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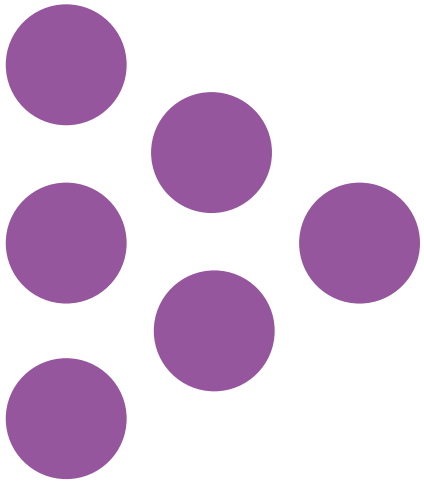
Report

Do free schools increase opportunities and reduce disparities in economic and social outcomes?

Embargoed until 00.01 Thursday 10th July 2025

National Foundation for Educational Research (NFER) and Manchester Metropolitan University (Manchester Met)



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Do free schools increase opportunities and reduce disparities in economic and social outcomes?

Will Cook (Manchester Met), Andrew Smith, Jenna Julius, Juan Manuel del Pozo Segura, Robert Wishart (NFER)

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About the research team

The research team was led by Dr Will Cook (Manchester Met) and co-led by Jenna Julius (NFER). Andrew Smith (NFER) managed the research project. Analysis was undertaken by Dr Will Cook, Juan Manuel del Pogo Segura (NFER) and Robert Wishart (NFER).

Other NFER staff contributing to the project included Dr Stephen Welbourne, Chris Morton, Chihiro Kobayashi, Kamaljit Ahitan and Jude Hillary.

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The views expressed in this report do not necessarily reflect those of these individuals or their organisations.

Glossary

Absence: Defined as a percentage of the total number of possible 'sessions' (half days) absent in each of Key Stage 3 and Key Stage 4.

Cohort difference-in-differences (DiD): A statistical modelling method which compares the outcomes of pupils in catchment areas with free schools (before and after the free school opened) to similar areas without free schools.

Deprived areas: For the purposes of this report, deprived areas are defined using the Index of Deprivation Affecting Children (IDACI). This is a composite index measuring the proportion of all children aged 0 to 15 living in a particular area from income-deprived families.

Facilitating subjects: A-level subjects commonly required or preferred by universities to be admitted onto to a range of degree courses.

Free schools: New all-ability schools established to meet a need for high-quality school places in an area.

Free school rounds: For the purposes of this report, *round* is used to reference the years in which free schools opened. Round 1 references free schools which opened in 2011/12, round 2 references free schools opened in 2012/13 and so forth.

Progress 8: Measures a pupil's attainment against the average attainment score of pupils with the same prior attainment.

Sibling fixed effects: A statistical modelling method which compares the outcomes of pupils who were enrolled at free schools (at any point during secondary school) to their siblings who progressed through schooling before the free school opened.

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Executive Summary

Free schools are all-ability schools established to meet a need for high-quality school places in an area. Whilst the programme evolved over time, they were first established as a means to introduce competition and innovation into the school system.

This report provides the most rigorous assessment to date of the impact which secondary free schools have had since their introduction in 2010. It builds on previous literature by improving on the methods used by drawing on more robust approaches, and extending the outcomes and timeframes considered.

It draws on two approaches to estimate the causal effect of secondary free schools: the first approach establishes the effect of enrolling in a free school on pupil outcomes, while the second approach considers the effect of living in a free school catchment area on pupil outcomes (regardless of whether the pupil attended a free school). As the latter approach is much more conservative, we would expect estimates from this method to be smaller than those of the former such that it is less likely that significant differences are identified.

Enrolling in a free school is estimated to have had a significant positive effect on Key Stage 4 (KS4) attainment

We find that a pupil enrolled at a free school was 4.6 percentage points more likely to be awarded five GCSEs graded 9-4/A*-C (including English and Maths) compared to their siblings enrolled at other types of schools. This represents a large positive effect: it is equivalent to an average pupil's likelihood of achieving this threshold increasing from 56.5 per cent to 61.1 per cent as a result of attending a free school[1]. A comparable pattern was found for Progress 8 scores and for pupils living in deprived areas.

Considering all pupils living in a free school catchment area, our modelling generally found positive effects, but these were largely not statistically significant and therefore may have occurred by chance.

There is evidence that enrolling in a free school had a significant impact on lowering pupil absence, especially in KS4

We estimate that the absence rate of a pupil enrolled at a free school during KS4 was 0.7 percentage points lower than their siblings enrolled at other types of schools. This represents a large reduction in the absence rate: it is equivalent to an average pupil's absence rate falling from 7.2 per cent to 6.5 per cent as a result of attending a free school. This finding was similar for and for KS3 pupils (albeit magnitudes were smaller) and for pupils living in the most deprived areas.

For all pupils living in a free school catchment area, our modelling suggests that free schools reduced absence rates, but the effects were only statistically significant for free schools which opened in certain years.

[1] Over the study period and analysis sample.

Secondary free schools had no clear impact (positive or negative) on school suspensions

Suspensions across schools have increased substantially following the Covid-19 pandemic (DfE, 2025) and are indicative of the behavioural challenges faced by schools and the approaches used to address these. We do not find any evidence that suspensions differ between free schools and non-free schools for all pupils, or those living in the most deprived areas.

Secondary free schools appear to have had a positive impact on A-level participation

We estimate that a pupil enrolled at a free school was 3.5 percentage points more likely to be taking at least one A-level compared to their siblings enrolled at other types of schools. This is equivalent to an average pupil's likelihood of enrolling in an A-level increasing from 40.5 per cent to 44.0 per cent as a result of attending a free school. This finding was similar for pupils living in the most deprived areas

As with KS4 attainment, considering all pupils living in a free school catchment area, our modelling generally found positive effects, but these were largely not statistically significant.

Findings also suggest free schools may have supported university participation, albeit evidence is less strong than other outcome measures

We estimate that a free school pupil is 2.3 percentage points more likely to enrol at university compared to their siblings – although there is a wide range of uncertainty around this estimate. This finding was not observed for pupils from the most deprived areas, nor for pupils enrolling at a Russell Group university. Similarly, results considering all pupils living in a free school catchment area were varied.

Conclusions

Together our results paint a broadly positive picture of the impact which secondary free schools have had on pupils, including those in deprived areas. However, given the diversity of schools set up by the free schools programme (as outlined in Section 1), further research is required to understand exactly why secondary free schools have been successful in supporting the outcomes of pupils – and identify whether any lessons can be drawn to enable both new and existing schools to better support pupil outcomes, particularly for those in deprived areas.

1 Introduction

Educational performance varies widely across England, with lower education outcomes associated with adverse economic, health and social outcomes (Feinstein *et al.*, 2006; Valero, 2021). Reducing educational inequality therefore is central to increasing opportunities and reducing disparities for people and places across the UK.

Free schools are all-ability schools established to meet a need for high-quality school places in an area. They were first established by the Coalition Government in 2010 to introduce competition and innovation into the school system. Whilst the priorities of the programme have evolved over time, free schools have been proposed by some as a means of increasing educational performance in disadvantaged areas (Gove, 2011).

This report provides the most comprehensive and rigorous assessment to date of the impact of secondary free schools since the introduction of the programme in 2010. It considers the impact of the programme on a range of outcomes including GCSEs, A-level participation and university enrolment.

1.1 Policy and background

Free schools were originally set up with the intention of bringing new and innovative providers – including parents and teachers – into a more autonomous and self-improving school system, driving up standards through greater school choice (Evennett, 2019).

The free schools programme was originally similar to the Charter School system in the United States and 'Friskolor' schools in Sweden.

Free schools are directly funded by the Government and have the same legal status and freedoms as academies, including having flexibility over decisions such as the curriculum they offer, setting teacher pay and conditions, and the length of the school day. Many of the more recent free schools have been set up by existing multi-academy trusts to provide more school places (Garry *et al.*, 2018). Free school providers are not allowed to make a profit from running their schools.

Free schools, as with all new schools, face a large number of challenges when being set up and becoming established. As highlighted by the National College for School Leadership, these range from working within a restricted timetable, finding suitable premises, attracting pupils and staff, and building relationships within the local community (Dunford *et al.*, 2013).

Applications to open a free school have largely been done in batches known as 'waves' (DfE, 2023). For each wave, the Government published a set of wave-specific criteria[2] for opening a new free school and invited bids. Proposer groups that were able to meet the criteria submit an application to the Department for Education (DfE) for approval. To date, there have been 15 free school waves.

In this report, we refer to *rounds* to reference the years in which free schools opened, as schools from the same waves may have opened

[2] Approval criteria differed between free school waves.

over different years whilst schools from different waves may have opened at the same time.

The criteria and process used to assess free school applications has evolved over time. For example, a need for local school places and the standards of local schools were only formerly part of the assessment criteria for new free schools from wave five onwards (DfE, 2017).

In addition, over the period analysed, previous NFER research categorised less than one in three secondary free schools as demonstrating a genuinely novel approach to the curriculum or to their ethos (Garry *et al.*, 2018). Where innovations were identified, these were wide-ranging in nature highlighting the diversity of the schools opened through the programme.

In October 2024, the Government announced it would be pausing progress on any mainstream free schools which had been approved but not yet opened, while it reviewed the 'need for places in their local area" and whether they "offered value for taxpayers' money" (Philipson, 2024). Similarly, the 'free schools presumption process' – a process which has required any new school to be a free school since 2015 – is set to be removed in the Children's Wellbeing and Schools Bill (Brader, 2025).

The current decline in pupil numbers in primary schools is set to impact secondaries from 2028 onwards. This means that less additional capacity will be required throughout the school system than has been needed in the last decade (DfE, 2024a).

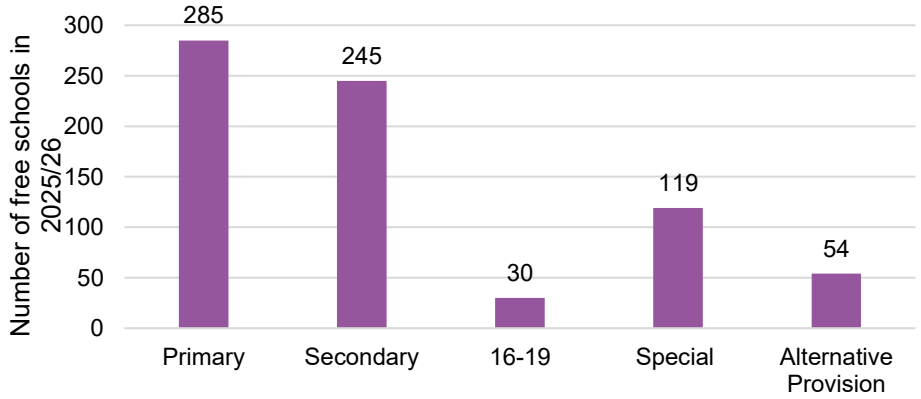
Nevertheless, developing an understanding of the impact that the free schools programme has had on regional disparities is key for drawing potential lessons on how disparities in outcomes by socio-economic background may be addressed going forward. Further, as new schools are always likely to be needed in some areas to reflect differences in demographic trends, lessons that can be drawn from the free schools programme will remain relevant.

1.2 The current free school landscape

As of January 2025, 530 mainstream primary and secondary free schools were open, educating over 250,000 pupils, as shown by Figure 1 (DfE, 2025a). In addition, there are just over 200 special, alternative provision and 16-19 free schools.

Compared to other schools, pupils in secondary free schools are more likely to be disadvantaged, to come from an ethnic minority background and to have English as an additional language (Julius, Hillary and Veruete-Mckay, 2023).

Figure 1 Number of free schools, January 2025



Source: DfE School, Pupils and their Characteristics publication

1.3 Evidence to date

This research builds on an existing evidence base which has considered the impact of free schools on pupil performance.

Previous research has generally suggested that the impact of secondary free schools on pupil results has been positive. Julius, Hillary and Veruete-McKay (2023) found that pupils in secondary free schools achieved just over a grade higher at KS4 than their counterparts in other schools once pupil- and school-level characteristics were controlled for. However, there was some degree of uncertainty around their estimates[3].

Similarly, Higham *et al.,* (2024) found that pupils in secondary free schools made greater progress than their counterparts outside of free schools. However, they found that pupils performed no better or worse than similar schools in terms of attainment. Both these studies used matching approaches, which are inferior to the causal approaches used in the present report.

Bertoni, Heller-Sahlgren and Silva (2023) also analysed the impact of two secondary free schools and found them to have had a statistically significant positive impact on attainment.

Whilst the present study is focused on the impact of secondary free schools on pupil outcomes, both Highman et al., and Julius, Hillary and Veruete-McKay find that primary free schools performed worse than a matched sample of similar schools.

One of the original aims of the free school programme was that it would support improvements in pupil outcomes by stimulating competition in local areas. Higham *et al.*, (2024) found evidence for modest competition effects at secondary, but no evidence for these at primary.

[3] Results were largely only significant at a 90 per cent confidence level, rather than a 95 per cent confidence level.

2 Methodology

2.1 Overview

This section provides an overview of our research approach which seeks to identify the causal effects of free schools on a range of pupil outcomes between 2015/16 and 2022/23. These outcomes include attainment at Key Stage 4 (GCSE and Progress 8), absence and suspension (previously called fixed-term exclusion) during secondary school, Key Stage 5 participation, and university enrolment.

A fuller description of our methodology can be found in Appendix A.

Our analysis used the DfE's National Pupil Database (NPD) to identify cohorts of secondary free school pupils entering Year 7 from the 2011/12 academic year onwards. We then linked these pupil-level data to Higher Education Statistics Authority (HESA) data about pupils' university enrolment, and publicly available Getting Information About Schools (GIAS) data.

2.2 Methodological challenges

There are several key challenges associated with estimating the impact of free schools on pupil outcomes.

Firstly, the set of pupils who are enrolled in free schools may have characteristics which make them systematically different from other pupils and which cannot be observed in the data. For example, if free school pupils were more likely to come from families who were less risk averse, then this could bias our results (this issue is commonly referred to as 'selection on unobservables').

Secondly, the opening of a free school may have impacted neighbouring schools as well as the pupils who themselves were enrolled in the free school. This adds complexity in disentangling the impact of free schools on outcomes.

Thirdly, free schools did not all open at once, which means that any impacts from their opening are staggered. This is further complicated by the fact that free schools varied considerably in terms of their ethos, culture and target intake over time.

2.3 Empirical approaches

For each outcome we used two main methods to estimate the causal effect of secondary free schools, and within each method we analysed results for: i) all pupils; and ii) pupils living in the most deprived areas[4]. The impacts estimated using each method differ as follows:

- **Sibling Fixed Effects (sibling model):** This method compares the outcomes of pupils who were enrolled at free schools to their siblings who progressed through schooling before the free school opened, benchmarked against sibling pairs where neither sibling attended a free school. It estimates the impact of being enrolled in a free school on a pupil's outcomes.
- **Cohort difference-in-differences (DiD models):** This method compares the outcomes of pupils in catchment areas with free schools before and after the free school opened to similar areas without free schools. DiD models estimate the impact of

[4] Pupils living in the 20 per cent most deprived Lower Super Output Areas (LSOAs).

a free school opening on a pupil's outcomes in the free school's catchment area (regardless of whether the pupil was actually enrolled in the free school)[5].

The two methods are both robust approaches for estimating the impacts of free schools on pupil outcomes, but each method has particular strengths and limitations.

Compared to other approaches used to evaluate free schools previously (e.g. using a matched design), the sibling model is more robust because it accounts for factors common within the family (e.g. parental views) which may differ across pupils but cannot be observed in the data[6]. However, a limitation of the approach is that it assumes that a younger siblings' choice to attend a free school is unrelated to their older siblings' experience of secondary school. For example, if the older sibling has a poor experience of school leading their parents to enrol their younger sibling at a free school. Where this assumption is violated, this approach may suffer from bias. We have, however, conducted robustness checks to test this hypothesis.

A particular strength of sibling models is that they estimate the direct effect of enrolling at (i.e. being taught in) a free school. In comparison, the DiD models estimate the impact of the free school on all the pupils in their catchment area, including pupils who lived in the area but who were not taught in free schools. As a result, DiD model estimates are more limited in their ability to detect effects, and we expect the magnitude of the effects estimated by the DiD models to be smaller than those estimated by the sibling models. Nevertheless, these models are an important aid for understanding the effects of free schools on areas and place-based outcomes.

In addition, the DiD model does not require any assumptions about sibling pairs, or any other factors which may have driven certain pupils to attend free schools. This is because we use a pupil's location in their reception year to define our DiD catchment areas enabling us to exclude any impacts on families who might have moved to an area specifically to access the free school (as the free school would not have existed at that stage). However, the DiD model still relies on the assumption that at the point at which the free school opened there were no other factors which changed between free-school catchment areas and non-catchment areas. We check for this by ensuring that pupil outcomes in free school catchment areas and non-catchment areas were on a similar trajectory prior to the free school opening.

For each outcome, the sibling model estimates combined impacts of free schools opening in different rounds, whereas DiD models estimate impacts separately for each round.

[5] For the purposes of our analysis, any lower super output area (LSOA) where at least 25 per cent of pupils attended the free school is considered to be a catchment area. This threshold was chosen in order to strike a balance between ensuring a sufficient number of LSOAs were included and that these areas had a sufficient number of free school pupils.

[6] Our modelling also includes a baseline of sibling pairs neither of whom attended a free school.

3 Key Stage 4 attainment

Impact on pupils enrolled at a free school:

- Enrolling in a free school is estimated to have had a significant positive effect on KS4 attainment for all pupils and pupils living in deprived areas.

Impact on pupils living in a free school catchment area:

- Effects on both GCSE attainment outcomes and Progress 8 scores varied across the free school rounds. Most estimates are not statistically significant.

Figure 2 presents our estimates of the impact of free schools on KS4 attainment in terms of the likelihood of a pupil being awarded five GCSEs graded A*-C (including English and Maths). We focus on this measure, rather than Attainment 8 – the main headline accountability measure for attainment – as this enables us to analyse data over a longer period.

The leftmost estimate (sibling model) on the figure shows that this likelihood is 4.6 percentage points higher amongst pupils who were enrolled in a free school compared with their siblings who enrolled in secondary school prior to the free school opening. This represents a large positive effect: it is equivalent to an average pupil's likelihood of achieving this threshold increasing from 56.5 per cent to 61.1 per cent as a result of attending a free school[7]. This estimate was statistically significant, which means that it is unlikely to have occurred by chance.

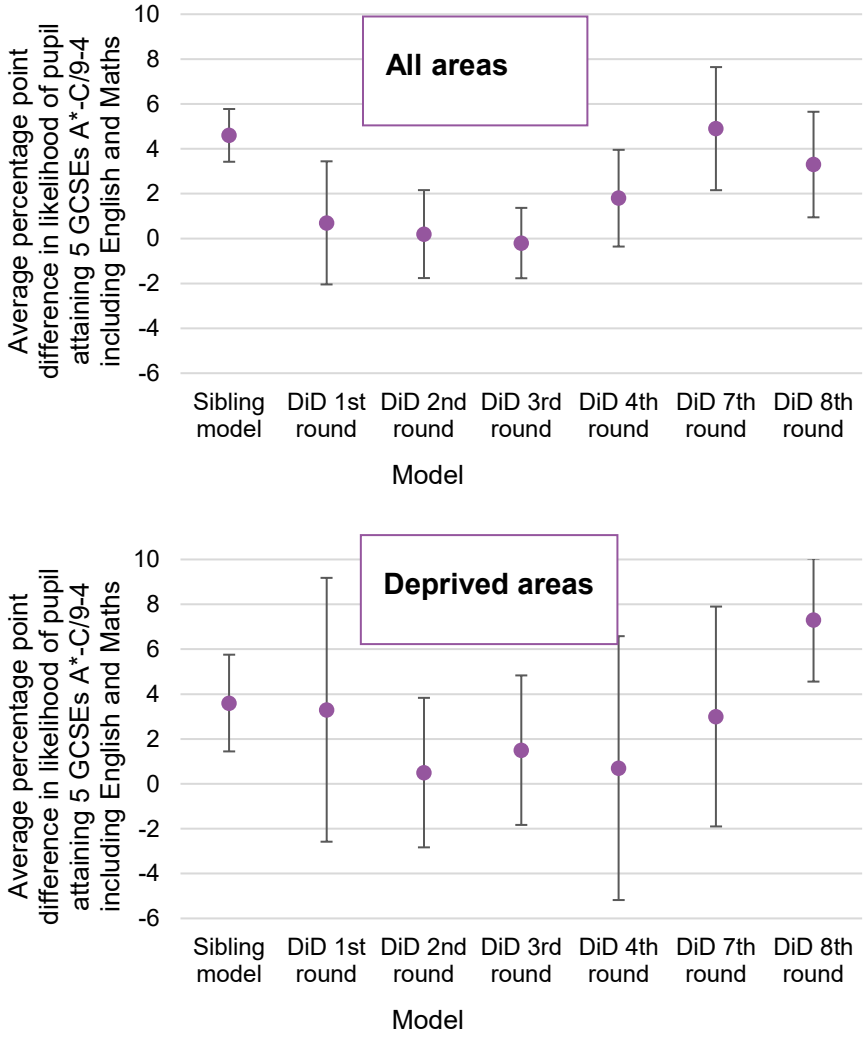
A note on interpreting findings

The sections below present findings from our two approaches, **the sibling model** and **DiD models** separately for each round of free school openings. As outlined above, these two types of model estimate different things and should be interpreted accordingly. We generally expect the magnitudes of results from our sibling models to be greater than our DiD models, as sibling models estimate impacts on pupils who were enrolled in free schools whilst DiD models estimate impacts on all pupils living in a free school's catchment area.

Where estimates are presented using figures a 95 per cent confidence interval has been presented (using a vertical line) to illustrate that any point estimate (e.g. 2 percentage points higher) lies within a range and is therefore imprecise. Where this range crosses over with the zero axis, this indicates that any estimated impact is not statistically significant and could have simply occurred by chance.

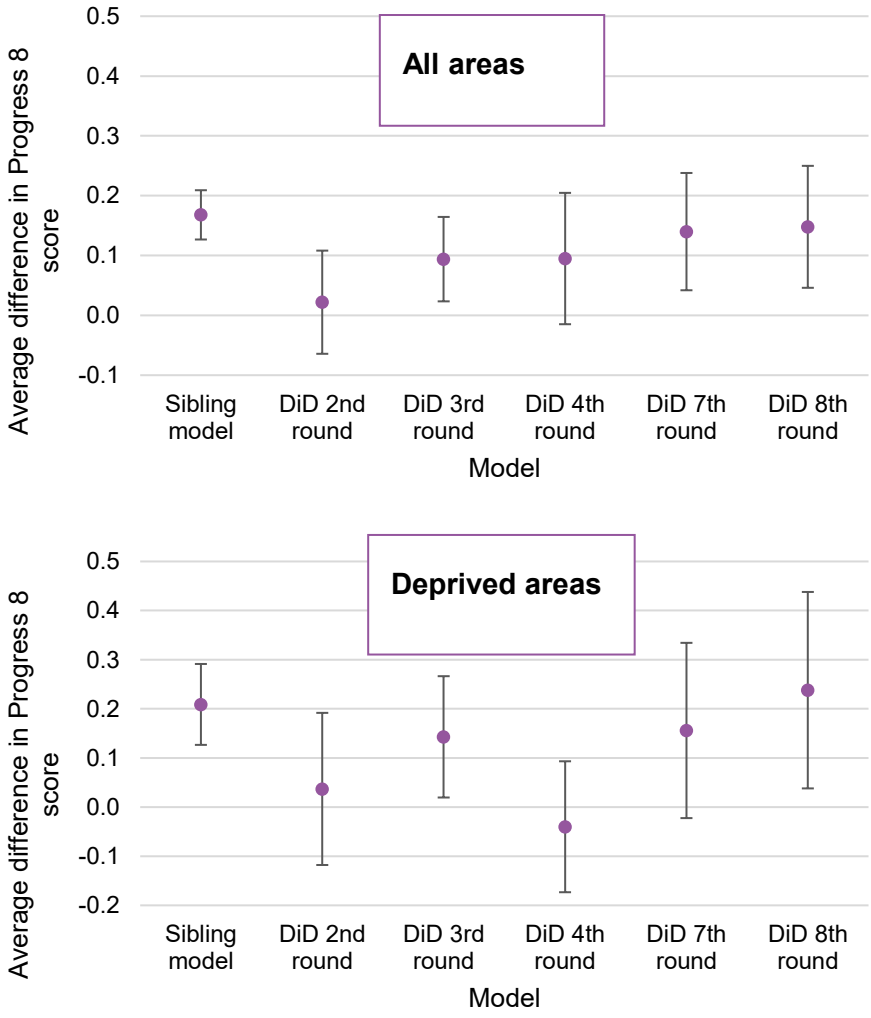
[7] Over the study period and analysis sample.

Figure 2 Impact of free schools on KS4 attainment (GCSE)



Sources: NPD, GIAS

Figure 3 Impact of free schools on KS4 attainment (Progress 8)



Sources: NPD, GIAS

Figure 2 also presents our DiD results which estimate the impact of a pupil living in a free school catchment area compared to those living outside of a free school catchment area. Unlike the sibling model, these estimates are presented by round of free school opening, omitting rounds for which pupil national assessments were affected by the Covid-19 pandemic (the fifth and sixth rounds).

Similar to the sibling models, the DiD estimates suggest that free schools have had a broadly positive impact on pupils' results (with the likelihood of a pupil being awarded 5 GCSEs graded 9-4/A*-C estimated at between 0.2 percentage points lower and 4.9 percentage points higher for pupils in free school catchment areas compared to non-free school catchments). However, the results for the early rounds were not statistically significant and may have occurred by chance.

The second panel of Figure 2 also presents estimates for pupils in the most deprived areas only. The sibling model result is comparable to the full sample with a statistically significant positive effect, albeit with a slightly smaller magnitude (3.6 percentage points). DiD models also found results similar to those for all pupils; with generally positive effects for pupils enrolled in any school in a free school catchment area, the majority of which were not statistically significant.

Figure 3 presents the estimated effects of free schools on KS4 attainment in terms of Progress 8 scores. A positive Progress 8 score means that a pupil made greater progress than other pupils who had the same prior attainment, while a negative score means the pupil made less progress compared to their peers.

The results presented in Figure 3 are broadly comparable to those presented in Figure 2: sibling model estimates are positive and statistically significant (an average effect of 0.2 additional Progress 8 points for pupils who were enrolled in a free school, indicating that free school pupils achieved on average 0.2 of a grade higher in each of their subjects compared to pupils with similar prior attainment). DiD model estimates are also positive, although smaller when compared with the sibling model estimate, and statistically significant in only three of the five rounds for which impacts were estimated for this outcome. These findings are also similar for Progress 8 scores amongst pupils living in the most deprived areas.

Overall, our results indicate that the impact of free schools on KS4 attainment has been positive.

In general, estimates were largest and consistently statistically significant for the sibling models as compared to results from DiD models. This is to be expected given that DiD models include pupils who live in the catchment area regardless of whether or not they are enrolled in a free school (i.e. they are measuring the effect on all pupils in an area). In addition, the differences observed in estimates across the different rounds of the DiD models may be due to the fact that the make-up of new free schools opening varied across rounds of the programme (e.g., need for new school places in the area became a more important criteria as the programme progressed).

4 Absence during Key Stages 3 and 4

Impact on pupils enrolled at a free school:

- There is evidence that enrolling in a free school had a significant impact on lowering pupil absence, especially in KS4.
- This finding was similar for pupils living in the most deprived areas.

Impact on pupils living in a free school catchment area:

- Reduced absence rates at KS3 in free school catchments, but effects were only statistically significant for free schools which opened in certain years.
- For pupils living in the most deprived areas and KS4, results were more mixed.

Figure 4 and 5 present the estimated impacts of free schools on KS3 and KS4 absences based on sibling and DiD models. Absences are defined as a percentage of the total number of possible 'sessions' (half days) absent.

Figure 5 shows that the estimated effect of being enrolled in a free school on absences at KS4 (based on sibling models) is statistically significant and associated with a reduction in absences for all free school pupils (0.7 percentage points lower) and those in the most deprived areas (0.8 percentage points lower). This represents a large reduction in absence rate: it is equivalent to an average pupil's absence rate falling from 7.2 to 6.5 per cent as a result of attending a free school.

In comparison, Figure 4 shows that these effects are smaller for KS3 than for KS4: being enrolled in a free school is associated with a statistically significant reduction in absences for all pupils and those in the most deprived areas (by 0.3 and 0.4 percentage points respectively[8]).

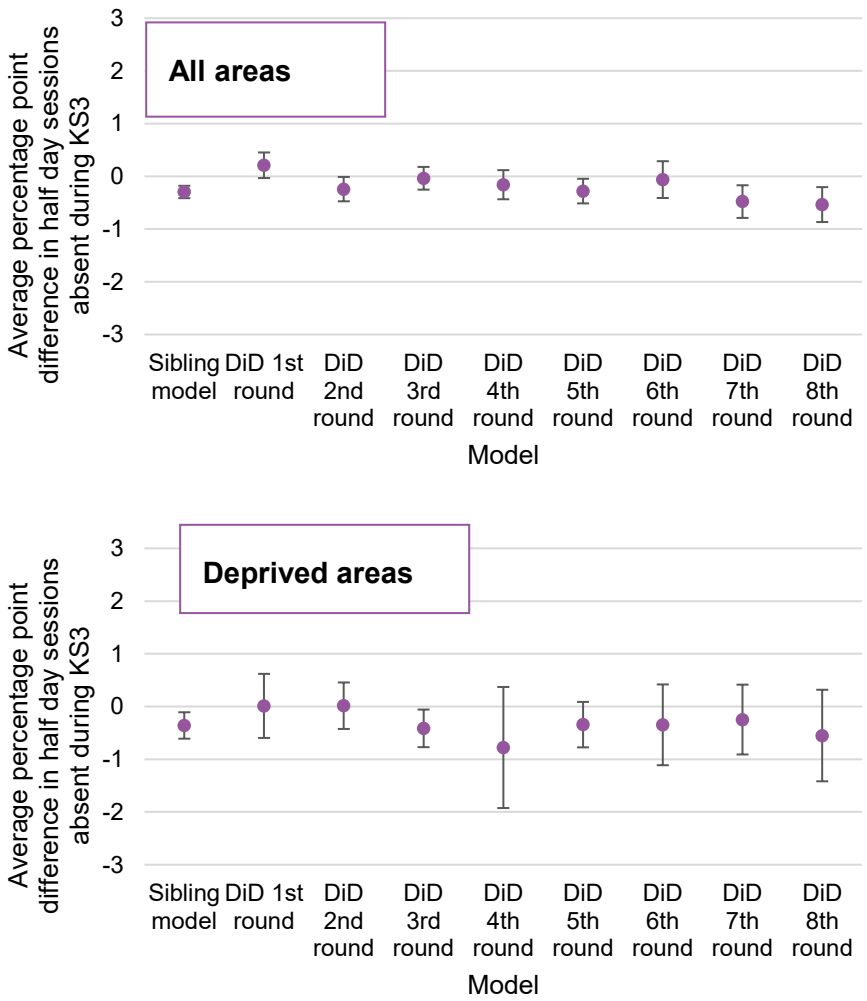
For pupils enrolled in any type of school in a free school catchment area (DiD model), Figure 4 shows that the majority of rounds were also associated with reductions in absence at KS3, these being statistically significant in four out of the eight rounds, in the range of 0.2 to 0.5 percentage points.

However, there was only one statistically significant finding across rounds for pupils in deprived areas (Figure 4). In comparison, the DiD results were less encouraging for KS4 with the estimated effects only being statistically significant in a smaller number of rounds (for all pupils and for pupils in the most deprived areas), as shown by Figure 5.

Overall, the impact of free schools on pupil absence appears to be positive – suggesting that free schools have been partly shielded from some of the impacts from the current attendance crisis in England's secondary schools (Harris *et al.*, 2025). However, it is not clear whether this is due to specific actions that free schools may have been taking, or due to structural factors (e.g., if free schools had smaller class sizes as they became established, they may have been more able to follow up and address poor attendance compared to other schools).

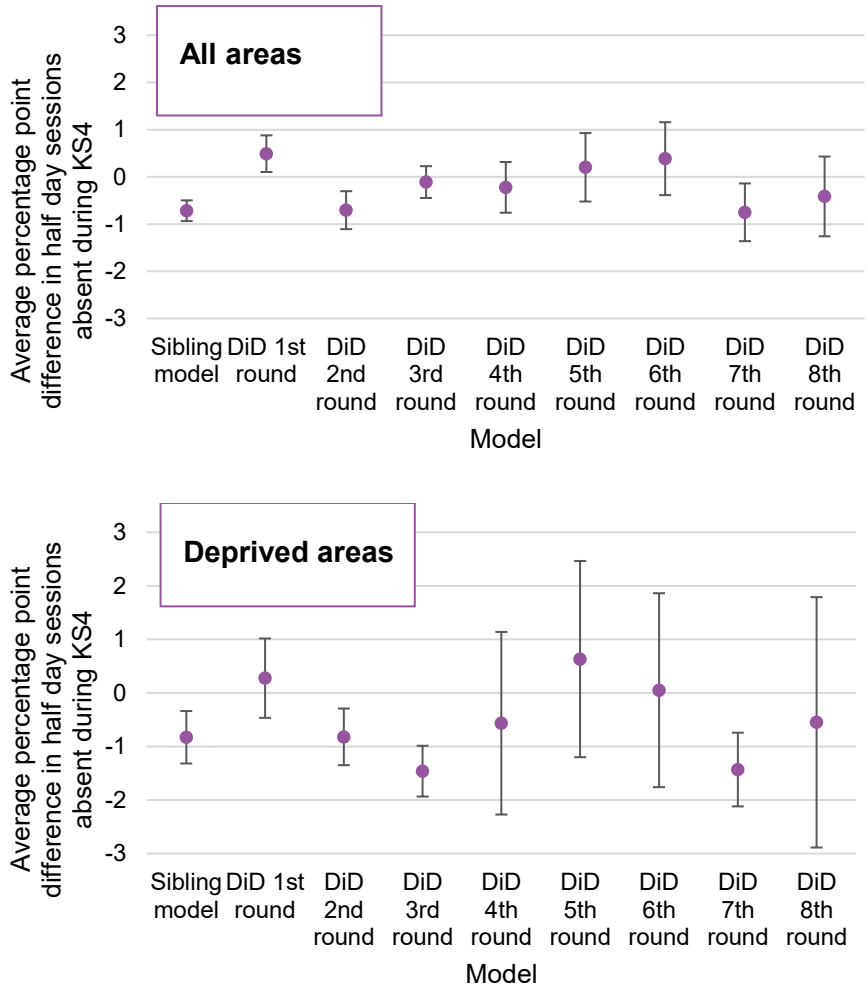
[8] Average KS3 absence rate over the study period and analysis sample was 5.5 per cent.

Figure 4 Impact of free schools on absence at KS3



Sources: NPD, GIAS

Figure 5 Impact of free schools on absence at KS4



Sources: NPD, GIAS

5 Suspensions during secondary school

Impact on pupils enrolled at a free school: No statistically significant effects on the suspension rates of pupils were observed, either for all pupils or those living in the most deprived areas.

Impact on pupils living in a free school catchment area: The majority of rounds were not associated with any statistically significant effects on suspensions (for both all pupils and those living in the most deprived areas).

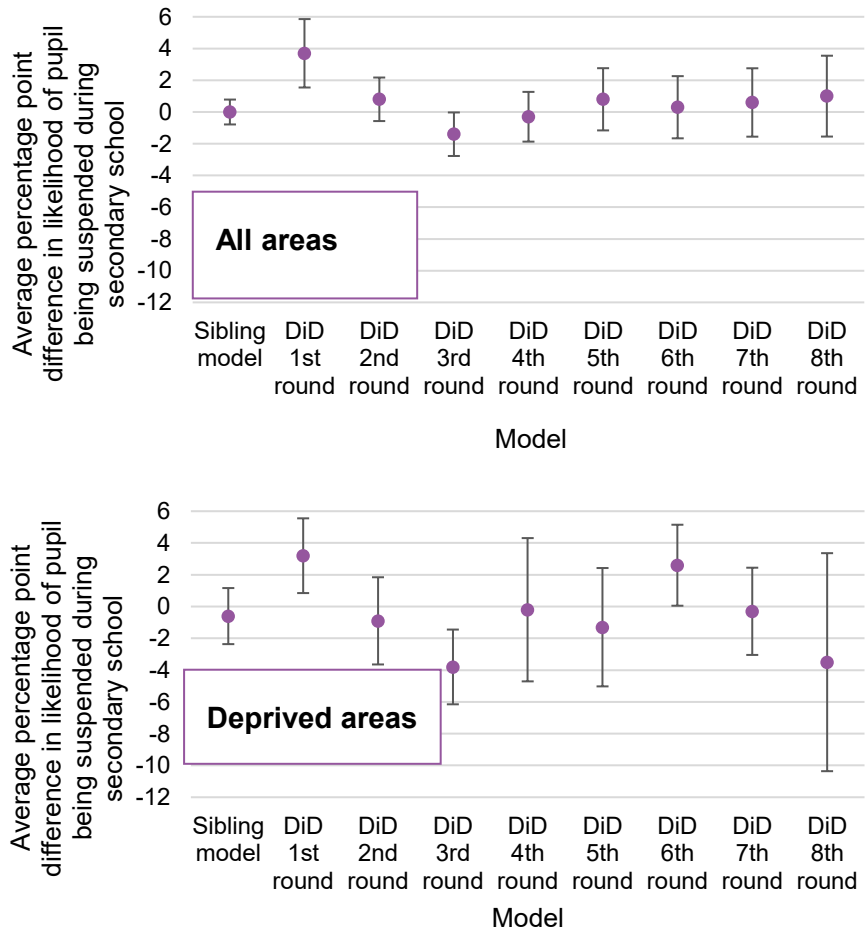
'Suspensions' refer to exclusions from school for a fixed period of time – previously referred to as fixed term exclusions (DfE, 2024b). Similarly to absences, suspensions have increased substantially following the Covid-19 pandemic (DfE, 2025b) and are indicative of behavioural challenges in schools.

Figure 6 shows that we did not find any statistically significant impacts of being enrolled at a free school (sibling model) on the probability of a pupil having at least one suspension in secondary school, either for all pupils or for those living in the most deprived areas.

Impacts on the suspension rate for all pupils in a free school catchment area (DiD models) were varied with the majority of estimates not being statistically significant, and some evidence of both positive and negative effects. It is therefore not possible to reach a firm conclusion about the effects of free schools on suspensions for all pupils.

The pattern for pupils in the most deprived areas enrolled in any type of school in a free school catchment area were similarly varied, both in terms of whether they were statistically significant across rounds and the direction of the effect.

Figure 6 Impact of free schools on rate of suspensions



Sources: NPD, GIAS

6 A-level participation

Impact on pupils enrolled at a free school:

- Secondary free schools appear to have had a positive impact on A-level participation. This finding was similar for pupils living in the most deprived areas.

Impact on pupils living in a free school catchment area:

- Effects on either taking A-levels or facilitating A-levels varied across the free school rounds.

Figure 7 presents our estimates for the impact of free schools on KS5 participation, defined as whether a pupil took at least one A-level. The sibling model estimated the effect of being enrolled in a free school to be statistically significant, with a 3.5 percentage point greater likelihood of taking at least one A-level, compared with pupils in other types of schools. This is equivalent to an average pupil's likelihood of enrolling in an A-level increasing from 40.5 to 44.0 per cent as a result of attending a free school.

Estimates of the effects of being enrolled in any school in a free school catchment area (DiD models) were also generally positive whist not being statistically significant.

We observe a similar pattern of findings for pupils in the most deprived areas with the sibling model estimating the effect of being enrolled in a free school to be statistically significant and associated with a 10.0 percentage point increase in likelihood of taking at least one A-level compared with pupils in other types of school.

Figure 8 also presents the effect of free schools on KS5 participation in terms of whether a pupil took at least one A-level in a *facilitating subject*. Facilitating subjects are subjects commonly required or preferred by universities to be admitted onto to a range of degree courses[9]. For our definition we included biology, chemistry, English, geography, history, maths, modern and classical languages, and physics.

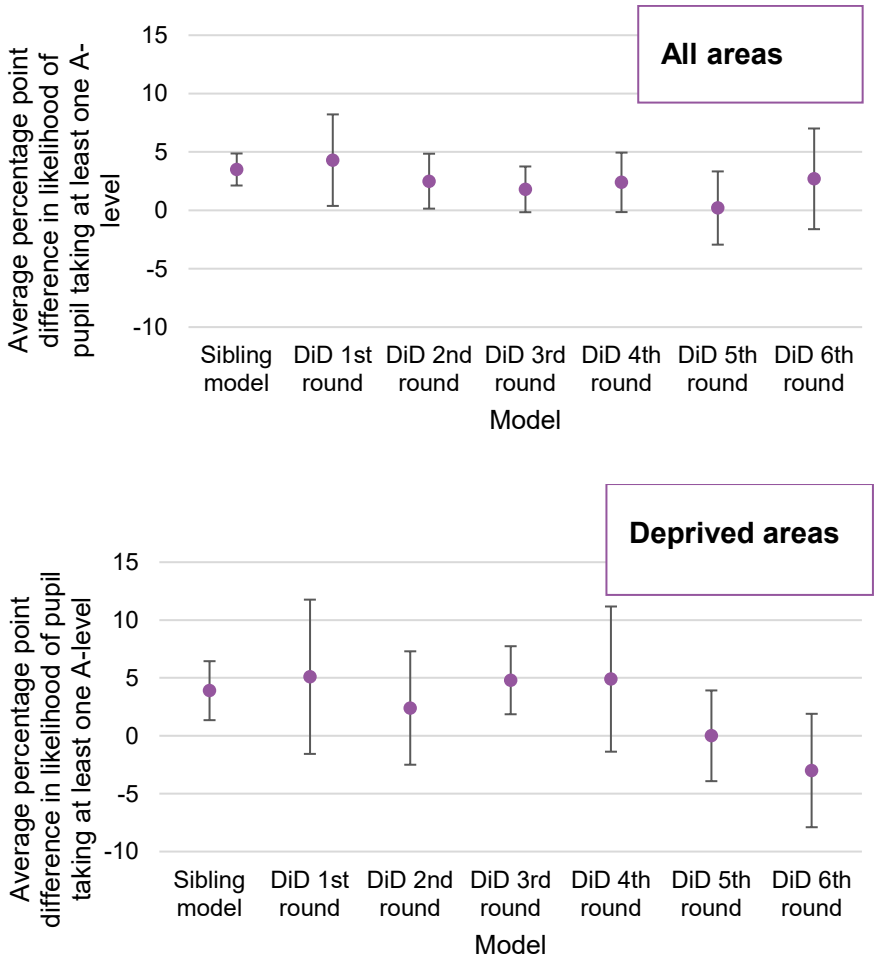
Figure 8 shows that being enrolled at a free school had a positive and statistically significant effect on the likelihood of taking at least one A-level in a facilitating subject (at 1.6 percentage points greater for those enrolled in free schools, an increase from 14.4 per cent to 16.0 per cent in the average in the likelihood of the outcome[10]). For pupils in the most deprived areas no statistically significant effect was observed using the sibling model.

Positive effects were also estimated in some rounds for all pupils in schools in free school catchment areas. However, these varied across the free school rounds.

[9] In 2011, the Russell Group published guidance recommending that students with ambitions to study at competitive universities should have A-levels in at least two facilitating subjects to improve their chances of getting a place. They have since replaced this guidance with their Informed Choices hub (Russell Group, 2025).

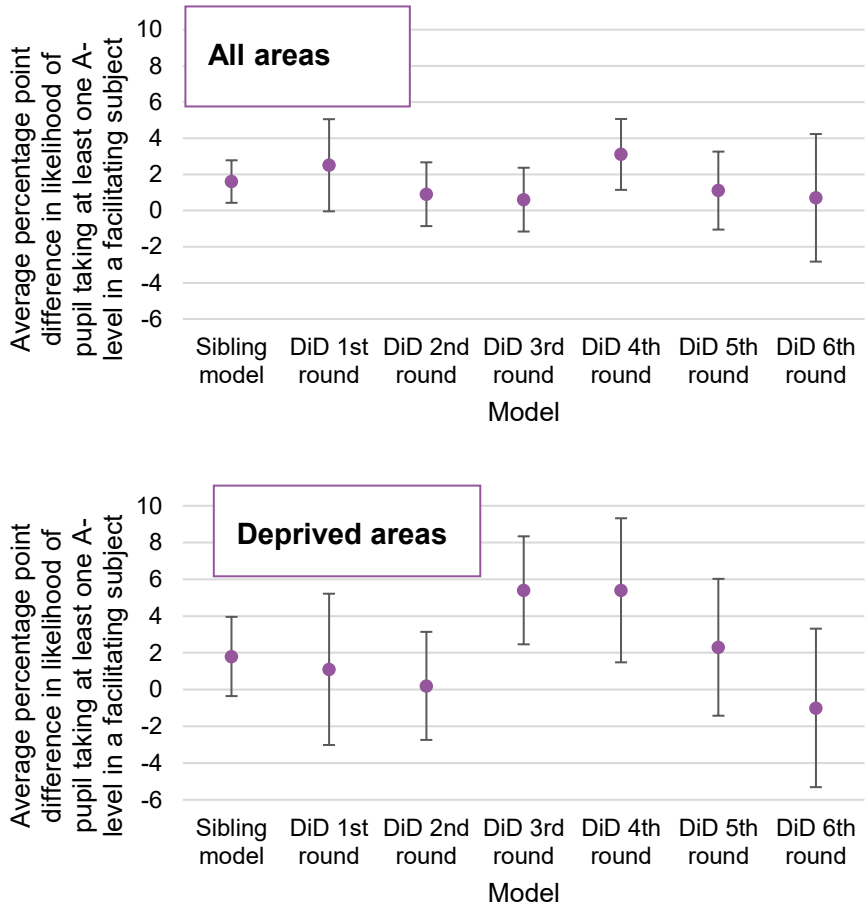
[10] Average likelihood of taking at least one facilitating A-level over the study period and analysis sample was 15 percent.

Figure 7 Impact of free schools on A-level participation



Sources: NPD, GIAS

Figure 8 Impact of free schools on A-level facilitating subject participation



Sources: NPD, GIAS

7 University enrolment

Impact on pupils enrolled at a free school:

- Free schools may have supported university participation, albeit this finding was not observed for pupils from the most deprived areas, nor for pupils enrolling at a Russell Group university.

Impact on pupils living in a free school catchment area:

- Effects on either enrolling at a university or a Russell Group university varied across the free school rounds, and most estimates were not statistically significant.

Figure 9 presents our estimates for the impact of free schools on whether a pupil enrolled at university. The sibling model estimated the effect of being enrolled in a free school to be statistically significant, with a 2.3 percentage point greater likelihood of enrolment at a university, for all pupils enrolled in free schools, compared with those who were not[11]. There is, however, a wide range of uncertainty around this estimate.

Figure 10 also presents the impacts of free schools on enrolment at Russell Group universities more specifically. For the sibling models there were no statistically significant effects for either group of pupils.

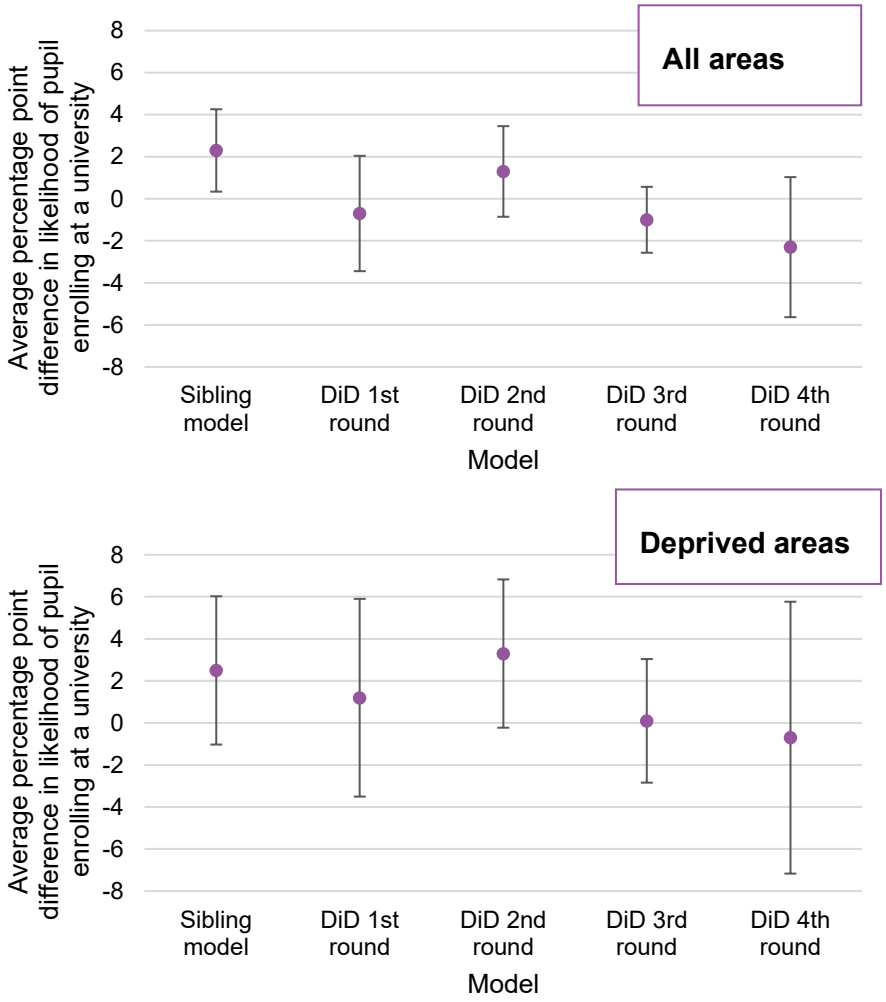
For university enrolment, Figure 9 highlights that estimated effects of being enrolled in any university in a free school catchment area (DiD models) were generally negative but not statistically significant.

Conversely, as shown by Figure 10, estimated effects were generally positive for estimating the impact of being enrolled in a Russell Group university.

Overall, the DiD model results present a mixed picture for the impact of free schools on university enrolment on pupils in free school catchments. This is not altogether surprising, as university enrolment is a less immediate outcome compared to the other outcomes presented in this report.

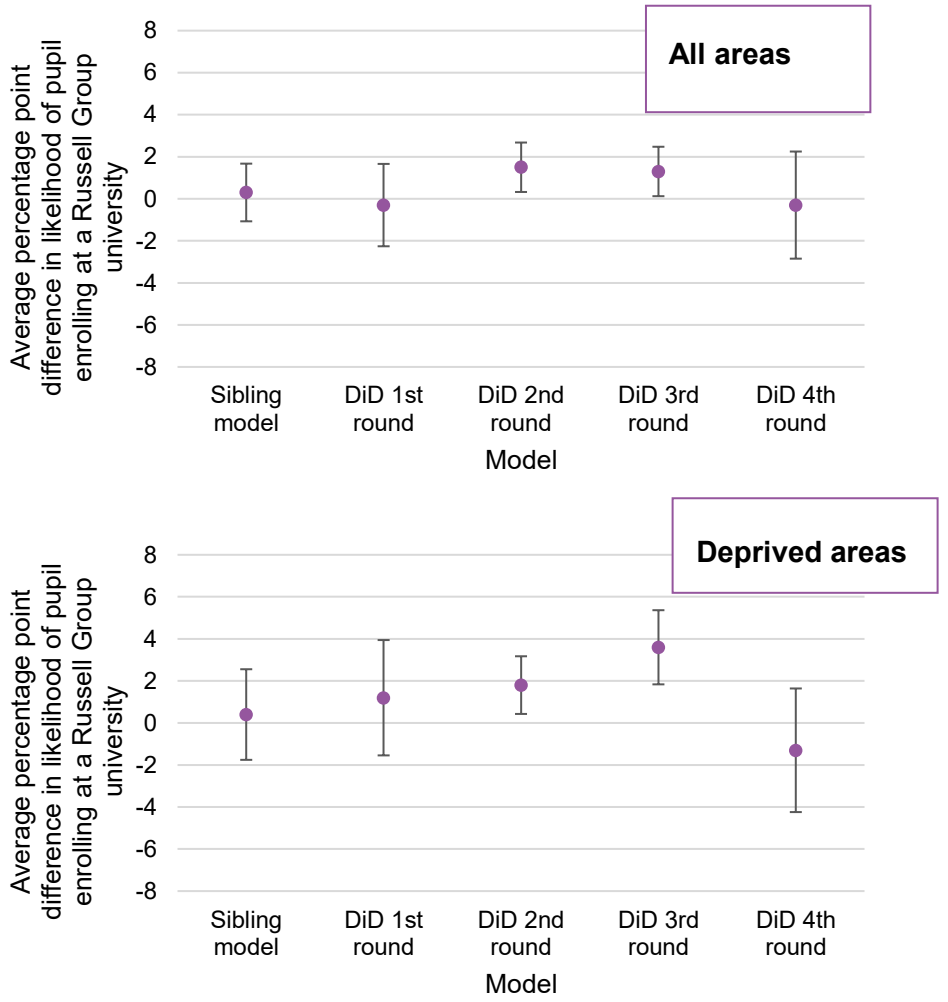
[11] Average likelihood of enrolling at a university over the study period and analysis sample was 44 percent.

Figure 9 Impact of free schools on university enrolment: any university



Sources: NPD, GIAS, HESA

Figure 10 Impact of free schools on university enrolment: Russell Group university



Sources: NPD, GIAS, HESA

8 Summary and policy implications

This report provides novel evidence on the impact of secondary free schools on pupils. It builds on previous literature by improving on the methods used, and extending the outcomes and timeframes considered.

It shows that their impact has generally been positive over a wide range of pupil outcomes including KS4 attainment, secondary school absence, KS5 participation, and university enrolment. In addition, we find some evidence of secondary free schools supporting the outcomes of pupils in disadvantaged areas.

While it is not possible to conclude all the positive effects observed did not occur by chance, we find no evidence of the free schools programme having adverse effects on any of the measures considered[12].

Looking to the future

Our results paint a broadly positive picture of the impact which secondary free schools have had on pupils, including those in deprived areas. However, given the diversity of schools set up by the free schools programme (as outlined in Section 1), further research is required to understand exactly why secondary free schools have been successful in supporting the outcomes of pupils – and identify whether any lessons can be drawn to enable both new and existing schools to better support pupil outcomes, including those in deprived areas.

[12] Although the literature on primary free schools has found evidence for negative impacts.

References

Bertoni, M., Heller-Sahlgren, G. and Silva, O. (2023) *Free to improve? The impact of free school attendance in England*. Available at: https://www.ifn.se/media/mwhluuz0/wp1476.pdf (Accessed: 2 July 2025).

Brader, C. (2025) *Academy schools: Government plans for change*, *House of Lords*. Available at: https://lordslibrary.parliament.uk/academy-schools-government-plans-for-change/ (Accessed: 2 July 2025).

DfE (2017) *Mainstream free school applications: assessment of need and deprivation. Wave 12 update*. Available at: https://assets.publishing.service.gov.uk/media/5a822ae340f0b6230269b318/wave_12_free_schools_basic_need_and_deprivation.pdf (Accessed: 2 July 2025).

DfE (2023) *How to apply to set up a mainstream free school*, *GOV.UK*. Available at: https://www.gov.uk/government/publications/free-school-application-guide/how-to-apply-to-set-up-a-mainstream-free-school (Accessed: 2 July 2025).

DfE (2024a) *National pupil projections, reporting year 2024*, *GOV.UK*. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/national-pupil-projections/2024 (Accessed: 24 June 2025).

DfE (2024b) *Suspension and permanent exclusion from maintained schools, academies and pupil referral units in England, including pupil movement*. Available at: https://assets.publishing.service.gov.uk/media/66be0d92c32366481ca4918a/Suspensions_and_permanent_exclusions_guidance.pdf (Accessed: 2 July 2025).

DfE (2025a) *Schools, pupils and their characteristics, Academic year 2024/25*, *GOV.UK*. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics/2024-25 (Accessed: 3 July 2025).

DfE (2025b) *Suspensions and permanent exclusions in England, Spring term 2023/24*, *GOV.UK*. Available at: https://explore-education-statistics.service.gov.uk/find-statistics/suspensions-and-permanent-exclusions-in-england/2023-24-spring-term (Accessed: 2 July 2025).

Dunford, J. *et al.* (2013) *Establishing and leading new types of school: challenges and opportunities for leaders and leadership*. Available at: https://assets.publishing.service.gov.uk/media/5a7f07cbe5274a2e8ab49b9b/establishing-and-leading-new-types-of-school-full.pdf (Accessed: 2 July 2025).

Evennett, H. (2019) *Free schools: contribution to improving educational standards*. Available at: https://dera.ioe.ac.uk/id/eprint/32720/1/LLN-2019-0001.pdf (Accessed: 2 July 2025).

Feinstein, L. *et al.* (2006) 'What are the effects of education on health?', in R. Desjardins and T. Schuller (eds) *Measuring the effects of civic engagement: proceedings of the Copenhagen Symposium*, pp. 171–255. Available at: https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=32e9079959269c5af50f7ad11a74712968cb01cb (Accessed: 2 July 2025).

Garry, J. *et al.* (2018) *Free for all? Analysing free schools in England, 2018*. Available at: https://www.suttontrust.com/wp-content/uploads/2019/12/FreeForAll-SuttonTrustNFER-1.pdf (Accessed: 2 July 2025).

Gove, M. (2011) *Michael Gove's speech to the Policy Exchange on free schools*, *GOV.UK*. Available at: https://www.gov.uk/government/speeches/michael-goves-speech-to-the-policy-exchange-on-free-schools (Accessed: 2 July 2025).

Harris, E. *et al.* (2025) *Who is losing learning? Finding solutions to the school engagement crisis*. Available at: https://www.ippr.org/articles/who-is-losing-learning-solutions (Accessed: 2 July 2025).

Higham, R. *et al.* (2024) *The free schools experiment. Analysing the impacts of English free schools on neighbouring schools*. Available at: https://discovery.ucl.ac.uk/id/eprint/10195862/7/The%20Free%20Schools%20Experiment.Final.pdf (Accessed: 2 July 2025).

Julius, J., Hillary, J. and Veruete-McKay, L. (2023) *Free schools: the formative first ten years - an analysis of the impact of free schools since 2010*. Available at: https://www.nfer.ac.uk/publications/free-schools-the-formative-first-ten-years-an-analysis-of-the-impact-of-free-schools-since-2010/ (Accessed: 2 July 2025).

Philipson, B. (2024) *Mainstream free schools: review*, *UK Parliament*. Available at: https://hansard.parliament.uk/commons/2024-10-22/debates/24102240000014/MainstreamFreeSchoolsReview (Accessed: 2 July 2025).

Russell Group (2025) *Informed choices*, *Informed choices*. Available at: https://www.informedchoices.ac.uk/ (Accessed: 27 June 2025).

Valero, A. (2021) *Education and economic growth*. 1764. Available at: https://cep.lse.ac.uk/pubs/download/dp1764.pdf (Accessed: 2 July 2025).

Appendix A: Methodology

As outlined in Section 2, the key issue with evaluating the impact of free schools is that applying to, and gaining admission to a free school is unlikely to be random. This means that simply comparing the outcomes of free school pupils against those who are enrolled in other schools would not be informative as there are variables that might be correlated with free school admission that will also be related to the outcome we are measuring.

For example, it may be that free schools attract parents who are more willing to take the 'risk' of choosing a new/untested school for their child. If this is true then there are likely to be other aspects of this household – alongside being enrolled in a free school - that impact attainment, such as parental encouragement and attitudes.

We could attempt to control for these sorts of factors by using the variables we have available, either through including these variables in a regression model as control variables, or by matching free school pupils with a sample of pupils with similar characteristics and then comparing outcomes. However, the variables available in the National Pupil Database (NPD) only allow us to control for a limited number of characteristics which can be observed - for example, we know that parental education is a strong predictor of a child's outcomes, however, within the NPD we do not have a measure of this; it is 'unobservable' in our modelling.

Therefore, in order to generate causal estimates of the impact of free schools we need to structure models that will, under certain assumptions, control for the influence of both observable and unobservable variables. The two approaches we use are:

ii) Sibling Fixed Effects (FE)
ii) Cohort difference-in-differences (Cohort DiD)

Sibling Fixed Effects (sibling model)

In the NPD, sibling groups are identified by the Department for Education (DfE) based on whether pupils share the same name and address. Sibling Fixed Effects models use fixed effects at the level of the sibling group ID to estimate models of the form:

$$Y_{ijst} = \alpha + \gamma \cdot FS_{ijst} + \beta \cdot X_{ijst} + \delta_j + \epsilon_{ijst}$$

where:

- Y_{ijst} represents the educational outcome for student *i* in family *j* in LSOA *s* at time *t*.
- FS_{ijst} is a binary variable indicating whether the student was enrolled in a free school at any point.
- X_{ijst} is a vector of control variables, including birth order and fixed pupil characteristics.
- τ_t represents the time fixed effects, capturing unobserved time-specific factors that apply to each cohort.
- δ_j represents the sibling fixed effects.
- ϵ_{ijst} is the error term.

Standard errors are clustered at the level of the Lower Level Super Output Area (LSOA) and the sibling group (i.e. the household).

In this model γ represents the causal estimate on outcome y of being enrolled in a free school. By including sibling fixed effects, all variables

that affect outcome Y that are common to siblings within the sibling group are controlled for (for example, parental education level). This method therefore attempts to ensure that the causal estimate of being enrolled in a free school is not biased by certain types of families electing to send their child to a free school, i.e. all between sibling group differences are controlled for in this model. We know that most free schools were set up to fill from the bottom up (from Year 7). As such, the justification for this approach is that, within a family, whether a pupil could enrol in a free school was essentially random as it would be determined by the timing of when a local free school was set up.

In order to rely on γ as a causal estimate of the effect of being enrolled in a free school, we need to assume that there are no 'within family' variables that affect the outcome Y that also influence a parent's decision to enrol their child at a free school. For example, if younger siblings were more likely to attend a free school if they were more able.

We cannot directly test this assumption; however we can use a 'placebo test' to check whether there is any evidence to challenge it. To do so we re-estimate the sibling fixed effect model but with a pupil's KS2 score as the dependent variable. It should not be possible for enrolment at a secondary free school to have influenced a pupil's KS2 score (as they take these tests prior to secondary school), and we know that KS2 scores correlate strongly with other outcomes. If we had found a significant free school 'effect' when estimating this placebo model, it would suggest that, within family, there are systematic factors that determine whether a pupil attends a free school that vary between siblings, such as higher academic ability. No such effects are found which provides some reassurance that enrolment at a free school within a family is not systematically biased.

Cohort difference-in-differences (DiD models)

Our second approach also exploits the fact that free schools were mainly set up from the bottom up (for example with Year 7 pupils only in a free school's first year of operation). As such a free school opening in an area represents a 'shock' to school choice for those living in the area. We use DiD to model the impact of free schools on pupils that live in areas that become eligible to enrol in free schools. This approach compares the changes in outcomes over time between free school catchment areas and other areas, as the cohorts in free school catchments become eligible to enrol in free schools. Models estimated are of the form:

$$Y_{ist} = \alpha + \beta_1 \cdot Treat_s + \beta_2 \cdot Post_t + \gamma \cdot (Treat_s \times Post_t) + \theta \cdot X_{ist} + \tau_t + \epsilon_{ist}$$

- Where: Y_{ist} is the outcome variable for individual *i* who lived in LSOA *s* during their reception year at time (cohort) *t.*
- $Treat_s$ is a binary variable indicating whether LSOA *s* is in the catchment area of a free school.
- $Post_t$ is a binary variable indicating the post-treatment period.
- X_{ist} is a vector of control variables.
- τ_t are time (cohort) fixed effects.
- ϵ_{ist} is the error term.

γ captures the treatment effect, i.e., the impact of being in the catchment area of a free school after the free school opens. The credibility and the interpretation of this model is dependent on several model design choices, specifically the definition of what constitutes a free school catchment. We have defined an LSOA as being in the catchment area of a free school if at least 25 per cent of pupils that lived in the LSOA during their reception year (i.e. age 4-5) went on to enrol in the free school in the first year of opening. We have defined the catchment on the basis of a pupil's residence during reception year to avoid the potential bias of the composition of neighbourhoods changing in response to a free school being announced and opening; for most of the cohorts in our sample, their time in reception was prior to the election of the 2010-2015 government who devised and implemented the free schools policy. Our threshold of 25 per cent is based on a trade-off between ensuring that our catchment areas represent true catchments (rather than idiosyncratic admissions) and not setting the threshold so high as to reduce our sample to a small number of particular schools that may be unrepresentative of free schools overall.

As we define the treatment variable as to whether a pupil lived in a catchment area during their reception year, this will capture both pupils that went on to enrol in a free school and those that did not. Therefore the estimate γ is not a direct estimate of being enrolled in a free school. Instead it should be interpreted as a place based effect; the effect of the free school opening on the outcomes of neighbourhoods (i.e. the LSOA). This makes sense for two reasons, firstly a focus of our work is to understand how free schools might reduce place-based inequalities and this approach speaks directly to that. Second, we know that there is evidence that free schools opening in an area may induce neighbouring schools to respond and improve the outcomes of their pupils (Higham *et al.*, 2024). By using catchment areas as the treatment unit, our estimate γ captures both the direct effect of being enrolled in the free school but also the indirect impact of neighbouring schools responding to the free school. We can also modify the model to estimate effects for each cohort in an 'event study' model:

$$Y_{ist} = \alpha + \sum_{k \neq 0} \gamma_k \cdot (Treat_s \times D_{t+k}) + \beta \cdot X_{ist} + \tau_t + \epsilon_{ist}$$

Where

- D_{t+k} are the event time dummies, with *k* indicating the number of periods before or after the treatment.
- γ_k captures the effect of being in the catchment area of a free school at different event times relative to the treatment.

Interpreting γ_k as the causal impact on the catchment area of the free school is based on a number of assumptions. The core assumption for identifying causal effects using difference in difference is the 'parallel trends' assumption. This is that we assume that, in the absence of a free school opening, the difference between trends in the outcomes of pupils in free school catchments and other areas would remain constant, and therefore any deviation from this constant difference after a free school opens can be interpreted as the effect of the free school, rather than anything else. We cannot directly test this assumption (as we cannot observe what would have happened if the

free school had not opened). We can however test for whether the trends between the free school catchments and other areas appear parallel prior to cohorts being eligible to attend the free school. This is done by testing whether the coefficients on the pre-treatment cohorts (i.e. k<0 in the event study model) are statistically different from zero. In most cases this was true; there did not appear to be pre-existing trends that might explain our results, neither did we find much evidence that outcomes started to improve for cohorts who just missed out on being eligible to attend a free school. This latter result suggests that if competition effects exist, they are likely to be small (as found in Higham *et al.*, 2024). There was some evidence however there were pre-existing trends and anticipation effects for free schools that opened most recently (rounds seven and eight). This may indicate that the awareness of free schools being a competitive threat could have developed in the most recent years.

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The Mere, Upton Park, Slough, Berks SL1 2DQ
T: +44 (0)1753 574123 • **F:** +44 (0)1753 691632 • enquiries@nfer.ac.uk

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