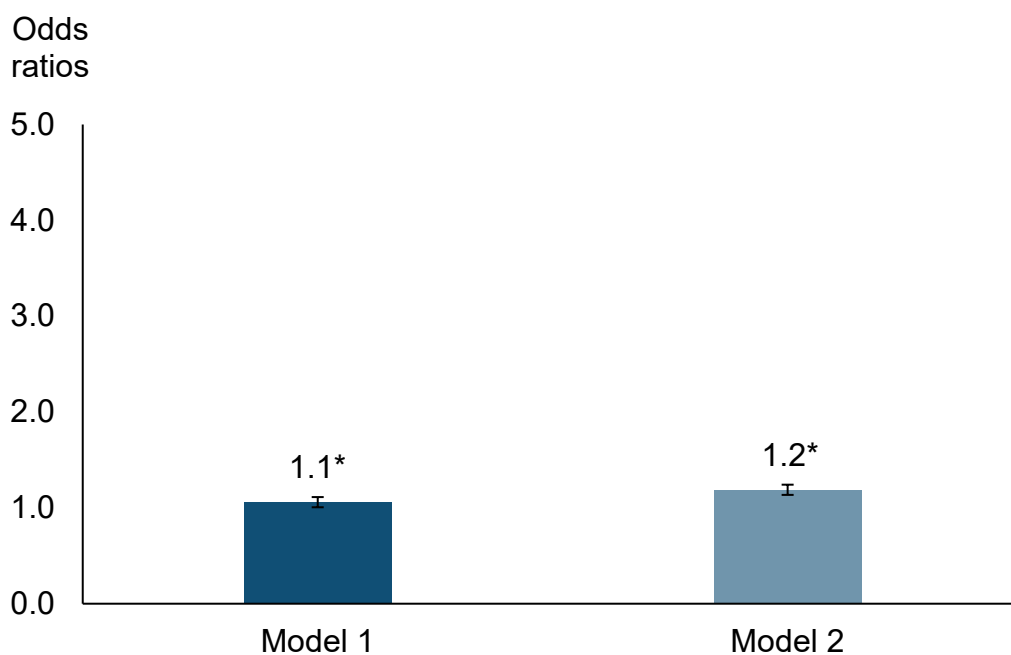
However, when looking at a shorter and more defined timeframe for offending, children who had been identified with SEMH during the school year were more likely to be cautioned or sentenced for a serious violence offence in the following two years compared to children who did not have SEMH. Children with SEMH were 1.7 times more likely than children without SEMH to be cautioned or sentenced for a serious violence offence in the following two years between year 7 and 10. This increased to twice as likely in year 11 (see Figure 38).

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[148] In all periods before a first serious violence offence (where relevant) for model 2.
[149] Or BESD, where relevant. As either a primary or secondary type of need.
[150] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 38: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was identified as having social, emotional and mental health (SEMH) needs within that year[151]
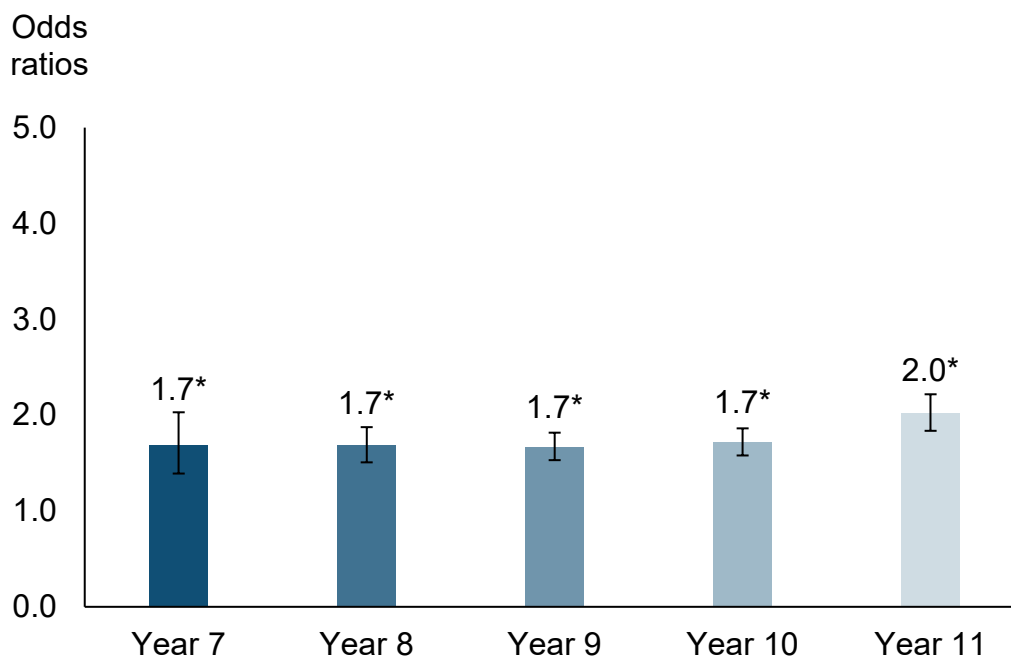
The results for Models 1 and 2 indicate that children who had ever had an EHC plan[152] were less likely to ever being cautioned or sentenced for a serious violence offence compared to those who did not have an EHC plan[153]. The strength of association between having ever being issued with an EHC plan and ever being cautioned or sentenced for a serious violence offence remained the same when comparing Models 1 and 2 (see Figure 39). This makes it unclear as to whether the child was more likely to first issued with an EHC plan before or after their first serious violence offence and to therefore know the direction of the relationship between these two events.

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[151] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[152] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2.
[153] Note that this refers solely to the child having no record of an EHC plan in the NPD and does not differentiate between children that were eligible for an EHC plan but were not issued with one and children who would never have been issued with one.

**Figure 39: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child ever had an education, health and care (EHC) plan[154]**
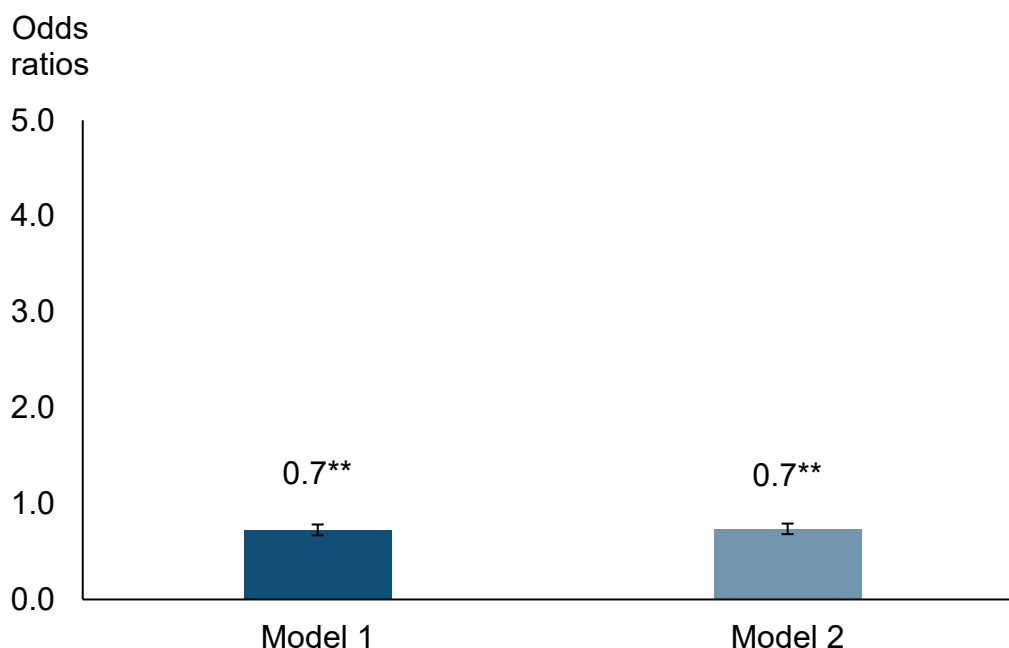
Across all five models, children who had an EHC plan were consistently less likely to be cautioned or sentenced for a serious violence offence in the following two years than those who did not have an EHC plan. As the child gets older (Year 10 and above), this strength of association gets weaker (see Figure 40). The result for the year 11 model was not significant.

These results are consistent with the findings in Section 1 in that children among the offending groups are more likely to first be issued with an EHC plan later than the all-pupil cohort.

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[154] ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Figure 40: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child had an education, health and care (EHC) plan within that year[155]
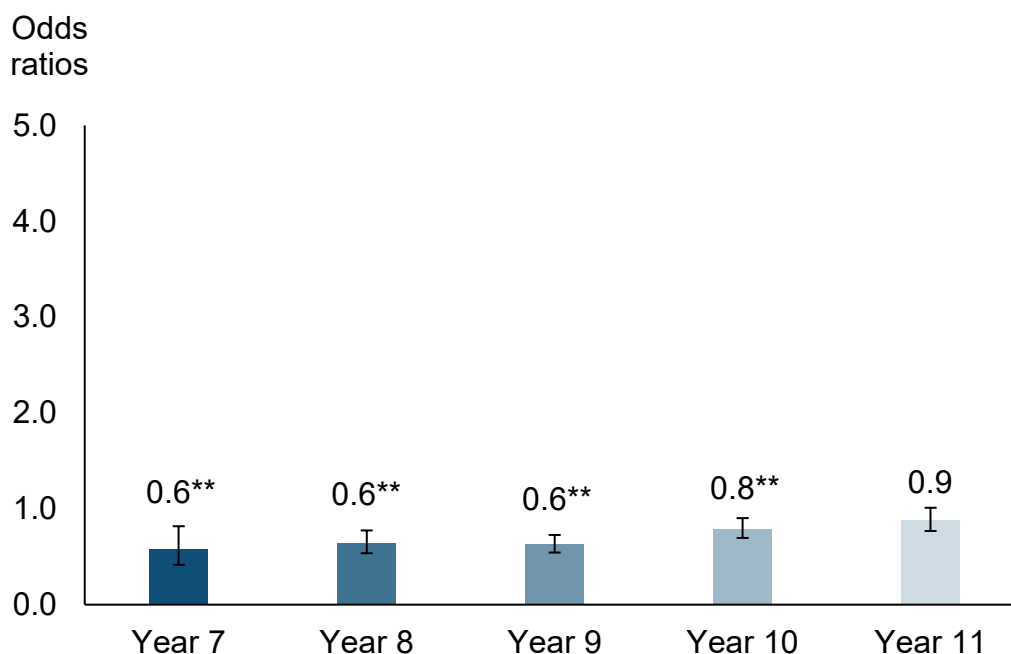
Special schools[156]

> Children who attended a special school were slightly more likely to be cautioned or sentenced for a serious violence offence compared to those who had not.

The results for Model 2 suggest that ever attending a special school[157] was not a particularly strong predictor of ever being cautioned or sentenced for a serious violence offence. Children who had attended a special school were almost equally as likely as children who had not attended a special school to be cautioned or sentenced for a serious violence offence (see Figure 41).

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[155] ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.
[156] Special schools with pupils aged 11 and older can specialise in 1 of the 4 areas of special educational needs: communication and interaction; cognition and learning; social, emotional and mental health and sensory and physical needs. Schools can further specialise within these categories to reflect the special needs they help with. Given this, the range of needs covered by 'special schools' can be very broad. Children are identified as having attended a special school if they have had a main or subsidiary registration at any of the following types of schools: foundation special school, community special school, non-maintained special school, academy special converter, academy special sponsor led, free schools special, other independent special school, special post 16 institution.
[157] In all periods before a first serious violence offence (where relevant) for model 2.

Figure 41: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever attended a special school[158]
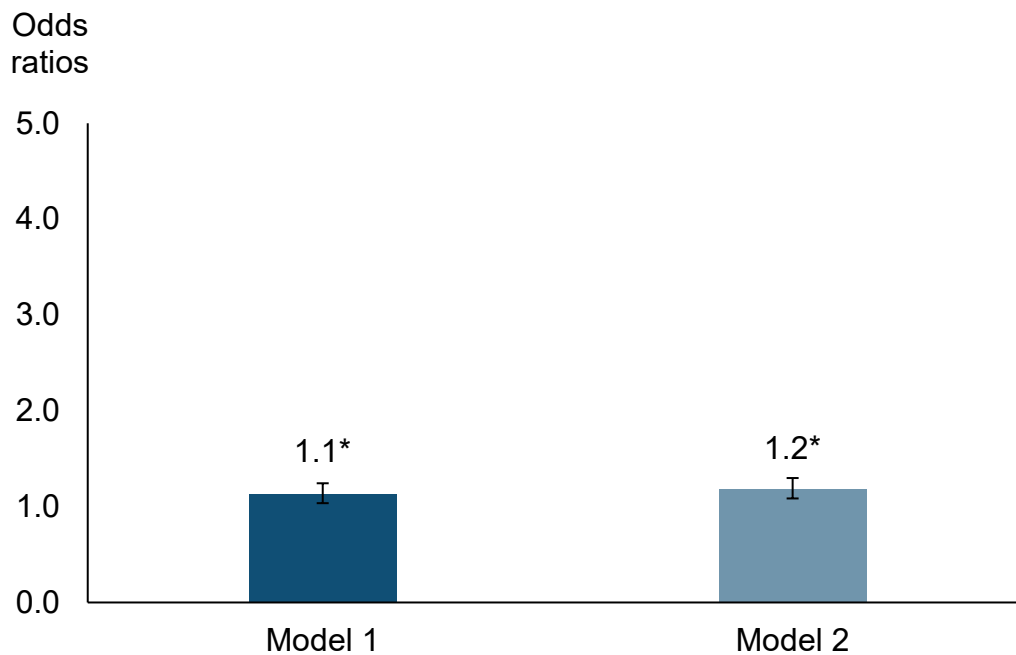
However, when looking at a shorter and more defined timeframe for offending, children who attended a special school during the school year were 30 – 60% more likely than children who had not attended special school to be cautioned or sentenced for a serious violence offence in the following two years between year 7 and 11. However, the result for year 7 was not statistically significant (see Figure 42).

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[158] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 42: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child attended a special school within that year[159]

Odds ratios

5.0	
4.0	
3.0	
2.0	1.3 1.5* 1.6* 1.5* 1.3*
1.0	
0.0	

Year 7   Year 8   Year 9   Year 10   Year 11
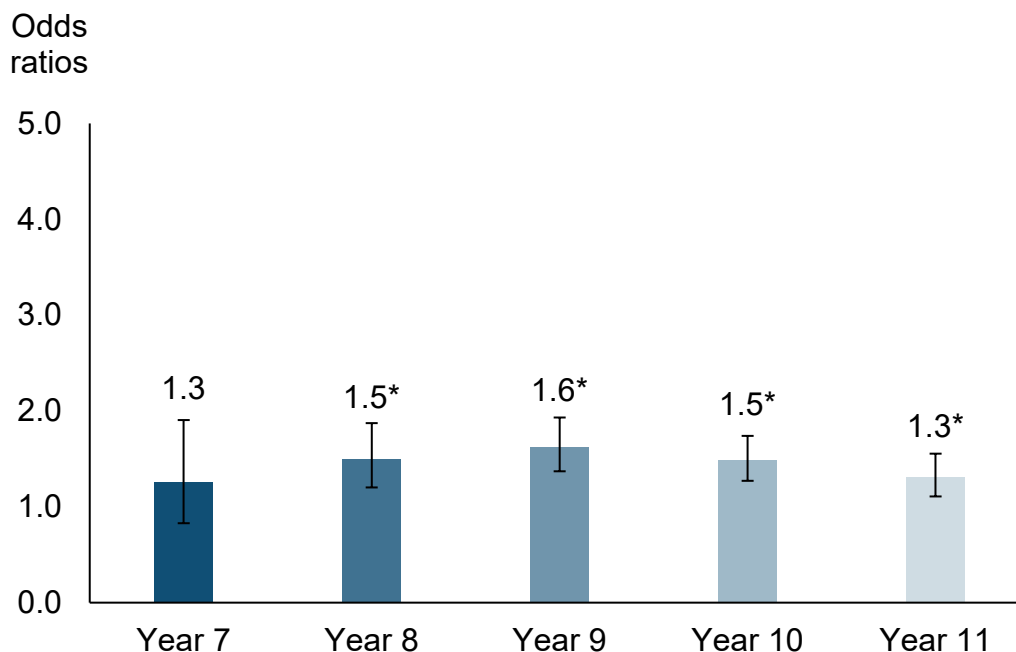
Missing term

Children who had been identified as having not been registered at a school for at least one academic term were more likely to be cautioned or sentenced for a serious violence offence in the following two years compared to those who had not.

However, the analysis also indicates that there were children who first missed an academic term *after* their first serious violence offence.

This suggests that those with a disrupted trajectory through secondary school had a slightly higher risk of being cautioned or sentenced for a serious violence offence, but also that serious violence itself is a disruptive event.

The results for Model 2 suggest that not being registered[160] at a school in England for at least one academic term[161] was not a particularly strong predictor of ever being cautioned or sentenced for a serious violence offence. This is because children who had

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[159] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[160] This includes whether there is a record of a main or subsidiary registration for the child.
[161] In all periods before a first serious violence offence (where relevant) between years 7 and 11.

missed an academic term and children who had not, had approximately equal odds of ever being cautioned or sentenced for a serious violence offence, and this result was not statistically significant. The drop in odds ratios of being cautioned or sentenced for a serious violence offence for a child that had not been registered at a school for at least one academic term between Models 1 and 2 suggests that a number of children first missed an academic term after a first serious violence offence (see Figure 43).

Figure 43: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been identified as missing a termly school record[162]
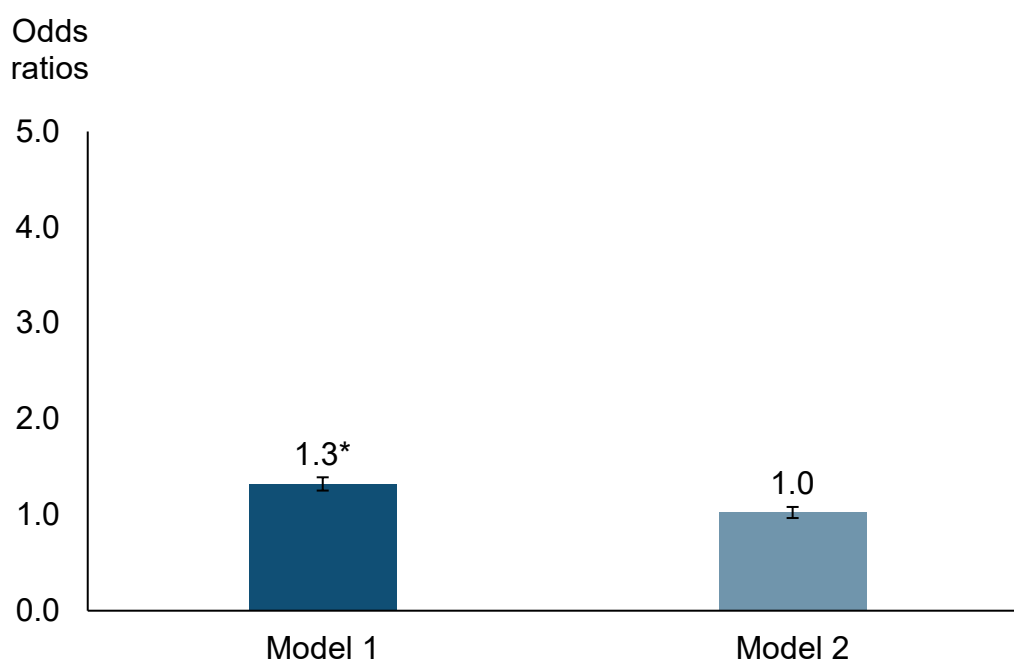
However, when looking at a shorter and more defined timeframe for offending, children who were missing a termly school record during the year were just over twice as likely of being cautioned or sentenced for a serious violence offence in the following two years as children who were not missing a termly school record. The exception was in year 7 where children who missed an academic term and children who did not miss an academic term during the year had approximately equal odds of being cautioned or sentenced for a serious violence offence in the following two years, however this result was not statistically significant (see Figure 44).

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[162] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 44: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was missing a termly school record within that year[163]

Children known to children's social care

Children who were identified as a child in need (CIN) were approximately twice as likely to be cautioned or sentenced for a serious violence offence in the following two years compared to those who had not been identified as CIN.

However, the analysis also indicates that there were children who were first became CIN *after* their first serious violence offence.

A comparison of Models 1 and 2 indicates that children who had ever been a child in need (CIN)[164] were more likely to ever be cautioned or sentenced for a serious violence offence compared to those who had not. The strength of association between being CIN and ever being cautioned or sentenced for a serious violence offence remained the same when comparing model 1 and 2 (see Figure 45). This makes it unclear as to whether the

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[163] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[164] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2, between the ages of 10-17.

child was more likely to become CIN before or after their first serious violence offence and to therefore know the direction of the relationship between these two events.

Figure 45: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been identified as a child in need (CIN)[165]
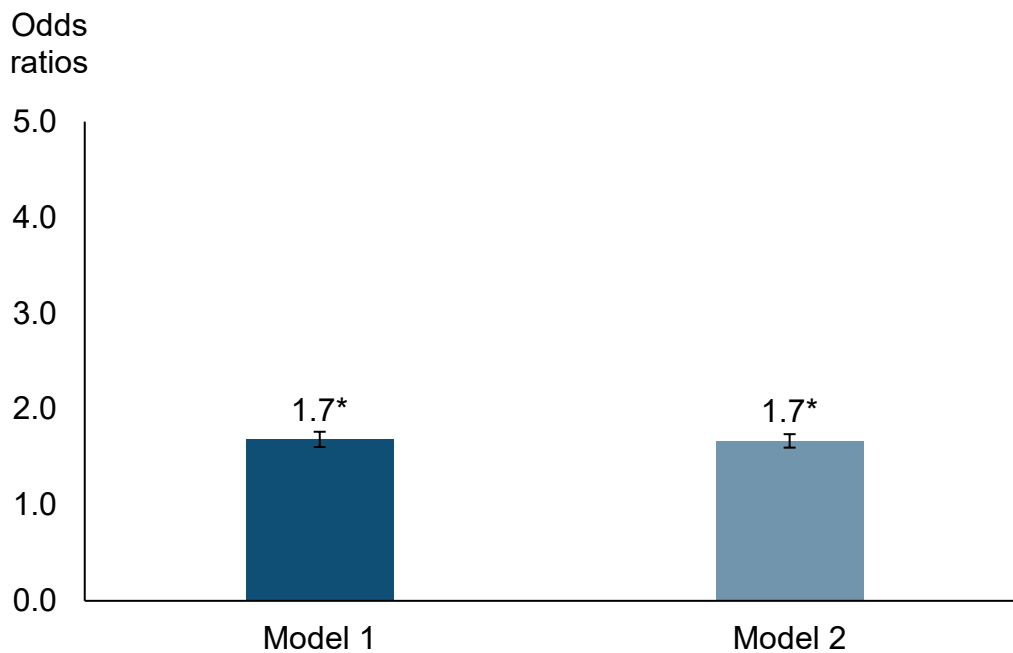
Across all five yearly models, children who were identified as CIN during the year were consistently approximately twice as likely to be cautioned or sentenced for a serious violence offence in the following two years than those who were not identified as CIN (see Figure 46).

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[165] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 46: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was identified as a child in need (CIN) within that year[166]
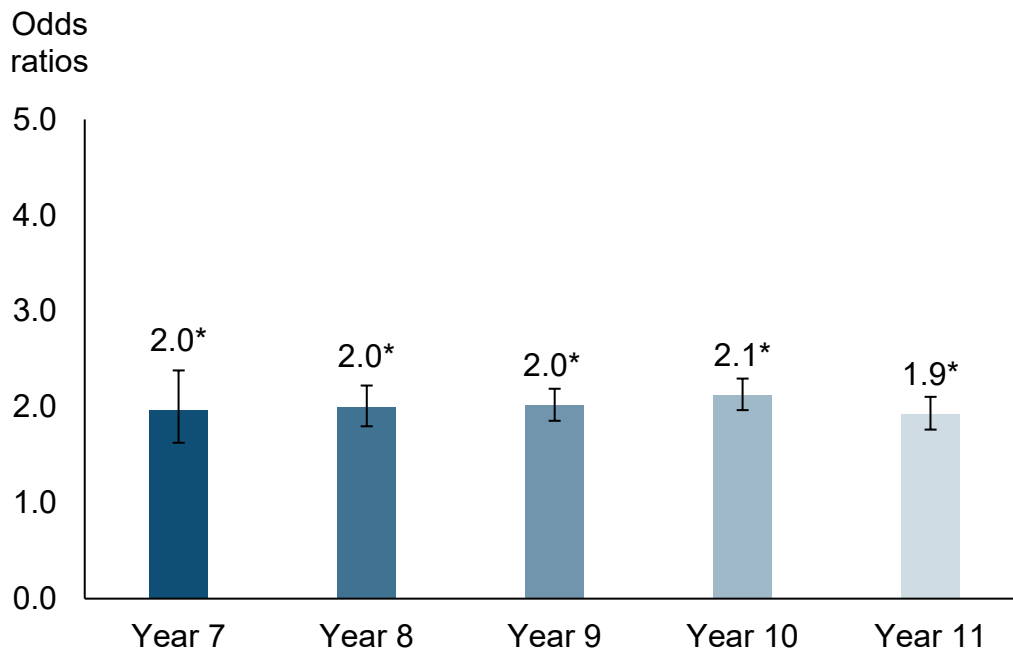
Interaction terms

This section looks at the interactions between attending AP and being identified with SEN; attending AP and being severely persistent absent; being identified with SEN and being a looked after child, and how the relationship between these characteristics and serious violence can change depending on which, if any, the child has been identified with.

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[166] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Interaction terms explained

Where two variables have been interacted, we can compute five different odds ratios depending on the combination of characteristics or events that have been identified. For example, when exploring the interaction between AP and SEN, using the following Venn diagram[167], we can see that children who attend AP and children who have SEN can be split into further subgroups:

- Children who attend AP who also have SEN (B) and children who attend AP who do not have SEN (A).
- Children with SEN who also attend AP (B) and children with SEN who do not attend AP (C).

Since children who fall under 'B' can be considered a subgroup of all children who attend AP, and separately, a subgroup of all children with SEN, the reference category for the odds ratio will change depending on the perspective taken. This generates four different odds ratios. Lastly, we can look at children who have attended AP and had SEN (B) relative to children who have *neither attended AP nor had SEN* (anyone not included within the Venn diagram)[168].

We can also use the size of the odds ratios in Tables 18 and 19 (Annex C) to make statements about the general association between being identified with a characteristic and being cautioned or sentenced for a serious violence offence, given that another characteristic has also been identified.
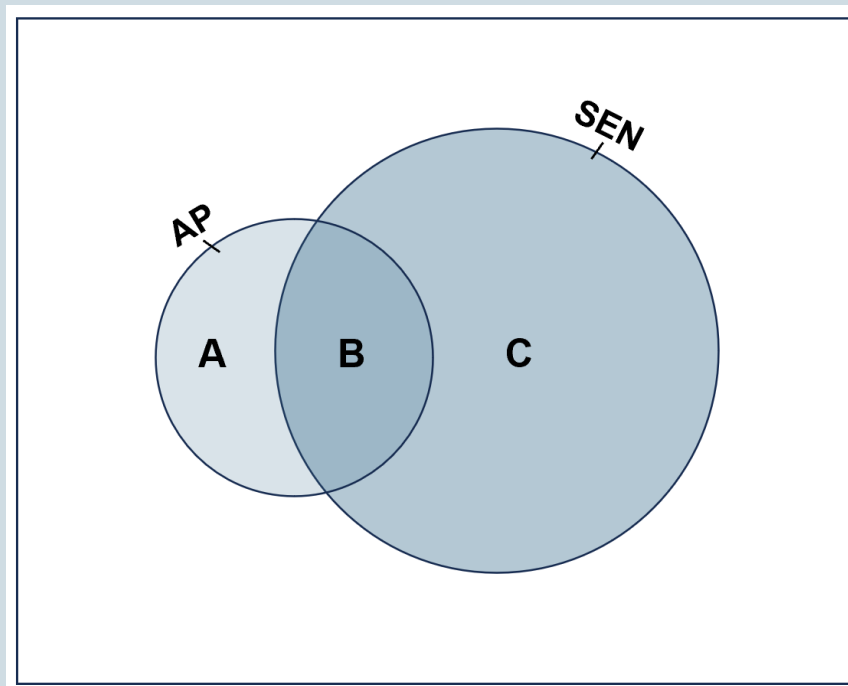
A high-level summary of the interaction terms included in the models suggest that whilst children who displayed certain characteristics in conjunction with others are more likely to be cautioned or sentenced for a serious violence offence than those who displayed neither of those characteristics, the strength of association with being cautioned or sentenced for a serious violence offence was lower for children with multiple characteristics compared to those identified with only one characteristic.

This suggests that children with high needs who had additional systems of support in place had a lower likelihood of being cautioned or sentenced for a serious violence compared to those without high needs.

Interaction between attending alternative provision (AP) and being identified with special educational needs (SEN)

Whilst attending AP had a strong association with being cautioned or sentenced for a serious violence offence, the analysis also indicates that there were children who first attended AP *after* their first serious violence offence.

The strength of association with being cautioned or sentenced for a serious violence offence was lower for children who had been identified with SEN and attended AP, relative to being identified with just one characteristic.

It is worth reiterating that children can attend AP for many reasons, including: permanent exclusion, illness or other reasons (and would not otherwise receive suitable education); to improve their behaviour off-site, or during a suspension[169]. For the purpose of this analysis, children have been recorded as having attended AP if they have attended state place funded AP or have had a local authority placement in an independent school, FE college and/or unregistered provider as recorded in the AP census, which therefore may also include educational provision for children and young people with EHC plans.

A comparison of the results for Models 1 and 2 show a slight increase in odds ratios of being cautioned or sentenced for a serious violence offence for a child with SEN[170]. This

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[167] For illustrative purposes only and is not to scale.
[168] Please see here for a guided example of interpreting odds ratios for interaction terms in logistic regression: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447969/
[169] Please see here for the AP statutory guidance (page 3 for full definition): Additional health needs guidance (publishing.service.gov.uk)
[170] For those who did not attend AP.

suggests that it was more likely for a child to have first been identified with SEN before their first serious violence offence. This reflects the findings in Section 1 that SEN is often first identified at an early age across all groups. The drop in odds ratio of being cautioned or sentenced for a serious violence offence for a child who attended AP, irrespective of whether they also had SEN, between Models 1 and 2 suggests that a number of children first attended AP after a first serious violence offence.

The results for Model 2 suggest that ever attending AP, and ever being identified with SEN[171] were associated with being cautioned or sentenced for a serious violence offence in all instances, as all five odds ratios were estimated to be above 1. However, the results of Model 2[172] in Table 18 (Annex C) also suggest that whilst the association with being cautioned or sentenced for a serious violence offence was stronger for a child who had attended AP, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child has also been identified with SEN. This was also demonstrated by the odds ratios for Model 2 in Figure 47:

- Children who had both attended AP and been identified with SEN were nearly twice as likely to be cautioned or sentenced for a serious violence offence, compared to children who had neither attended AP nor been identified with SEN.

- However, for children who had been identified with SEN, the odds ratio of being cautioned or sentenced for a serious violence offence for children who had also attended AP (compared to not) was lower (1.2) than the odds ratio of being cautioned or sentenced for a serious violence offence associated with having attended AP (compared to not) for children who had not been identified with SEN (1.7). The same relationship can be seen when comparing the odds ratios for children who did and did not attend AP when also identified with SEN.

This suggests that *amongst children who had attended AP*, the association with being cautioned or sentenced for a serious violence offence was weaker for those who had *also* been identified with SEN (compared to those who had not), and *amongst those identified with SEN*, the association with being cautioned or sentenced for a serious violence offence was weaker for those who had also attended AP (compared to those who had not)[173] ie: being identified with two characteristics had a weaker association with

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[171] In any period before a first serious violence offence (where relevant).
[172] Please refer to the odds ratios presented in Table 18 (Annex C).
[173] Note that the computed odds ratios were still above 1, signifying that being identified with those characteristics was positively associated with being cautioned or sentenced for a serious violence offence compared to not being identified with those characteristics. The magnitude of that increase was smaller for children with both characteristics than for children with just one characteristic.

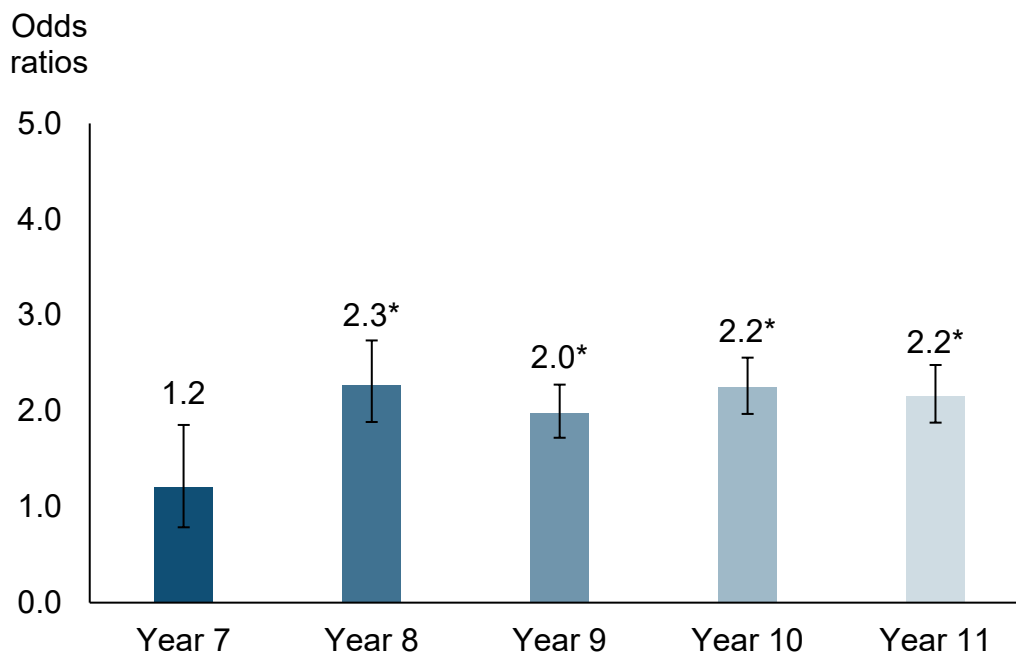being cautioned or sentenced for a serious violence offence when compared to being identified with just one of those characteristics.

Figure 47: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever attended alternative provision (AP) and/or ever been identified as having special educational needs (SEN)[174]

Odds ratios

Model 1:
- 2.2*
- 1.6*
- 1.3*
- 0.9**
- 2.1*

Model 2:
- 1.7*
- 1.2*
- 1.5*
- 1.1*
- 1.8*

■ No SEN; attended AP (ref: didn't attend AP)

■ SEN; attended AP (ref: didn't attend AP)

■ Didn't attend AP; SEN (ref: no SEN)

■ Attended AP; SEN (ref: no SEN)

■ Attended AP; SEN (ref: didn't attend AP; no SEN)
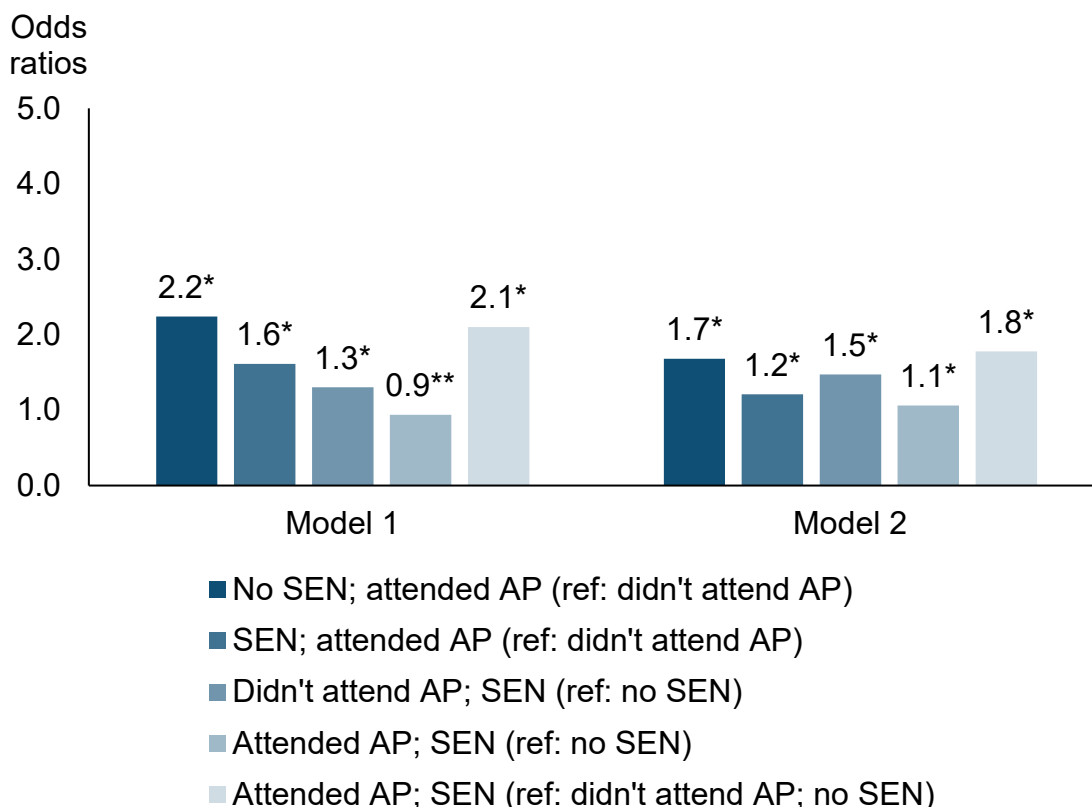
When comparing all five yearly models, the association with being cautioned or sentenced for a serious violence offence in the following two years grew weaker for children with SEN (compared to those without SEN) who did not attend AP[175] during the school year as the child got older (see Figure 48).

When looking between years 8 and 11, children who attended AP and were identified with SEN during the school year were between 2.4 and 2.9 times more likely to be cautioned or sentenced for a serious violence in the following two years, compared to children who had neither attended AP nor been identified with SEN[176].

[174] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.
[175] The odds ratio in year 7 for these children was 1.6, compared to 1.2 in year 11.
[176] The odds ratio for the year 7 model was 1.5 however was not statistically significant at the 95% level or above.

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When looking between years 8 and 11, children who attended AP during the school year and also had SEN were less likely to be cautioned or sentenced for a serious violence in the following two years (compared to not having SEN)[177]. Attending AP during the school year when considered in isolation, was a strong predictor of being cautioned or sentenced for a serious violence offence in the following two years.

Again, the results of years 8 – 11 models[178] suggest that whilst the association with being cautioned or sentenced for a serious violence offence was stronger for a child who attended AP, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child was also identified with SEN. This cannot be concluded for the year 7 model however.

Figure 48: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child attended alternative provision (AP) and/or was identified with special educational needs (SEN) within that year[179]

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[177] The odds ratio for the year 7 model has been omitted from the chart due to being excessively large. Further analysis of SEN and AP in year 7 is discussed in the following section.
[178] Please refer to the odds ratios presented in Table 19 (Annex C).
[179] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Further analysis was conducted to investigate the relationship between attending AP and being identified with SEN in year 7 and being cautioned or sentenced for a serious violence offence in years 8 or 9. This is because the size, and lack of, statistical significance across the odds ratios computed for these interactions suggest there may be a significant issue relating to multicollinearity[180] in the year 7 model.

Following this, we found that 95% of the all-pupil cohort attending AP in year 7 also had SEN[181]. However, just 1% of the all-pupil cohort with SEN in year 7 also attended AP. This suggests that children attending AP at younger ages (year 7) were likely to display other characteristics of disadvantage also[182]. In this instance, because of the large overlap of SEN amongst children attending AP in year 7, the model has been unable to separate the association between attending AP, with or without SEN, with being cautioned or sentenced for a serious violence offence in the following two years. Therefore, we have been unable to reach a conclusive result for the year 7 model.

Interaction between attending alternative provision and being severely persistent absent

The association with being cautioned or sentenced for a serious violence offence was weaker for children who had been severely persistent absent and attended AP, relative to the association with being cautioned or sentenced for a serious violence offence for children identified with just one characteristic.

The analysis suggests that there were children who started being severely persistent absent *after* their first serious violence offence, again indicating that committing serious violence itself can be a disruptive event.

The results of Model 2 suggest that ever being severely persistent absent[183] was not a particularly strong predictor of ever being cautioned or sentenced for a serious violence offence. A comparison of Models 1 and 2 also suggest that there were children who started being severely persistent absent after a first serious violence offence (see Figure 49).

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[180] Please see the technical report for further analysis and discussion of multicollinearity.
[181] The same proportion (95%) of children cautioned or sentenced for a serious violence offence in years 8 or 9 who attended AP in year 7 also had SEN.
[182] 77% of children in state-funded AP were identified with SEN in 2015/16, this figure had increased 83% in 2022/23. Please see here for more information: 'Pupils in all schools, by type of SEN provision - including independent schools and general hospital schools - 2016 to 2023' from 'Special educational needs in England', Permanent data table – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)
[183] In all periods before a first serious violence offence (where relevant) for model 2.

In Model 2, children who had been severely persistent absent and attended AP were no more or less likely of ever being cautioned or sentenced for a serious violence offence than children who had neither been severely persistent absent nor ever attended AP (odds ratio = 1).

Odds ratios of ever being cautioned or sentenced for a serious violence offence were higher for children who had only one characteristic identified, compared to those with both characteristics identified. For example, for children with *no* severe persistent absence, those who had also ever attended AP were 1.7 times more likely to ever be cautioned or sentenced for a serious violence offence than those who had not attended AP. However, for children who *had* ever been severely persistent absent, those who had also ever attended AP were 1.2 times more likely to ever be cautioned or sentenced for a serious violence offence than those who had not attended AP. Whilst the association with ever being cautioned or sentenced for a serious violence offence was still positive for children in these groups relative to the reference categories, the association was less positive for children with both characteristics relative to children with just one.

These results, combined with the odds ratios presented in Table 18 (Annex C) suggest that:

- Whilst the association with ever being cautioned or sentenced for a serious violence offence was stronger for children who had ever attended AP, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child had also ever been severely persistent absent.

- The association with ever being cautioned or sentenced for a serious violence offence was weak for children who had ever been severely persistent absent, and there was a larger negative association with ever being cautioned or sentenced for a serious violence offence if the child had also ever attended AP.

Figure 49: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been severely persistent absent and/or ever attended alternative provision (AP)[184]

Odds ratios

	Model 1	Model 2
No severe absence; attended AP (ref: didn't attend AP)	2.2*	1.7*
Severe absence; attended AP (ref: didn't attend AP)	1.7*	1.2*
Didn't attend AP; severe absence (ref: no severe absence)	1.3*	0.9**
Attended AP; severe absence (ref: no severe absence)	1.0***	0.6**
Attended AP; severe absence (ref: didn't attend AP; no severe absence)	2.2*	1.0***

■ No severe absence; attended AP (ref: didn't attend AP)
■ Severe absence; attended AP (ref: didn't attend AP)
■ Didn't attend AP; severe absence (ref: no severe absence)
■ Attended AP; severe absence (ref: no severe absence)
■ Attended AP; severe absence (ref: didn't attend AP; no severe absence)

For children in years 9 – 11, children who attended AP and had been severely persistent absent during the school year were approximately 3 – 4 times as likely to be cautioned or sentenced for a serious violence offence in the following two years, compared to children who had neither attended AP nor been severely persistent absent during the year[185]. When considered in isolation, attending AP during the school year was a strong predictor of being cautioned or sentenced for a serious violence offence in the following two years[186].

For children who did *not* attend AP during the school year, those who had been severely absent during the year were 1.6 – 1.8 times more likely to be cautioned or sentenced for a serious violence offence in the following two years (compared to those who had not

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[184] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at t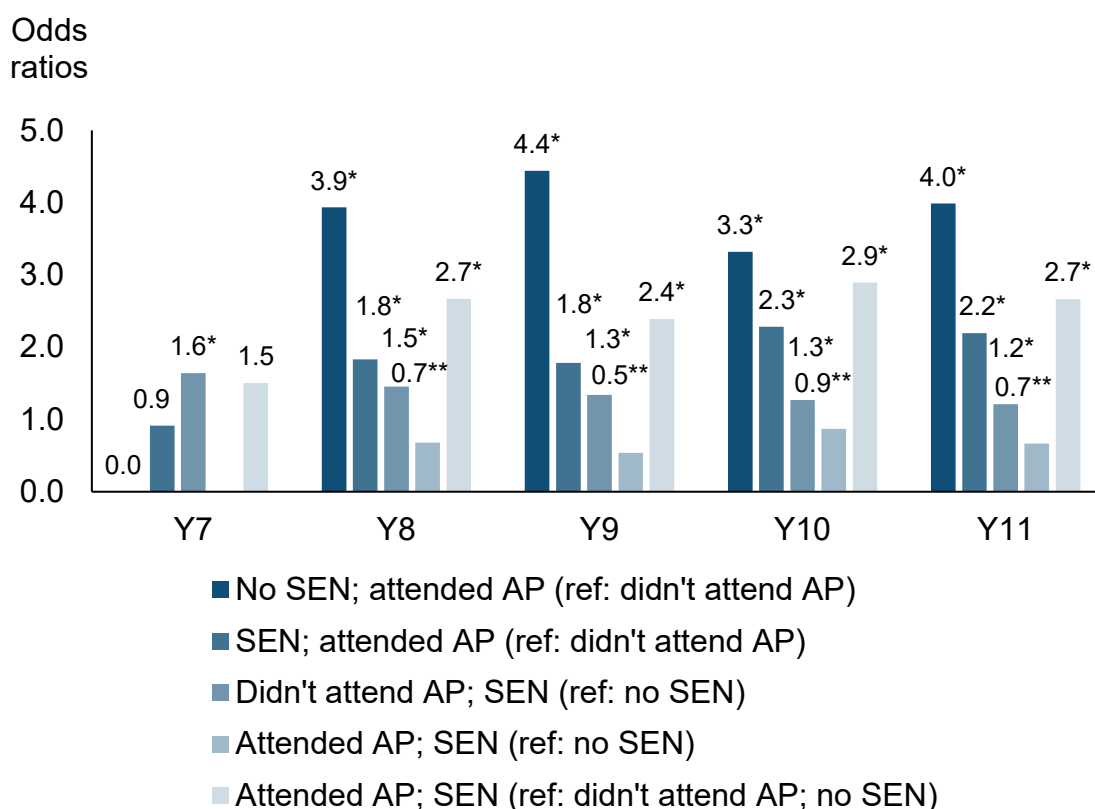he 95% level or above and that the odds ratio is less than 1; *** indicates statistical significance at the 95% level or above and that the odds ratio is equal to 1.
[185] The odds ratios computed for the years 7 and 8 models were not statistically significant at the 95% level or above.
[186] The concerns relating to the odds ratios for AP in the year 7 model have been addressed in the previous section relating to AP and SEN.

been severely absent). The result for the year 8 model was not statistically significant at the 95% level (see Figure 50). However, amongst children who *did* attend AP during the school year, those who were also severely absent during years 9 or 10 were less likely to be cautioned or sentenced for a serious violence offence in the following two years (compared to those who had not been severely absent) and equally as likely if identified with both characteristics during year 11[187].

When considering a shorter time period for offending, the results in Figure 50, and the odds ratios presented in Table 19 (Annex C) suggest that:

- Whilst the association with being cautioned or sentenced for a serious violence offence in the following two years was strong for children who attended AP during the year, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child had also been severely persistent absent during the year.

- However, in contrast to the results found in Model 2, the association with being cautioned or sentenced for a serious violence offence was stronger for a child who had been severely persistent absent during the year, but there was a less positive association with being cautioned or sentenced for a serious violence offence if the child also attended AP during the year.

This cannot be concluded for the year 7 model however.

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[187] The odds ratios computed for the years 7 and 8 models were not statistically significant at the 95% level or above.

Figure 50: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child had been severely persistent absent and/or had attended alternative provision (AP) within that year[188]

Legend:
- No severe absence; attended AP (ref: didn't attend AP)
- Severe absence; attended AP (ref: didn't attend AP)
- Didn't attend AP; severe absence (ref: no severe absence)
- Attended AP; severe absence (ref: no severe absence)
- Attended AP; severe absence (ref: didn't attend AP; no severe absence)
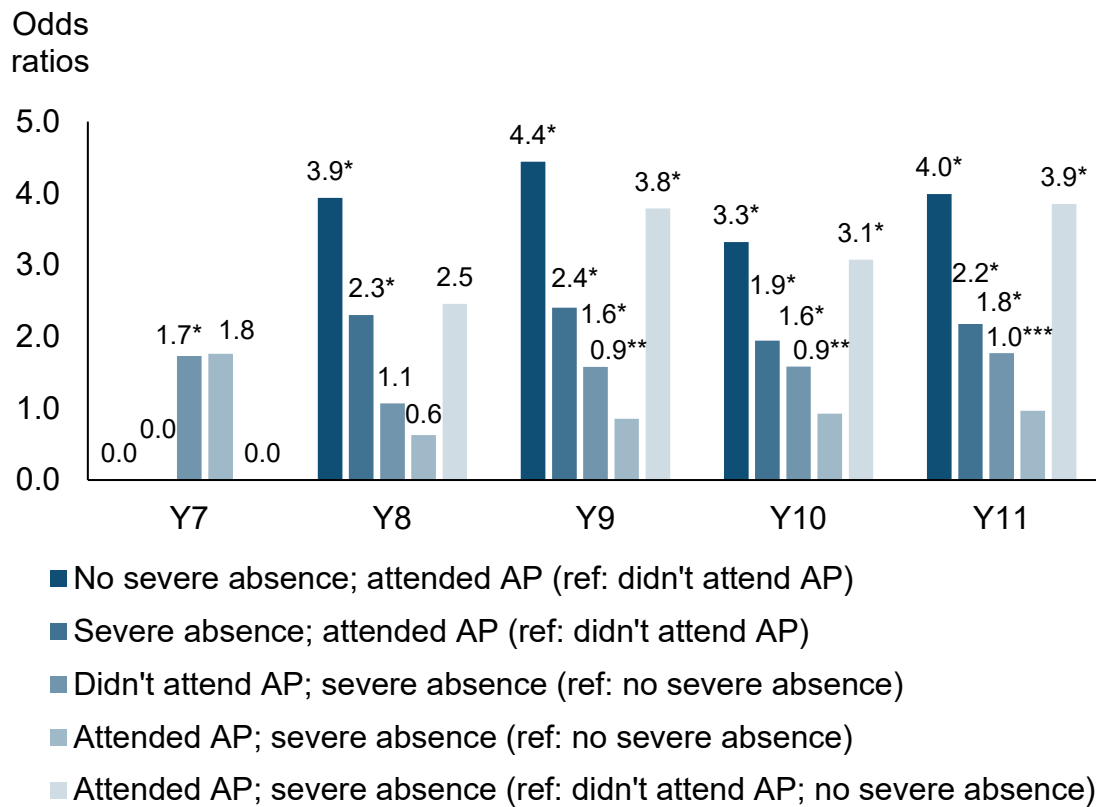
Interaction between being identified with special educational needs (SEN) and being a looked after child (CLA)

The analysis indicates that there were children who started being a looked after child *after* their first serious violence offence, reflecting the fact that children can automatically become CLA as a result of being charged with or convicted of an offence.

The association with being cautioned or sentenced for a serious violence offence was weaker for children who had been identified with SEN and were CLA, relative to the association with being cautioned or sentenced for a serious violence offence for children identified with just one characteristic.

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[188] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1; *** indicates statistical significance at the 95% level or above and that the odds ratio is equal to 1.

A comparison of Models 1 and 2 indicated that children who had ever been looked after[189] were more likely to ever be cautioned or sentenced for a serious violence offence than those who had not been looked after. However, the drop in odds ratios between Models 1 and 2 suggest that there were children who became CLA after their first serious violence offence. This finding reflects the fact that children can automatically become CLA by the local authority as a result of being charged with or convicted of an offence.

In Model 2, children who had ever been looked after and had ever been identified with SEN were almost twice as likely to ever be cautioned or sentenced for a serious violence offence as children who had neither ever been looked after nor been identified with SEN.

Odds ratios of ever being cautioned or sentenced for a serious violence offence were higher for children with only one characteristic was identified, compared to those with both characteristics identified. For example, for children who had *not* ever been CLA, those who had also been identified with SEN were 1.5 times more likely than those who not also been identified with SEN of ever being cautioned or sentenced for a serious violence offence. However, for children who *had* ever been CLA, those who had also been identified with SEN were almost equally as likely as those not identified with SEN of ever being cautioned or sentenced for a serious violence offence (see Figure 51).

These results, combined with the odds ratios presented in Table 19 (Annex C) suggest that whilst the association with ever being cautioned or sentenced for a serious violence offence was stronger for a child who had ever been CLA, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child had also ever been identified with SEN (and vice versa).

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[189] In all periods up to the end of KS4 in model 1, and in all periods before a first serious violence offence (where relevant) for model 2, between the ages of 10-17.

Figure 51: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been a child who was looked after (CLA) and/or identified with special educational needs (SEN)[190]
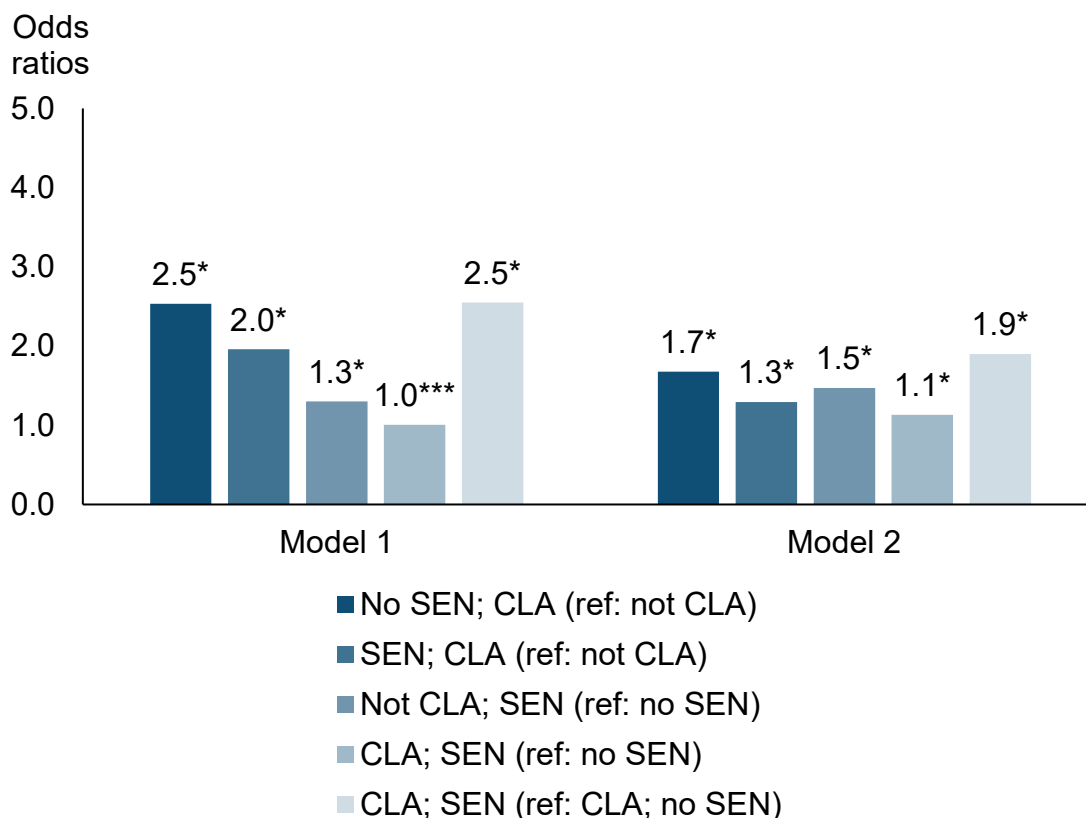
Between years 8 – 11[191], children who were looked after and also identified with SEN during the school year were between 1.6 and 1.9 times more likely to be cautioned or sentenced for a serious violence offence than children who had neither been looked after nor identified with SEN during the school year (see Figure 51).

Between years 8 – 11[192], amongst children who were looked after during the year, also being identified with SEN had a negative association with being cautioned or sentenced for a serious violence offence in the following two years (odds ratios ranged between 0.7 and 0.9 indicating that these children were less likely to be cautioned or sentenced for a serious violence offence than the reference group).

Being a looked after child in year 8 onwards, when looked at in isolation, was a strong predictor of being cautioned or sentenced for a serious violence offence in the following

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[190] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; *** indicates statistical significance at the 95% level or above and that the odds ratio is equal to 1.
[191] The odds ratio in the year 7 model was not statistically significant at the 95% level or above.
[192] The odds ratio in the year 7 model was not statistically significant at the 95% level or above.

two years. These results, combined with the odds ratios presented in Table 18 (Annex C) suggest that whilst the association with being cautioned or sentenced for a serious violence offence in the following two years was stronger for a child who had been CLA during the year, there was a less positive association with being cautioned or sentenced for a serious violence offence if the child had also been identified with SEN (and vice versa).

Figure 52: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was looked after (CLA) and/or was identified with special educational needs (SEN) within that year[193]
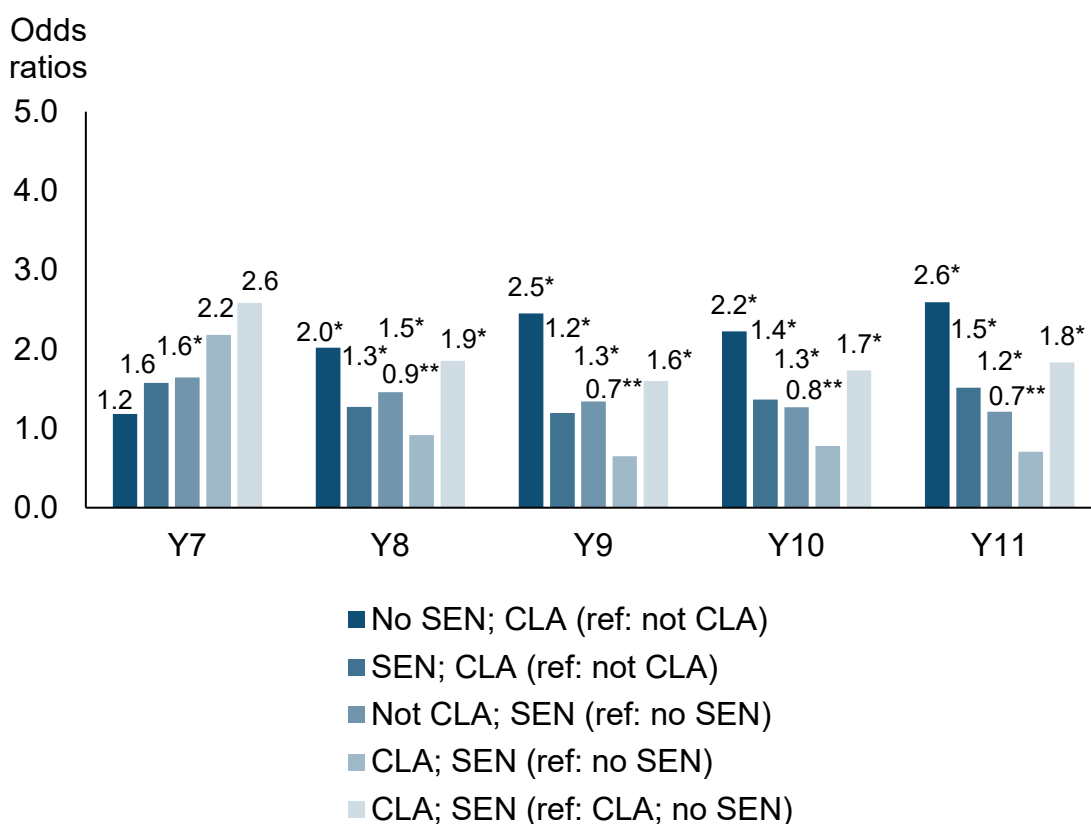
Further analysis was conducted to investigate the relationship between being a looked after child and being identified with SEN in year 7 and being cautioned or sentenced for a serious violence offence in years 8 or 9. This is because the size, and lack of, statistical significance for the odds ratios computed for these interactions suggest there could be another issue relating to multicollinearity in the year 7 model.

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[193] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Following this, we found that 71% of the all-pupil cohort who had been looked after in year 7 also had SEN[194]. However, just 7% of the all-pupil cohort with SEN in year 7 were children who were looked after. This suggests that children who were looked after at younger ages (year 7) were likely to display other characteristics of disadvantage also[195]. In this instance, because of the overlap of SEN amongst children who were looked after in year 7, the model has been unable to separate the association between being looked after, for children with or without SEN, and being cautioned or sentenced for a serious violence offence in the following two years. Therefore, we have been unable to reach a conclusive result for the year 7 model here.

The results for the interaction terms have two possible interpretations:

- Systems of support for children with SEN may be protective of being cautioned or sentenced for a serious violence offence.

- However, without knowing the reason(s) for a child attending AP or becoming CLA, we also cannot rule out that SEN, or severe persistent absence in the case of the interaction between severe absence and attending AP, were the reasons for those children entering, or accessing, those systems of support, as opposed to violent behaviour.

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[194] The proportion for children cautioned or sentenced for a serious violence offence in years 8 or 9 who were looked after in year 7 who also had SEN was 88%.
[195] 57.4% of children who had been CLA for at least 12 months as at 31st March 2022 had been identified with SEN. Please see here for more information: 'National - Special educational needs (SEN)' from 'Outcomes for children in need, including children looked after by local authorities in England', Permanent data table – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

Criminal justice system

This section discusses the association between being cautioned or sentenced for a non-serious violence offence and being cautioned or sentenced for a serious violence offence. We also look separately at common assault and battery, as this was the most common offence to precede a serious violence offence[196] (see Section 1).

Children who had been cautioned or sentenced for a separate offence were more likely to be cautioned or sentenced for a serious violence offence compared to those who had not.

However, the results also suggest that for children who were cautioned or sentenced for a serious violence offence, their first offence was more likely a serious violence offence, either because this was their only offence, or it was their first in a series of offences.

Where a child was cautioned or sentenced for a non-serious violence offence before their serious violence offence, it was likely that the period between the two events is less than two years.

Despite common assault and battery being the most common offence to precede a serious violence offence, it was not a strong predictor of serious violence.

A comparison of Models 1 and 2 show that those with a separate non-serious violence offence were more likely to be cautioned for serious violence offence than those who did not. However, the drop in odds ratios between Models 1 and 2 suggest that many of these children were cautioned or sentenced for a separate offence following their first serious violence offence (see Figure 53).

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[196] Please note that the findings contained within this analysis may differ to other published analysis where the metric of self-reported offending is used instead.

Figure 53: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been cautioned or sentenced for a separate non-serious violence offence[197]
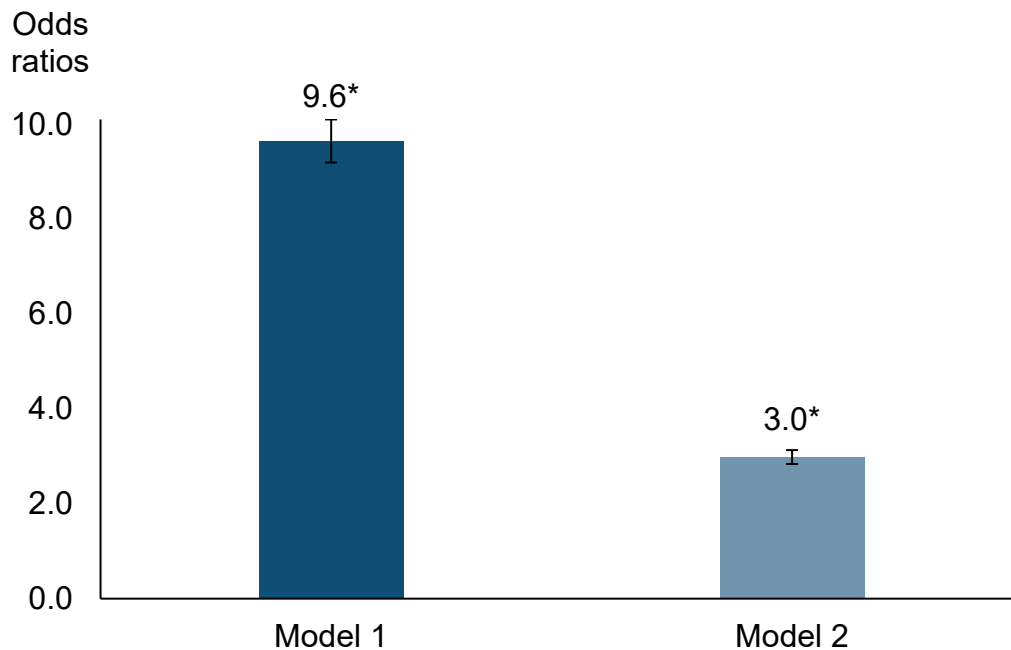
Children who were cautioned or sentenced for a separate non-serious violence offence had a stronger association with being cautioned or sentenced for a serious violence offence in the following two years when they were younger. For example, a child with a non-serious violence offence in year 7 was four times as likely as a child without a non-serious violence offence of being cautioned or sentenced for serious violence offence in years 8 or 9. However, this dropped to between 3 – 3.5 times more likely for a child with a non-serious violence offence between years 8 and 10 (see Figure 54).

This was a strong predictor and suggests that where a child had been cautioned or sentenced for a non-serious violence offence before their serious violence offence, it was likely that the period between the two events was less than two years.

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[197] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 54: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was cautioned or sentenced for a separate non-serious violence offence within that year[198]
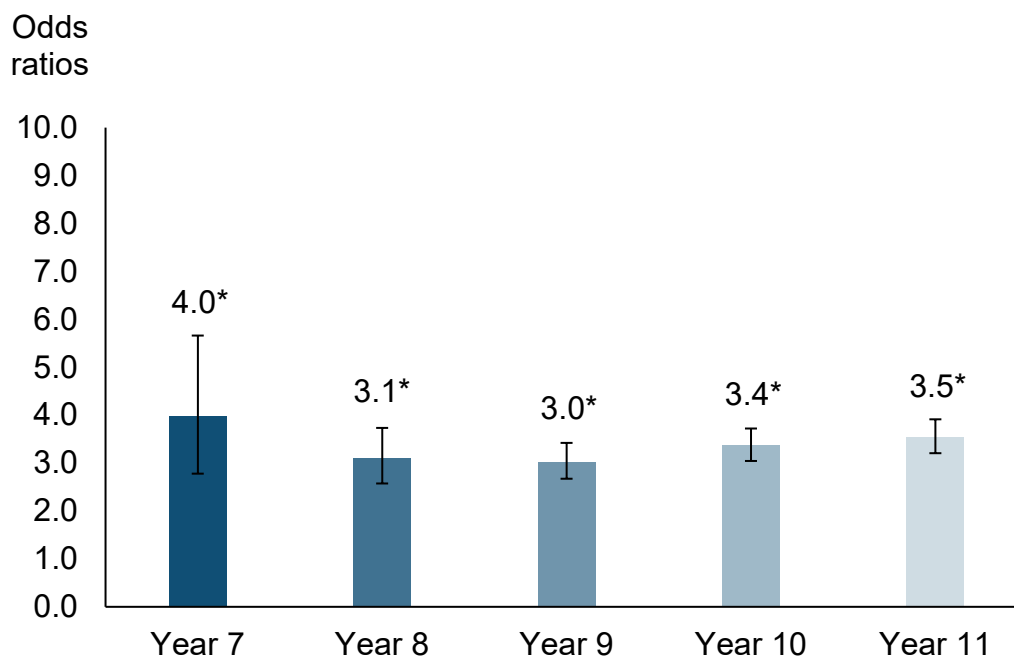
A comparison of Models 1 and 2 indicate that children who had ever been cautioned or sentenced for common assault and battery[199] [200] were only slightly more likely to ever be cautioned or sentenced for a serious violence offence than those who had not. However, it was not as strong a predictor as being cautioned or sentenced for a non-serious violence offence more generally (see Figure 55). Please note that the reference category for this variable can include both children who have never been cautioned or sentenced for a non-serious violence offence and children who have been cautioned or sentenced for a non-serious violence offence, but only common assault and battery. Therefore, this variable is modelling the association between being cautioned or sentenced for common assault and battery, *once controlling for all other non-serious violence offences*, and being cautioned or sentenced for a serious violence offence.

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[198] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.
[199] Although common assault and battery is a subset of non-serious violence offences, the odds ratios were calculated separately and therefore cannot be considered as additive.
[200] In all periods before a first serious violence offence (where relevant) between years 7 and 11.

Figure 55: Odds ratios of ever being cautioned or sentenced for a serious violence offence and whether the child had ever been cautioned or sentenced for common assault and battery[201]
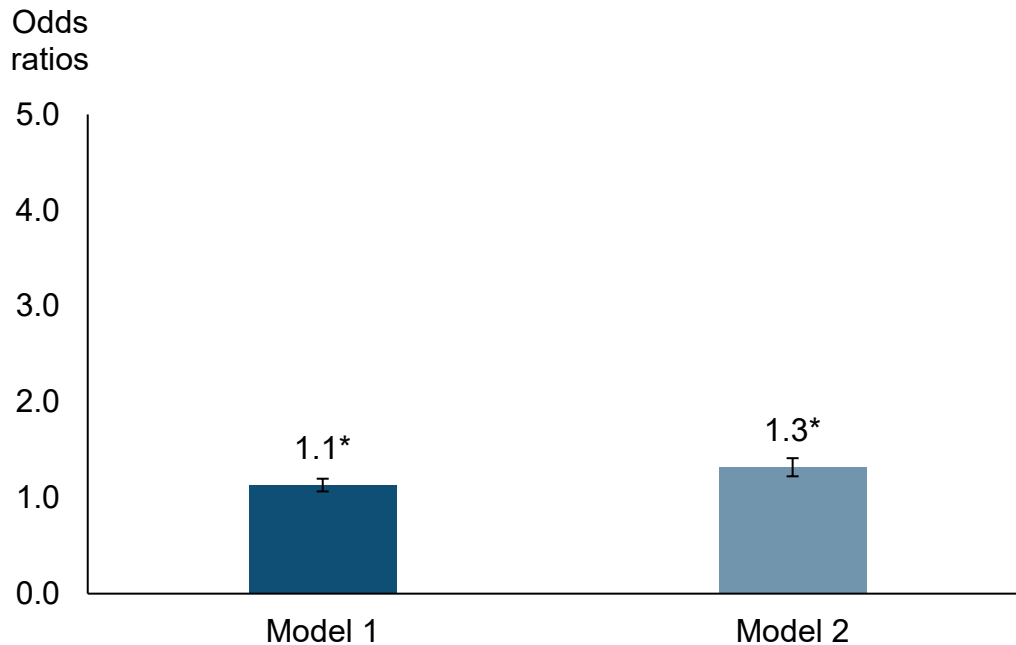
Odds
ratios

5.0	
4.0	
3.0	
2.0	
	1.3*
	1.1*
1.0	
0.0	

Model 1   Model 2

Across all five yearly models, children who were cautioned or sentenced for common assault and battery during the year were 1.3 – 1.5 times more likely to be cautioned or sentenced for a serious violence offence in the following two years than those who were not. However, the result for the year 7 model was not statistically significant (see Figure 46). Once controlling for all other non-serious violence offences cautioned or sentenced for, being cautioned or sentenced for common assault and battery had a positive, but relatively weak association, with being cautioned or sentenced for a serious violence offence.

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[201] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Figure 56: Odds ratios of being cautioned or sentenced for a serious violence offence in the following two academic years by year group and whether the child was cautioned or sentenced for common assault and battery within that year[202]

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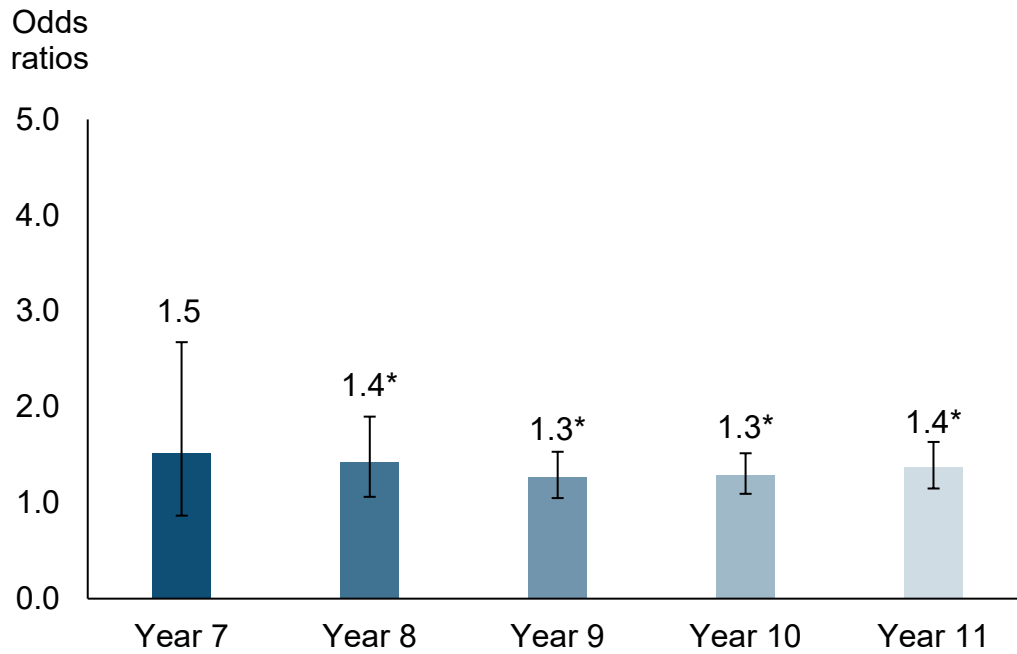
[202] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1.

Local authority area level characteristics

Children who attended school in more densely populated local authority areas were more likely to be cautioned or sentenced for a serious violence offence than those who attended school in less densely populated local authority areas.

Children who attended school in local authority areas with higher average proportions of families on low incomes were more likely to be cautioned or sentenced for a serious violence offence than those who attended school in local authority areas with lower average proportions of families on low incomes.

For children in younger years (year 8), those who attended school in a local authority area with rising rates of households occupying unsanitary/overcrowded housing were more likely to be cautioned or sentenced for a serious violence offence in the following two years than those that did not.

Disparities *between* local authority areas had a stronger association with a children being cautioned or sentenced for a serious violence offence, than year-on-year differences within a local authority area.

This section discusses and compares the between and within effects for the local authority area level characteristics. These variables have been standardised (adjusted to the same scale), which means that the effects of these variables can be compared across the models. Effects are expressed in terms of odds ratios and refer to the increase in odds associated with a 1 standard deviation increase in the variable. Given that a relatively small proportion of the propensity to be cautioned or sentenced for a serious violence offence lies at the local authority area level, we can expect the association to be smaller for these variables than for those just discussed. Odds ratios for the local authority area level characteristics have been summarised in Tables 13 and 14 for all models, standard errors (SE) have been included in parentheses. Please refer to Tables 18 and 19 for a full breakdown of odds ratios for all explanatory variables.

It is also worth reiterating that the following local authority area level characteristics discussed are not to be interpreted as causal, and they certainly are not deterministic, of a child attending school within that local authority area of being cautioned or sentenced for a serious violence offence. Many children attending school within a local authority area identified with these characteristics are not cautioned or sentenced for a serious violence offence.

Between and within effects explained

Between effects: comparing characteristics of local authority area A with characteristics of local authority area B and how the propensity for a child to be cautioned or sentenced for a serious violence offence changes depending on the local authority area in which the child attends school.

Within effects: comparing characteristics of local authority area A in one year with characteristics of the *same* local authority area in a later year and how the propensity for a child to be cautioned or sentenced for a serious violence offence changes depending on the year in which the child attended school in that local authority area.

Table 13: Summary of odds ratios for local authority area level characteristics for Models 1 and 2

	Model 1		Model 2	
	OR	SE	OR	SE
% families on tax credits				
- Between	1.11 *	(0.05)	1.14 *	(0.05)
- Within	1.09	(0.06)	1.16 *	(0.05)
% workless households				
- Between	0.92	(0.04)	0.92	(0.04)
- Within	0.96	(0.03)	0.98	(0.03)
Homeless households				
- Between	0.96	(0.03)	0.95	(0.03)
- Within	1.01	(0.03)	1.02	(0.03)
Overcrowded households				
- Between	1.04	(0.04)	1.05	(0.03)
- Within	0.97	(0.04)	0.95	(0.03)
Population density				
- Between	1.18 *	(0.04)	1.15 *	(0.04)
- Within	0.69	(0.37)	0.65	(0.32)
% EHC plan in mainstream				
- Between	0.96	(0.02)	0.94 *	(0.02)
- Within	1.07	(0.06)	1.08	(0.06)

Table 14: Summary of odds ratios for local authority area level characteristics for the Years 7 - 11 models

	Year 7		Year 8		Year 9		Year 10		Year 11	
	OR	SE	OR	SE	OR	SE	OR	SE	OR	SE
% families on tax credits										
- Between	1.21	(0.16)	1.17	(0.10)	1.17 *	(0.08)	1.17 *	(0.06)	1.19 *	(0.07)
- Within	0.89	(0.09)	1.35	(0.25)	0.72	(0.18)	1.13	(0.14)	1.35 *	(0.11)
% workless households										
- Between	0.90	(0.13)	0.96	(0.08)	0.91	(0.06)	0.95	(0.05)	0.95	(0.05)
- Within	0.78 *	(0.08)	1.02	(0.06)	1.03	(0.05)	0.99	(0.04)	0.97	(0.05)
Homeless households										
- Between	0.82	(0.09)	0.96	(0.05)	0.96	(0.04)	0.97	(0.03)	0.94	(0.03)
- Within	0.91	(0.08)	0.93	(0.04)	1.07	(0.04)	1.07	(0.04)	1.00	(0.04)
Overcrowded households										
- Between	0.99	(0.11)	1.02	(0.05)	1.04	(0.05)	1.05	(0.04)	1.04	(0.04)
- Within	1.06	(0.09)	1.14 *	(0.05)	0.98	(0.05)	0.97	(0.05)	0.96	(0.05)
Population density										
- Between	1.34 *	(0.15)	1.11	(0.06)	1.21 *	(0.06)	1.18 *	(0.04)	1.13 *	(0.05)
- Within	0.47	(1.38)	1.09	(0.86)	0.91	(0.51)	0.41	(0.23)	0.41	(0.26)
% EHC plan in mainstream										
- Between	1.06	(0.08)	1.02	(0.05)	0.94	(0.04)	0.99	(0.03)	1.00	(0.03)
- Within	1.64 *	(0.34)	1.07	(0.15)	1.11	(0.11)	1.14	(0.10)	1.24 *	(0.10)

Population density

The between effect for population density, as measured by the average number of people per square kilometre in a local authority area, consistently had the strongest association with being cautioned or sentenced for a serious violence amongst the local authority area level characteristics and was statistically significant[203] across 6 of the 7[204] models. Table 13 shows that, across Models 1 and 2, a one standard deviation increase in the average number of people per square kilometre in a local authority area was associated with a 15-18% increase in the odds of a child who attended school in that local authority area of ever being cautioned or sentenced for a serious violence offence.

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[203] At the 95% level or above.
[204] The result for the year 8 model was not statistically significant at the 95% level.

This one standard deviation increase would roughly equate to an increase of 3,200 people per square kilometre, or the difference between the 99th and 135th local authority area if they were ordered from least to most densely populated on average.

Table 14 shows that, across the years 7 to 11 models, a one standard deviation increase in the average number of people per square kilometre in a local authority area, was associated with a 11-34% increase in the odds of a child who attended school in that local authority area of being cautioned or sentenced for a serious violence offence in the following two years.

These results suggest that children who attended school in more densely populated local authority areas were more likely to be cautioned or sentenced for a serious violence offence than those who attended school in less densely populated local authority areas.

Families on low income

Our proxy for the proportion of families on a low income within a local authority area, as measured by children within tax credit recipient families as a proportion of all children, was also one of the strongest predictors amongst the local authority area level characteristics. The between effect was statistically significant[205] across 5 of the 7 models. Table 13 shows that, across models 1 and 2, a one standard deviation increase in the average proportion of families on low income in a local authority[206] area was associated with an 11-14% increase in the odds of a child who attended school in that local authority area of ever being cautioned or sentenced for a serious violence offence. This one standard deviation increase would roughly equate the 74th local authority area increasing to the 131st local authority area if they were ordered from lowest to highest average proportions of families on low income.

Table 14 shows that a one standard deviation increase in the proportion of families on low income in a local authority area for children in years 7 - 11, was associated with a 17-21%[207] increase in the odds of a child who attended school in that local authority area of being cautioned or sentenced for a serious violence offence in the following two years.

These results suggest that children who attended school in local authority areas with higher average proportions of families on low incomes were more likely to be cautioned or sentenced for a serious violence offence than those who attended school in local authority areas with lower average proportions of families on low incomes.

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[205] At the 95% level or above.
[206] Approximately equal to an increase of 11 percentage points.
[207] The between effect for this variable in the year 7 and 8 models were not statistically significant at the 95% level.

Children with an EHC plan attending mainstream school

There were only two statistically significant[208] within effects measuring the association between the proportion of children and young people with an EHC plan attending a mainstream school within a local authority area and being cautioned or sentenced for a serious violence offence[209], and these were estimated in the years 7 and 11 models. Table 14 shows that a one standard deviation increase in the proportion of children and young people with an EHC plan in a mainstream setting in a local authority area for children in years 7 and 11 was associated with a 64% and 24% increase respectively in the odds of a child who attended school in that local authority area of being cautioned or sentenced for a serious violence offence in the following two years. For example, this one standard deviation increase would roughly equate to one cohort of year 11 students attending school in a local authority area that was experiencing a 13-percentage point increase[210] in the proportion of children and young people with an EHC plan in a mainstream setting on previous cohorts of year 11 students. These results suggest that for children in years 7 and 11 especially, those who attended school in a local authority area with rising rates of children with EHC plans in mainstream schools were slightly more likely to be cautioned or sentenced for a serious violence offence in the following two years than those who weren't.

Please note that findings relating to this measure should be treated cautiously as the proportion of children with an EHC plan in a local authority area attending a mainstream school may be reflective of many underlying factors including, but not limited to: the number of EHC plans being issued within a local authority area, and limited availability of places within a special school within a local authority area. There are also higher rates of deprivation amongst children with EHC plans[211]. Since the other local authority area level characteristics are accounting for different aspects of deprivation (see Table 12), the findings for the proportion of children with an EHC plan in a local authority area attending a mainstream school may be affected by the inclusion of the other local authority area level variables.

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[208] At the 95% level or above.
[209] Please note that this refers to a child attending school within that local authority area, irrespective of whether the child themselves has been issued with an EHC plan.
[210] Figure 7 in the technical report suggests that a 13% year-on-year increase in the proportion of children with an EHC plan attending a mainstream school within the local authority area as the average trend suggests a decrease between the period 2011/12 – 2017/18. Please note however that the average trend is displayed in this figure and trends for individual local authorities may differ. Please see the technical report for more information.
[211] 41% of pupils with an EHC plan were eligible for FSM in 2022/23, compared to 24% of all pupils. Please see here for more information: https://explore-education-statistics.service.gov.uk/data-tables/permalink/6b98b621-442e-4cf3-baa0-08db839e0283

Access to housing

Lastly, the within effect for access to housing, as measured by the number of households on the waiting list for accommodation due to occupying unsatisfactory or overcrowded housing per 10,000 people, was statistically significant[212] in the year 8 model only. Table 14 shows that a one standard deviation increase in the number of households occupying unsatisfactory/overcrowded housing per 10,000 people in a local authority area for children in year 8 was associated with a 14% increase in the odds of a child who attended school in that local authority area of being cautioned or sentenced for a serious violence offence in years 9 or 10. This one standard deviation increase would roughly equate to one cohort of year 8 students who attended school in a local authority area that was experiencing an increase of approximately 78 households occupying unsatisfactory/overcrowded housing per 10,000 people on previous cohorts of year 8 students.

These results suggest that for children in younger years especially (year 8), those who attended school in a local authority area with rising rates of households occupying unsanitary/overcrowded housing were more likely to be cautioned or sentenced for a serious violence offence in the following two years than those who weren't.

Overall, the results for the local authority area level characteristics suggest that disparities between local authority areas had a bigger impact on the propensity for a child to be cautioned or sentenced for a serious violence offence, than year-on-year differences within a local authority area. For example, where a local authority area sat in comparison with other local authority areas had a stronger association with involvement in serious violence at the individual level, than whether a local authority area was below or above its own average.

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[212] At the 95% level or above.

Conclusion

The report has sought to further understand the demographic, education and children's social care characteristics of children who have been cautioned or sentenced for a serious violence offence. The drivers behind, and the factors associated with, serious violence are complex, and the identification of single, or even multiple, characteristics does not dictate that a child will be cautioned or sentenced for a serious violence offence.

Whilst there were characteristics that were consistently identified in the analysis as having a larger association with being cautioned or sentenced for a serious violence offence than others, at the same time there was no stand-alone characteristic that perfectly predicted serious violence. It is also important to consider the findings, not in isolation, but instead how they sit within the context of the other characteristics modelled, as otherwise, potentially stronger associations could be missed. This is key to challenging preconceptions and ensuring that support is targeted at children who are most vulnerable or at risk of involvement in serious violence.

The findings have demonstrated that:

- Whilst children who have been cautioned or sentenced for a serious violence offence are more likely to have had multiple risk factors than the all-pupil cohort, targeting support to children demonstrating multiple characteristics is not a clear-cut solution to tackling serious violence. This is because, whilst multiple risk factors were disproportionately represented amongst children who had been cautioned or sentenced for a serious violence offence, if support were only targeted to children demonstrating multiple risk factors, a large proportion of children cautioned or sentenced for a serious violence offence would be overlooked.

- Children who have been cautioned or sentenced for a serious violence offence were more likely to follow a disrupted journey through school compared to the all-pupil population. This may take the form of moving between different schools and systems, for example attending AP or being known to children's social care, or being out of school, for example being suspended or permanently excluded, or having high rates of absence.

  - However, many of these events began after a child's first serious violence offence, suggesting that committing serious violence in itself is a disruptive event.

- Characteristics with the strongest association with being cautioned or sentenced for a serious violence offence, when holding other factors constant, included being male, receiving a first suspension, having a Black Caribbean ethnicity, and being

cautioned or sentenced for a separate non-serious violence offence, holding all other factors constant.

- o However, the following were not strong predictors of being cautioned or sentenced for a serious violence offence, when holding other factors constant: persistent absence for unauthorised other reasons, or severe absence, being permanently excluded after year 7, and attending a special school, holding all other factors constant.

- Children who are cautioned or sentenced for serious violence offence were more likely to be issued with EHC plan for their SEN needs at an older age compared to all pupils.

- o However, where systems of support were in place for children with high needs, this association with being cautioned or sentenced for a serious violence offence was weaker.

- Characteristics relating to the individual had the biggest association with a child being cautioned or sentenced for a serious violence offence, compared to characteristics of the school attended or local authority area.

Annex A: Glossary

Item	Description
Alternative provision (AP)	Education arranged by local authorities for pupils who, because of permanent exclusion, illness or other reasons, would not otherwise receive suitable education; education arranged by schools for pupils for a suspension; and pupils being directed by schools to off-site provision to improve their behaviour.
Children in need (CIN)	Child in need (CIN) is a broad definition spanning a wide range of children and adolescents, in need of varying types of support and intervention, for a variety of reasons. A child is defined as 'in need' under section 17 of the Children Act 1989 where: • they are unlikely to achieve or maintain, or to have the opportunity of achieving or maintaining, a reasonable standard of health or development without the provision for them of services by a local authority • their health or development is likely to be significantly impaired, or further impaired, without the provision for them of such services; or • they are disabled.
Children who are looked after (CLA) – is a subset of CIN	Under the Children Act 1989, a child is looked after by a local authority if they fall into one of the following: • is provided with accommodation, for a continuous period of more than 24 hours [Children Act 1989, Section 20 and 21] • is subject to a care order [Children Act 1989, Part IV] • is subject to a placement order.
Free school meals (FSM)	The metric used in this analysis is FSM eligibility. Children are eligible for FSM if a claim has been made by them or on their behalf and either: • the relevant local authority / school has confirmed that they are entitled to free school meals • the relevant local authority / school has seen the necessary documentation (that confirms entitlement to free school meals).

	FSM are available to pupils in receipt of, or whose parents are in receipt of, one or more of the following benefits:
	• Universal Credit (provided you have an annual net earned income of no more than £7,400, as assessed by earnings from up to three of your most recent assessment periods)
	• Income Support
	• Income-based Jobseeker's Allowance
	• Income-related Employment and Support Allowance
	• Support under Part VI of the Immigration and Asylum Act 1999
	• The guarantee element of Pension Credit
	• Child Tax Credit (provided you are not also entitled to Working Tax Credit and have an annual gross income of no more than £16,190)
	• Working Tax Credit run-on – paid for four weeks after you stop qualifying for Working Tax Credit.
Permanent exclusion	A permanent exclusion is when a pupil is no longer allowed to attend a school.
Persistent absence	Persistent absence is when a pupil enrolment's overall absence equates to 10 per cent or more of their possible sessions.
Persistent absence (unauthorised other)	Persistent absence (unauthorised other) is when a pupil enrolment's absence due to 'unauthorised other' reasons equates to 10 per cent or more of their possible sessions.
Severe persistent absence	Severe persistent absence is when a pupil enrolment's overall absence equates to 50 per cent or more of their possible sessions.
Serious violence	The definition of serious violence used in this report is broadly based on the following categories of offence groups and offence types: indictable only 'violence against the person' offences, indictable only 'robbery offences', and triable either way or indictable only 'possession of weapons offences'. A full list of offences included in the definition can be found in the technical report. Children who have committed a serious violence offence here

	therefore relate to young people cautioned or sentenced for any of the offences in the technical report.
Special educational needs (SEN)	A child or young person has SEN if they have a learning difficulty or disability which calls for special educational provision to be made for them i.e., educational or training provision that is additional to or different from that made generally for their peers. A pupil identified as having SEN will either: • be receiving 'SEN support' • have a statutory Education, Health and Care plan setting out their complex needs and how these will be met.
Suspension	A suspension is where a pupil has been temporarily removed from the school (including during lunchtime). Prior to 2019/20, suspensions were referred to as a fixed period exclusion. Please see here for more information: Suspension and Permanent Exclusion from maintained schools, academies and pupil referral units in England, including pupil movement (publishing.service.gov.uk).
Youth caution	Introduced on April 8th 2013. Youth cautions are formal out-of-court disposals for young offenders (aged 10 to 17) and intended to allow a more flexible response to offending than the preceding Final Warning Scheme. These now replace reprimands and warnings. Guidance on youth cautions can be found here: Out-of-court disposals - GOV.UK (www.gov.uk)

Annex B: Summary of characteristics

Table 15: Characteristics of all pupils and children cautioned or sentenced for any offence, including the proportion of children with a characteristic that had also been cautioned or sentenced for any offence (Source: Tables 1.2.3 and 1.2.4)

Characteristic	Proportion of all pupils with characteristic		Proportion of pupils with an offence who had characteristic		Proportion of pupils with characteristic who had an offence	
	Males	**Females**	**Males**	**Females**	**Males**	**Females**
Free school meals[213]	35%	35%	68%	75%	9%	3%
Special educational needs	52%	36%	81%	75%	7%	3%
Persistent absence	46%	46%	81%	88%	8%	2%
Persistent absence (unauthorised other)	8%	8%	38%	52%	23%	8%
Severe persistent absence	3%	3%	21%	27%	33%	13%
Suspended	20%	9%	77%	73%	18%	10%
Excluded	1%	0%	14%	11%	49%	33%
Alternative provision	4%	2%	35%	36%	40%	20%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

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[213] The metric for free school meals (FSM) used in this analysis is FSM eligibility. Children are FSM eligible if a claim has been made by them, or on their behalf, and eligibility has been confirmed.

Table 16: Children's social care characteristics of all pupils and children cautioned or sentenced for any offence, including the proportion of children with a characteristic that had also been cautioned or sentenced for any offence (Source: Tables 1.2.3 and 1.2.4)

Characteristic	Proportion of all pupils with characteristic		Proportion of pupils with an offence who had characteristic		Proportion of pupils with characteristic who had an offence	
	Males	Females	Males	Females	Males	Females
CIN between ages 10 - 17	13%	14%	52%	70%	19%	6%
CLA between ages 10 - 17	2%	2%	16%	27%	41%	18%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Table 17: Proportions of all pupils and children cautioned or sentenced for an offence with multiple characteristics, including the proportion of children with multiple characteristics that had also been cautioned or sentenced for an offence (Source: Table 1.6.2)

Number of characteristics	Proportion of all pupils with characteristic(s)	Proportion of pupils with an offence who had characteristic(s)	Proportion of pupils with characteristic(s) who had an offence
At least one	62%	95%	5%
At least two	32%	86%	8%
At least three	15%	73%	15%
At least four	8%	58%	23%
At least five	4%	43%	35%
At least six	2%	29%	46%

For pupils matched to KS4 academic years 2015/16, 2016/17 and 2017/18

Annex C: Odds ratios (tables)

Where there are interaction terms, the odds ratios for the singular explanatory variables refer to those variables only, and not cases where the child was also identified with the characteristic that variable was interacted with. For example, the odds ratio for severe persistent absence demonstrates how being severely persistent absent, compared to not being severely persistent absent, is associated with being cautioned or sentenced for a serious violence offence *for those who did not attend AP*.

The odds ratios for the interacted variables in Tables 18 and 19 are not directly interpretable or additive. The sum of the natural logarithm of the singular odds ratios included in the interaction, as well as for the odds ratio of the interaction term itself would provide an interpretable association with being identified with both characteristics and being cautioned or sentenced for a serious violence offence. These are the computed odds ratios discussed in the main report.

The reference category for male is female, and the reference category for ethnicity is White British. Odds ratios with an asterisk (*) indicate statistical significance at the 95% level or higher.

Table 18: Odds ratios calculated for Models 1 and 2

Explanatory variable	Model 1 OR	SE	Model 2 OR	SE
Individual level				
Male	3.72 *	(0.10)	4.05 *	(0.11)
Bangladeshi	1.42 *	(0.11)	1.10	(0.08)
Indian	1.11	(0.11)	0.78 *	(0.08)
Asian Other	1.57 *	(0.14)	1.30 *	(0.11)
Pakistani	1.46 *	(0.08)	1.12 *	(0.06)
Black African	1.92 *	(0.09)	1.52 *	(0.07)
Black Caribbean	2.85 *	(0.14)	2.76 *	(0.12)
Black Other	2.50 *	(0.19)	2.28 *	(0.16)
Chinese	0.55	(0.26)	0.31 *	(0.16)
Mixed Other	1.86 *	(0.11)	1.94 *	(0.10)
White & Asian	1.53 *	(0.14)	1.43 *	(0.12)
White & Black African	1.66 *	(0.16)	1.74 *	(0.15)
White & Black Caribbean	2.01 *	(0.10)	2.18 *	(0.10)
Not obtained	1.26 *	(0.10)	1.73 *	(0.12)
Other	1.64 *	(0.12)	1.42 *	(0.10)
Refused	1.33 *	(0.17)	1.24	(0.15)
White Irish	1.19	(0.19)	1.38 *	(0.20)
Traveller of Irish Heritage	1.05	(0.25)	1.69*	(0.37)
White Other	1.56 *	(0.08)	1.44 *	(0.07)
Gypsy/Roma	1.27	(0.16)	1.57 *	(0.19)
FSM eligibility	1.28 *	(0.03)	1.76 *	(0.04)
Suspended	4.24 *	(0.14)	4.04 *	(0.12)
Two or more suspensions	1.55 *	(0.05)	2.21 *	(0.06)
Excluded	1.29 *	(0.04)	1.58 *	(0.05)
AP	2.24 *	(0.20)	1.68 *	(0.17)
Special school	1.14 *	(0.05)	1.19 *	(0.05)
Persistent absence (unauthorised other)	1.23 *	(0.03)	0.89 *	(0.02)

Severe persistent absence	1.34 *	(0.06)	0.87 *	(0.04)
SEN	1.30 *	(0.04)	1.47 *	(0.04)
EHC plan	0.72 *	(0.03)	0.73 *	(0.03)
SEMH	1.06 *	(0.03)	1.19 *	(0.03)
Missing term	1.32 *	(0.04)	1.02	(0.03)
CIN	1.68 *	(0.04)	1.67 *	(0.04)
CLA	2.53 *	(0.23)	1.68 *	(0.18)
Non-serious violence offence	9.63 *	(0.23)	2.98 *	(0.07)
Common assault & battery	1.13 *	(0.03)	1.32 *	(0.05)
SEN / AP	0.72 *	(0.06)	0.72 *	(0.08)
SEN / CLA	0.77 *	(0.07)	0.77 *	(0.09)
AP / severe persistent absence	0.74 *	(0.04)	0.70 *	(0.04)
Local authority area level				
% families on tax credits - Between - Within	1.11 * 1.09	(0.05) (0.06)	1.14 * 1.16 *	(0.05) (0.05)
% workless households - Between - Within	0.92 0.96	(0.04) (0.03)	0.92 0.98	(0.04) (0.03)
Homeless households - Between - Within	0.96 1.01	(0.03) (0.03)	0.95 1.02	(0.03) (0.03)
Overcrowded households - Between - Within	1.04 0.97	(0.04) (0.04)	1.05 0.95	(0.03) (0.03)
Population density - Between - Within	1.18 * 0.69	(0.04) (0.37)	1.15 * 0.65	(0.04) (0.32)
% EHC plan in mainstream				

- Between	0.96	(0.02)	0.94 *	(0.02)
- Within	1.07	(0.06)	1.08	(0.06)
Intercept	0.00 *	(0.00)	0.00 *	(0.00)

Table 19: Odds ratios calculated for years 7 – 11 models

Explanatory variable	Year 7 OR	SE	Year 8 OR	SE	Year 9 OR	SE	Year 10 OR	SE	Year 11 OR	SE
Individual level										
Male	2.31 *	(0.19)	3.44 *	(0.17)	5.47 *	(0.24)	7.70 *	(0.35)	9.83 *	(0.53)
Bangladeshi	0.51	(0.18)	0.94	(0.14)	1.24 *	(0.14)	1.33 *	(0.14)	1.29 *	(0.14)
Indian	0.21 *	(0.11)	0.50 *	(0.11)	0.64 *	(0.10)	0.67 *	(0.09)	0.61 *	(0.09)
Asian Other	1.38	(0.38)	1.08	(0.19)	1.06	(0.15)	1.40 *	(0.17)	1.34 *	(0.17)
Pakistani	0.90	(0.15)	1.02	(0.11)	1.22 *	(0.09)	1.50 *	(0.10)	1.41 *	(0.11)
Black African	0.99	(0.16)	1.42 *	(0.13)	2.01 *	(0.13)	2.40 *	(0.14)	2.60 *	(0.16)
Black Caribbean	3.05 *	(0.38)	3.27 *	(0.25)	3.42 *	(0.21)	3.97 *	(0.23)	4.16 *	(0.26)
Black Other	2.08 *	(0.46)	2.59 *	(0.33)	2.93 *	(0.29)	3.32 *	(0.30)	3.30 *	(0.33)
Chinese	0.00	(0.02)	0.49	(0.34)	0.29	(0.21)	0.15 *	(0.14)	0.15	(0.15)
Mixed Other	1.58 *	(0.29)	2.01 *	(0.21)	2.34 *	(0.18)	2.26 *	(0.17)	2.18 *	(0.18)
White/Asian	1.24	(0.39)	1.38	(0.25)	1.36 *	(0.19)	1.50 *	(0.20)	1.63 *	(0.22)
White/Black African	1.22	(0.42)	2.02 *	(0.35)	2.13 *	(0.29)	2.31 *	(0.29)	2.48 *	(0.32)
White/Black Caribbean	2.18 *	(0.31)	2.61 *	(0.22)	2.83 *	(0.19)	2.93 *	(0.18)	2.73 *	(0.19)
Not obtained	1.88 *	(0.43)	1.64 *	(0.24)	1.92 *	(0.22)	1.55 *	(0.19)	1.83 *	(0.26)
Other	1.07	(0.29)	1.36 *	(0.20)	1.50 *	(0.16)	1.93 *	(0.18)	2.03 *	(0.20)
Refused	0.70	(0.36)	1.24	(0.31)	1.71 *	(0.30)	1.56 *	(0.27)	1.35	(0.27)
White Irish	1.55	(0.73)	1.14	(0.35)	1.49	(0.32)	1.50	(0.31)	1.37	(0.32)
Traveller of Irish Heritage	1.73	(1.20)	1.31	(0.63)	1.12	(0.43)	1.38	(0.51)	1.29	(0.57)
White Other	1.03	(0.19)	1.31 *	(0.13)	1.48 *	(0.11)	1.61 *	(0.11)	1.47 *	(0.11)
Gypsy/Roma	1.13	(0.49)	1.60	(0.39)	1.82 *	(0.34)	1.44	(0.29)	1.83 *	(0.37)
FSM eligibility	2.14 *	(0.15)	1.74 *	(0.07)	1.56 *	(0.05)	1.45 *	(0.04)	1.45 *	(0.05)
Suspended	4.63 *	(0.47)	5.23 *	(0.28)	5.19 *	(0.21)	4.38 *	(0.16)	3.45 *	(0.14)
Two or more suspensions	1.98 *	(0.23)	1.60 *	(0.10)	1.48 *	(0.07)	1.35 *	(0.06)	1.14 *	(0.06)
Excluded	1.93 *	(0.45)	1.07	(0.13)	1.29 *	(0.10)	1.11	(0.08)	0.69 *	(0.09)
AP	0.00	(0.01)	3.94 *	(0.99)	4.44 *	(0.53)	3.32 *	(0.31)	3.99 *	(0.34)
Special school	1.26	(0.27)	1.50 *	(0.17)	1.63 *	(0.14)	1.49 *	(0.12)	1.31 *	(0.11)
Persistent absence (unauthorised other)	2.04 *	(0.28)	1.75 *	(0.13)	1.50 *	(0.08)	1.69 *	(0.07)	1.79 *	(0.08)

|									
Severe persistent absence	1.73 *	(0.46)	1.07	(0.17)	1.58 *	(0.15)	1.58 *	(0.12)	1.77 *	(0.13)
SEN	1.64 *	(0.13)	1.46 *	(0.07)	1.34 *	(0.05)	1.27 *	(0.05)	1.21 *	(0.06)
EHC plan	0.58 *	(0.10)	0.64 *	(0.06)	0.63 *	(0.05)	0.79 *	(0.05)	0.88	(0.06)
SEMH	1.68 *	(0.16)	1.68 *	(0.09)	1.67 *	(0.07)	1.71 *	(0.07)	2.02 *	(0.10)
Missing term	1.21	(0.26)	2.27 *	(0.22)	1.98 *	(0.14)	2.24 *	(0.15)	2.16 *	(0.15)
CIN	1.97 *	(0.19)	2.00 *	(0.11)	2.02 *	(0.09)	2.13 *	(0.08)	1.93 *	(0.09)
CLA	1.18	(0.61)	2.02 *	(0.43)	2.45 *	(0.31)	2.22 *	(0.24)	2.60 *	(0.27)
Non-serious violence offence	3.97 *	(0.72)	3.10 *	(0.29)	3.02 *	(0.19)	3.37 *	(0.17)	3.54 *	(0.18)
Common assault & battery	1.52	(0.44)	1.42 *	(0.21)	1.27 *	(0.12)	1.29 *	(0.11)	1.37 *	(0.12)
SEN / AP[214]			0.47 *	(0.12)	0.40 *	(0.05)	0.69 *	(0.07)	0.55 *	(0.05)
SEN / CLA	1.33	(0.72)	0.63 *	(0.14)	0.49 *	(0.07)	0.61 *	(0.07)	0.58 *	(0.07)
AP / severe persistent absence	1.02	(0.61)	0.58 *	(0.14)	0.54 *	(0.07)	0.59 *	(0.06)	0.55 *	(0.05)
Local authority area level									
% families on tax credits									
- Between	1.21	(0.16)	1.17	(0.10)	1.17 *	(0.08)	1.17 *	(0.06)	1.19 *	(0.07)
- Within	0.89	(0.09)	1.35	(0.25)	0.72	(0.18)	1.13	(0.14)	1.35 *	(0.11)
% workless households									
- Between	0.90	(0.13)	0.96	(0.08)	0.91	(0.06)	0.95	(0.05)	0.95	(0.05)
- Within	0.78 *	(0.08)	1.02	(0.06)	1.03	(0.05)	0.99	(0.04)	0.97	(0.05)
Homeless households									
- Between	0.82	(0.09)	0.96	(0.05)	0.96	(0.04)	0.97	(0.03)	0.94	(0.03)
- Within	0.91	(0.08)	0.93	(0.04)	1.07	(0.04)	1.07	(0.04)	1.00	(0.04)
Overcrowded households									
- Between	0.99	(0.11)	1.02	(0.05)	1.04	(0.05)	1.05	(0.04)	1.04	(0.04)
- Within	1.06	(0.09)	1.14 *	(0.05)	0.98	(0.05)	0.97	(0.05)	0.96	(0.05)

[214] The odds ratio for the interaction between SEN and AP in the year 7 model was estimated at 12192 with a standard error of (0.61). It is noted that this is excessively large, likely a result of multicollinearity. Please see the discussion of variance inflation factors in the technical report for more information on multicollinearity.

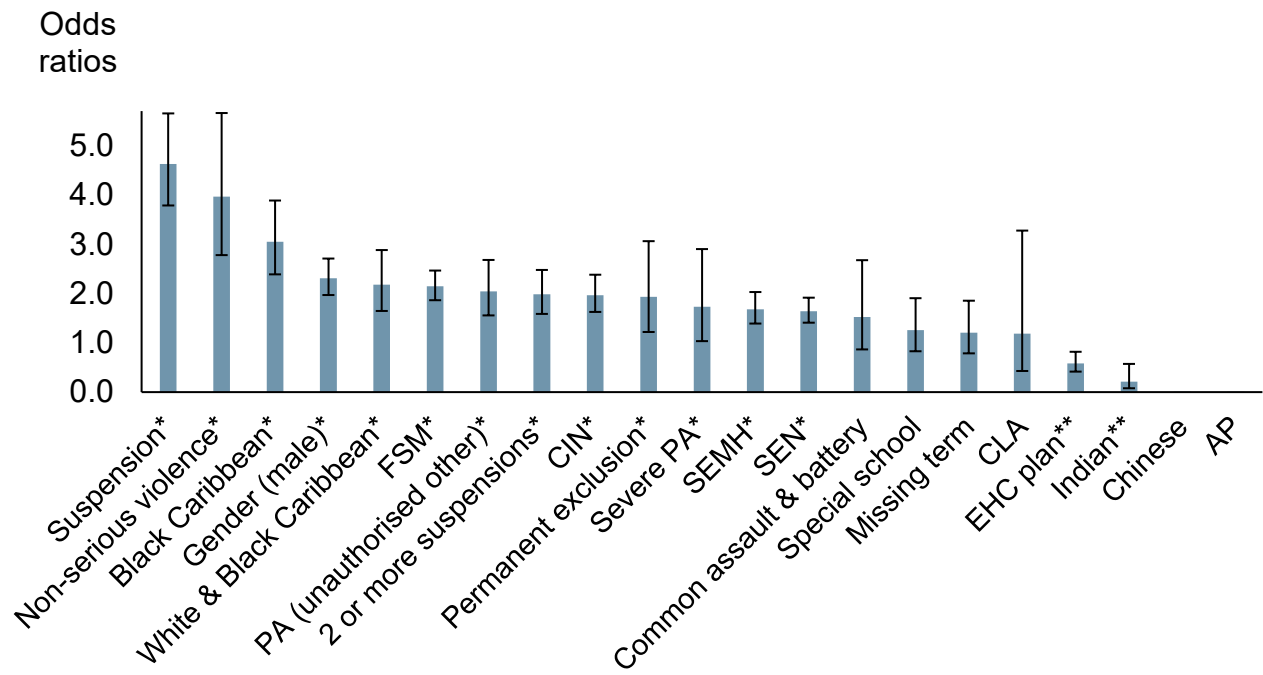|										
Population density										
- Between	1.34 *	(0.15)	1.11	(0.06)	1.21 *	(0.06)	1.18 *	(0.04)	1.13 *	(0.05)
- Within	0.47	(1.38)	1.09	(0.86)	0.91	(0.51)	0.41	(0.23)	0.41	(0.26)
% EHC plan in mainstream										
- Between	1.06	(0.08)	1.02	(0.05)	0.94	(0.04)	0.99	(0.03)	1.00	(0.03)
- Within	1.64 *	(0.34)	1.07	(0.15)	1.11	(0.11)	1.14	(0.10)	1.24 *	(0.10)
Intercept	0.00 *	(0.00)	0.00 *	(0.00)	0.00 *	(0.00)	0.00 *	(0.00)	0.00 *	(0.00)

Annex D: Odds ratios (figures)

The following figures summarise the odds ratios estimated for the pupil level characteristics for each model to contextualise the findings.

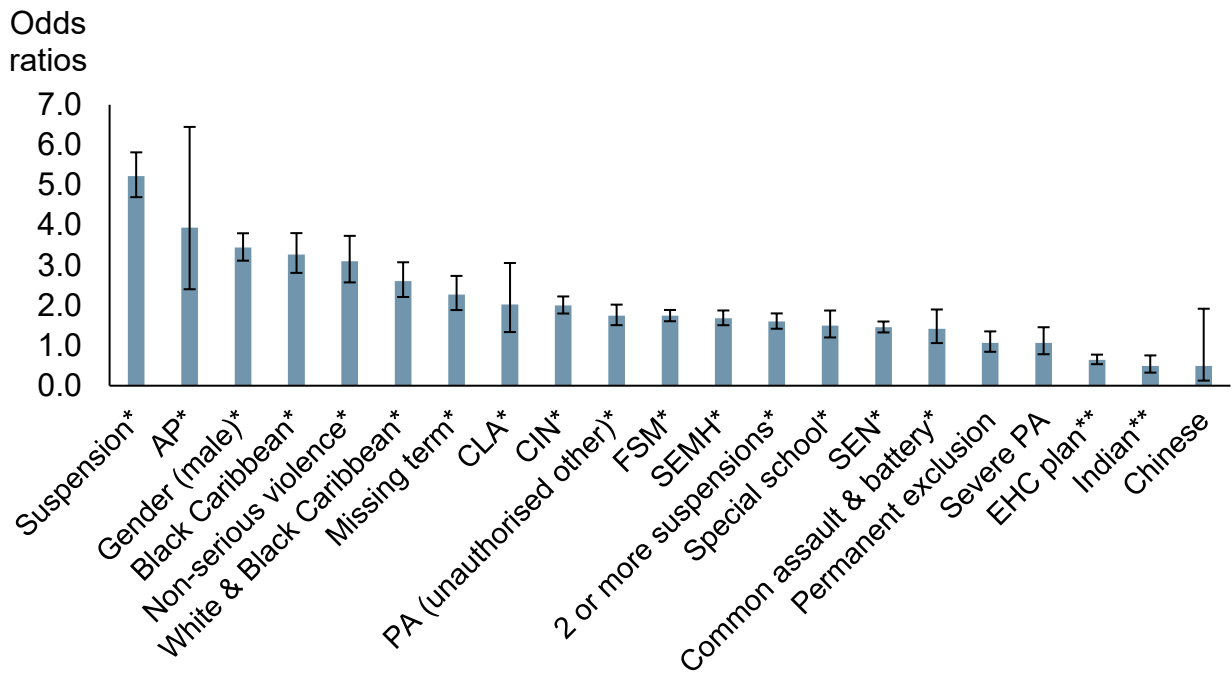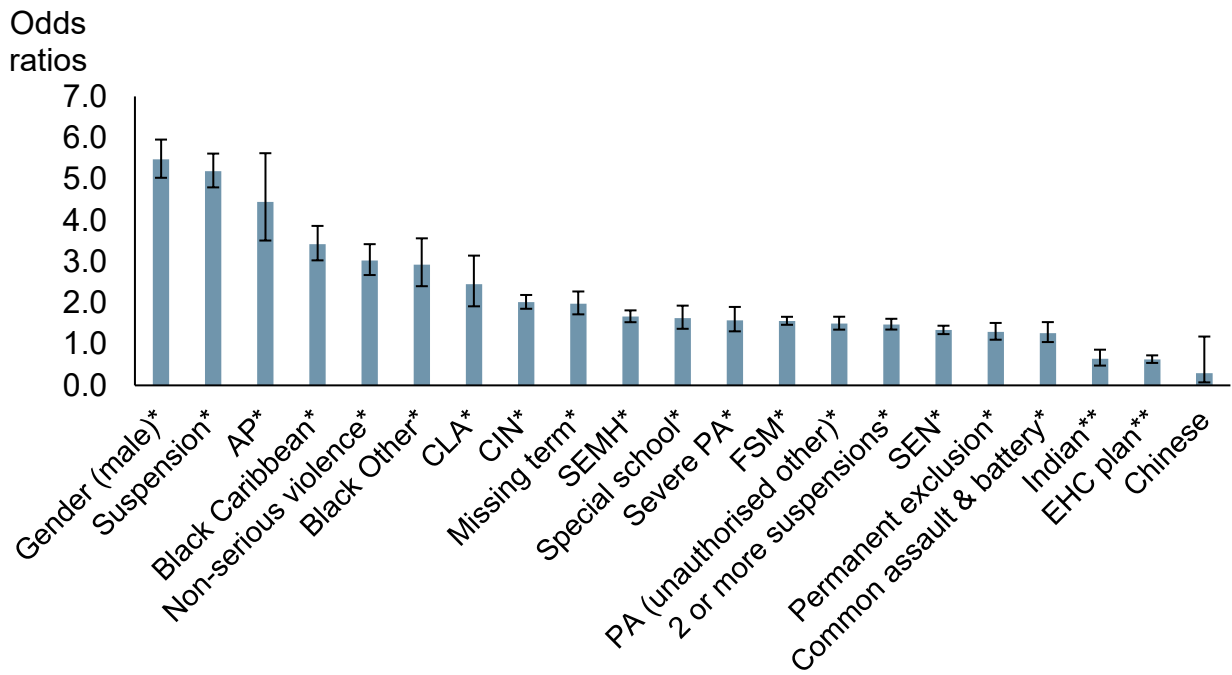**Figure 57: Model 1 individual level odds ratios[215]**

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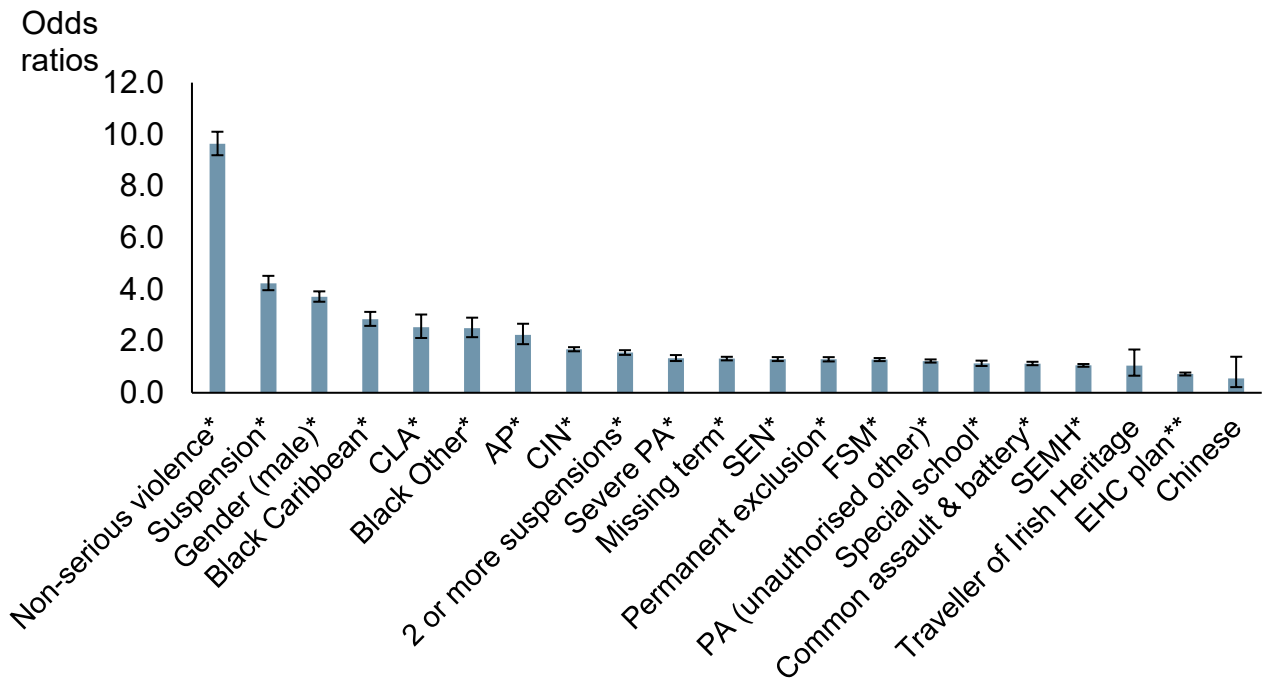
[215] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

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Figure 58: Year 7 model individual level odds ratios[216]

Odds ratios

5.0
4.0
3.0
2.0
1.0
0.0

Suspension*
Non-serious violence*
Black Caribbean*
Gender (male)*
White & Black Caribbean*
FSM*
PA (unauthorised other)*
2 or more suspensions*
CIN*
Permanent exclusion*
Severe PA*
SEMH*
SEN*
Common assault & battery
Special school
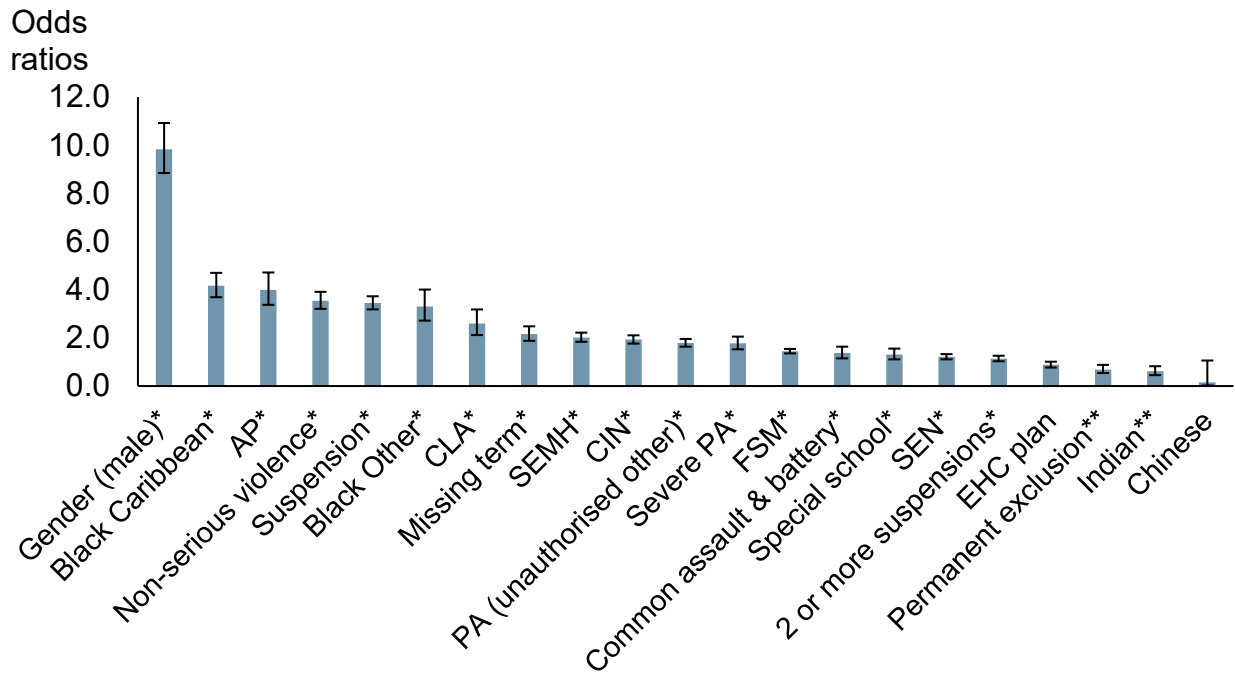Missing term
CLA
EHC plan**
Indian**
Chinese
AP

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[216] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

Figure 59: Year 8 model individual level odds ratios[217]

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[217] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

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Figure 60: Year 9 model individual level odds ratios[218]

Figure 61: Year 11 model individual level odds ratios[219]

[219] * indicates statistical significance at the 95% level or above and that the odds ratio is greater than 1; ** indicates statistical significance at the 95% level or above and that the odds ratio is less than 1.

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