Free schools in England
2019 report

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Foreword

The Education Policy Institute is an independent, impartial and evidence-based research institute which aims to promote high quality education outcomes for all, through analysis that both informs and influences the policy debate in England and internationally.

Since 2010, the government has allocated a large amount of its education capital budget to build new "free schools", within the state-funded school system. There are now over 500 of these free schools – representing a small but significant percentage of all state-funded institutions.

While policymakers have been concerned to ensure that as far as possible free schools contribute to the requirement to address the "basic need" for new school places, the free schools programme was primarily designed to improve access to high quality school places, not least in areas of low education attainment and progress. But how successful has the programme been? Have the new schools been well targeted at meeting basic need? Have they been established in areas of poor performance, where more high quality schools are needed? Are they popular with parents? And does their performance suggest that they are an effective way of driving up standards?

In 2017, EPI published its first report on the impact of free schools. Our conclusions were necessarily tentative, as the programme had only been in place for a limited number of years, and some of the new schools had modest amounts of data that might be interpreted. This, second, report is able to offer more confident judgements about the programme's impact to date, though we should underline that many of the free schools have been open for just a short period of time. We also make no attempt in this paper to carry out a value for money assessment of the programme.

Nonetheless, in a policy area that has been contentious and characterised by claim and counter-claim, we believe that this analysis helps to shed light on the apparent successes and failures of the programme, and it offers policymakers some suggestions for the future evolution of the policy.

As ever, we welcome comment on the analysis and conclusions of this report, which will help inform our work in this area.

Rt. Hon. David Laws

Executive Chairman, Education Policy Institute

Executive Summary

Free schools are new, state-funded schools that are independent of local authorities. They were one of the flagship education reforms introduced by the 2010 Coalition Government, based on a similar concept in Sweden and charter schools in the United States and Canada.

The first free schools opened in September 2011 and they now number over 500, and are in every region in England. In September 2019, the prime minister confirmed a renewed commitment to the free schools programme, with a further 220 set to open over the coming years.[1]

In November 2017 the Education Policy Institute published its first report assessing the strengths and weaknesses of the free schools programme based on the available evidence at that point.[2] This report delivers an update to our earlier work using the latest data, as well as extending our previous research to comment further on the reach of special free schools, and on the characteristics and performance of mainstream secondary free schools.

Access to free schools

Our previous report found that between 2011 and 2016, free schools had been contributing to the supply of new school places and were more likely to have been set up in areas with the greatest need for additional places due to a growing pupil population. It also found that they were being set up in other areas where there was already an excess in school places, which may ultimately lead to inefficiencies in the school system. The programme had also been less successful in setting up free schools in areas where greater quality school places were needed.

Looking at where free schools have been established between 2016 and 2018, we find that primary free school places continue to be created where there is greatest basic need, but that this is less the case for secondary free schools. Primary free schools have added 11 places per 1,000 pupils in the areas with the greatest demand; secondary free schools have added 4 places per 1,000 pupils in the areas of greatest demand.

Both primary and secondary free schools are also being set up in areas where there is already an excess in school capacity. In areas where there is an excess of capacity, primary free schools have added an additional 4 places per 1,000 pupils and secondary free schools have added an additional 15 places per 1,000 pupils.

These areas also tend to have good quality existing schools. **In general, when free schools are set up in areas that already have excess capacity it appears that the creation of places has not necessarily been directed towards areas in need of more high quality schools.** For example, in areas where primary school occupancy is between 90 and 100 per cent, 4.7 places per 1,000 pupils have been created in the lowest performing areas and 3.0 places have been created in the highest performing areas, but 5.4 places have been created in the average performing areas. In secondary schools with similar occupancy rates, 17.7 places per 1,000 pupils have been created in the highest performing

[1] Department for Education, 'PM Pledges Thousands More Good School Places', 9 September 2019, https://www.gov.uk/government/news/pm-pledges-thousands-more-good-school-places.
[2] Jon Andrews and Rebecca Johnes, 'Free Schools in England' (Education Policy Institute, November 2017).

areas and 23.7 places created in the second to lowest performing areas. But very few, 4.5 places, have been created in the lowest performing areas.

Where previously proposers of free schools had to demonstrate either the need for extra capacity or a need for more high quality places, the most recent call for applications to set up free schools stipulates that proposers must demonstrate both.[3]

Access to special free schools

Special free schools now represent 3.6 per cent of state-funded special schools. There are 34 open special free schools as at October 2019, with at least one in every region of England. Just over a quarter are located in London.

A small but growing minority (<1 per cent) of pupils with statements of special educational needs or with education, health and care plans (EHCPs) attend special free schools nationally. These pupils travel up to three miles farther to attend a special free school than to attend another type of state-funded special school. This finding has various interpretations, including that special free schools are being established where there is more acute need for additional capacity in special provision, or that special free schools are preferred over other special provision located nearby.

Nearly half of special free schools are yet to be inspected by Ofsted. Looking only at the 19 special free schools that have been inspected, **they are less likely than other state-funded special schools to be rated Outstanding by Ofsted, and more likely to be rated Inadequate.** This picture may change as more special free schools receive inspections.

School preferences

Our previous publication assessed the popularity of free schools in terms of admissions preferences in order to gauge parental demand. As there is no single measure for this, we looked across a basket of measures to draw an overall picture. This included ranking free schools in terms of the proportion of first preferences they received in comparison with other school types in 2015/16, and the propensity of pupils to attend a free school when it is their nearest or 'local' school.

Our findings based on the 2016/17 preferences data are broadly similar to those presented in this earlier analysis. Based on most – but not all – measures, free schools are not yet as popular as other school types:

Our first measure considers the proportion of preferences expressed that were first preference. **Of all preferences expressed for free schools, under one third were a first preference for both primary and secondary free schools – the lowest of any school type.**

Our second measure considers the number of applications received – regardless of the number of places available. This is a measure of how many parents would like their children to attend the school. **Primary free schools are more popular based on the average *number* of first preference applications they receive relative to other school types, though this is not the case for secondary free schools.** In 2016/17, primary free schools attracted, on average, 41 applications that were first

[3] Department for Education, 'How to Apply to Set up a Mainstream Free School', September 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/830148/How_to_apply_guide_W14_v3.pdf.

preference (the lowest school type on this measure was voluntary controlled schools – 25, and the highest were converter academies and community schools – both receiving 46 first preference applications on average). Secondary free schools attracted, on average, 114 first preferences – the lowest number of any school type.

Our third measure considers the number of applications received as a proportion of places available. Unfortunately, for this report we did not have the published admissions number (or PAN) available to us. Instead we have estimated it using school capacity data, and the number of year groups the school covers (we have further verified this by combining with data from the school census). **Both primary and secondary free schools appear more popular once we account for their number of applications relative to the number of spaces available in the intake year.** As a ratio of number of preferences received to number of places available, both primary and secondary free schools achieved the highest rates of any school type. The key difference between free schools and other school types was the number of third or lower preferences expressed.

Free schools are not yet the preferred 'local school'. Among local schools, families are least likely to apply to a free school as their first preference, with nearly one fifth of primary, and one quarter of secondary, applicants doing so. This is the lowest proportion of any school type but there are two important caveats:

- free schools might deliberately aim to offer something different to what is already on offer locally; and
- free schools appear to grow in popularity among local pupils as they become more established. This may also include the effect of younger siblings not applying if an older sibling is already in another school.

Looking at the characteristics of those applying, disadvantaged pupils are *more* likely to apply to secondary free schools as their first preference compared to non-disadvantaged pupils, but *less* likely to apply to primary free schools. This is a potential concern for equitable access to primary free schools.

Free schools serving disadvantaged communities

In 2017 we reported that, while a large number of free school places had been created in areas of high disadvantage, the levels of disadvantage of the pupils actually *attending* the primary free schools were below what would be expected given their location. This was also found to be the case for secondary free schools serving the most economically disadvantaged areas – suggesting that while free schools may be located in highly disadvantaged areas they were not necessarily attended by pupils that would be identified as disadvantaged. Conversely, secondary free schools serving the least economically disadvantaged areas tended to have a higher number of disadvantaged pupils than other schools.

In this analysis, based on the January 2018 school census, we find that primary free schools still do not have as many disadvantaged pupils as might be expected given the areas they serve. The proportion of pupils eligible for free school meals in primary free schools was 12.5 per cent. If it matched the proportion of the areas served it would be 15.4 per cent. **This is less the case where free schools are established in less disadvantaged catchment areas: in these instances, their pupil intake tends to be slightly more disadvantaged than average.**

In secondary free schools, it now appears that, with the exception of the most economically deprived areas, free schools are broadly representative or slightly over-representative of disadvantaged pupils in the communities they serve. Moreover, in the least economically deprived areas, secondary free schools have more disadvantaged pupils than would be expected given their catchment areas. Overall, the proportion of pupils in secondary free schools who are eligible for free school meals is only slightly below what would be expected given the communities they serve – 14.0 per cent of pupils eligible for free school meals in comparison with 14.6 per cent in the areas they serve.

Characteristics of secondary free schools' local communities

In new exploratory analysis we exploit area descriptions from the Office for National Statistics (ONS) to examine the types of areas from which free schools are drawing their pupils. These area-based descriptors are based on five main census dimensions: demographic, household composition, housing, socio-economic, and employment.

Forty-eight per cent of secondary free school pupils are drawn from just 3 of 24 different 'types' of local community (as classified by Office for National Statistics). These three areas, namely those labelled 'inner city cosmopolitan', 'urban cultural mix' and 'young ethnic communities', are among the most economically disadvantaged in England. Notably however, two other (similarly or more deprived) area 'types' are considerably under-served by free schools – namely 'hampered neighbourhoods' and 'challenged white communities'.

While these five areas are similar in terms of levels of disadvantage, there are clear distinctions between those served by free schools and those not reached by free schools in terms of the language, ethnicities and educational attainment of their residents.

We know that disadvantage, first language, and ethnicity interact in complex ways to affect educational outcomes. Therefore, a simple comparison based on economic disadvantage may not always reflect the level of educational challenge in a community. **Overall, secondary free schools in areas with similar levels of disadvantage to other state schools based on free school meal eligibility, can – and often do – have very different local characteristics. For pupils in these schools, their lived experience of disadvantage could be different to those in other schools with similar proportions of disadvantaged pupils.**

Performance of free schools

When we assessed the performance of free schools in our previous report, we concluded that there was insufficient data to reach robust conclusions on the effectiveness – good or bad – of free schools both in terms of Ofsted outcomes and pupil attainment and progress.

We do not attempt to draw a causal relationship in this analysis between attendance at a free school and pupil outcomes. **We do continue to see a mixed picture of outcomes with pupils in free schools achieving results that are below average at the end of primary school and above average at the end of secondary school.** Contextualising the results to control for pupil characteristics such as ethnicity and eligibility for free school meals provides an additional dimension to headline results.

Average attainment in primary free schools is lower than all other state-funded school types apart from sponsored academies. Once we control for pupil characteristics, primary free schools are the

lowest performing group at Key Stage 2. As with other schools, there are a wide range of outcomes for free schools, but this is particularly the case at Key Stage 2. Some perform very well on both attainment and progress, however, for others, results are exceptionally low on both measures. The very wide variation for free schools in particular may be explained by the diversity of schools now recorded as free schools including former independent schools, schools set up in response to basic need, schools designed to innovate, and schools set up in response to parental demand. We will get a better indication of the performance of primary free schools once we have more schools in which pupils joined the school – as a free school – in the reception year, and then progressed through towards the end of Key Stage 2.

Secondary free schools have the highest Progress 8 scores of any state-funded school type, even after contextualising for their pupil characteristics. For free schools the 'raw' Progress 8 score is +0.24 and after contextualising +0.12, a difference of 0.12, or one eighth of a grade per subject per pupil. So, we find that **much – but by no means all – of the high performance of some free schools is likely to be down to the characteristics of the pupils that attend them**.

We carry out additional exploratory analysis in this report using neighbourhood classifications from the Office for National Statistics. **It demonstrates that free schools, particularly those identified as high performing, are disproportionately drawing their pupils from neighbourhood types that already achieve higher results on average.** The outcomes for disadvantaged pupils in these areas is also significantly higher than the national average for such pupils, supporting previous analysis that has demonstrated some of the complex relationships between ethnicity, first language, disadvantage, and pupil progress.

This is not to dismiss the very high performance of some schools. The results in individual schools are often well above the averages seen in even the highest performing neighbourhoods. **But it is clear that far more context is needed when discussing the results of free schools and in particular the outcomes for disadvantaged pupils. This is a far from homogeneous group.**

Conclusions and recommendations

This new, exploratory, analysis examining the intakes of free schools using data from the Office for National Statistics is perhaps the most significant. It is well established that the 'school effect' on attainment is relatively small and typically accounts for less than 10 per cent of the variation in pupil outcomes. Therefore, an understanding of the intake of a school is central to understanding its performance.

These new findings have two significant implications for judging the performance of free schools, particularly in the case of pupils who are economically disadvantaged.

Firstly, secondary free schools are disproportionately drawing from neighbourhood types from which pupils, on average, perform well on the government's Progress 8 measure. Pupils in free schools identified as top-performing are almost twice as likely as other pupils to live in these highest performing neighbourhood types.

Secondly, while these neighbourhoods have high levels of disadvantage, disadvantaged pupils tend to perform much better than similar pupils nationally. Over half of pupils in top performing free schools are drawn from areas in which pupils eligible for free school meals achieve, on average, a Progress 8 score of zero – meaning that they achieve around half a grade higher in each of their GCSE subjects than similar pupils nationally. In fact, in terms of outcomes they are more similar to

non-FSM pupils nationally than FSM pupils. So, while these pupils are often economically disadvantaged, they are not educationally disadvantaged in the way that we might see in other areas.

This is not to dismiss the high outcomes of individual free schools. When we talk about high performing neighbourhoods we talk in terms of pupils achieving a fifth of a grade higher in each subject than similar pupils nationally. For the highest performing free schools this can be over one grade in each subject. However, this context is important when we are discussing the performance of free schools and in particular some of the highest performing schools – quite simply we would expect the results, in particular measures of progress, to be higher than average.

This context is also important in regard to free schools that have been established to innovate, or offer parents 'something different'.

There are likely to be implications for how we assess the efficacy of the approaches employed by these schools, whether that is in regard to curriculum, teaching, or behaviour management, and the extent to which they are transferable to other schools. We make no comment on the relative merits of any particular approach here, but the data clearly demonstrate that while some of the highest performing schools are serving communities that are economically disadvantaged, these communities are not necessarily educationally disadvantaged. More generally, the analysis from the Office for National Statistics suggests that these areas have socio-economic and cultural differences from areas that have so far been less well served by the free schools programme.

Introduction

Free schools are new, state-funded schools that are independent of local authorities. They are one of the flagship education reforms introduced by the 2010 Coalition Government, based on a similar concept in Sweden and charter schools in the United States and Canada.

They are a type of academy and operate in the same way, receiving funding directly from the Department for Education and they have more freedom than schools maintained by local authorities. Free schools can set their own pay and conditions for staff, as well as the length of term dates and the school day, and do not have to follow the national curriculum.

Free schools are not-for-profit and can be set up by parents, charities, universities, community and faith groups, independent schools, teachers, and businesses. Local authorities can also invite proposals to open a free school, if they identify a need for an entirely new school in their area. Mainstream free schools include primary, secondary and all-through schools, and sixth form colleges.

The first 24 free schools opened in September 2011, rapidly increasing to over 500 within eight years, opening in every region of England. The first alternative provision free schools and the first special free schools opened from September 2012 and 2013 respectively. There are now 34 open special free schools and 42 open alternative provision free schools. In September 2019, the new prime minister confirmed a renewed commitment to the free schools programme, with a further 220 set to open over the coming years.[4]

Free schools have proved controversial and arguments have centred on how well they meet demand for places and serve the local population, their popularity with parents and their academic performance. In 2017, the Education Policy Institute provided some of the first detailed, quantitative assessments of the programme. Our conclusions were necessarily tentative but identified both strengths and weaknesses in this major educational reform.[5]

This report provides an update to our 2017 report. We take a similar approach – using additional years of data on pupil characteristics, access, parental preferences, inspection outcomes, and attainment and progress – to perform an updated, impartial assessment of the free schools programme. We also undertake new analysis to provide a more nuanced picture on how well free schools serve their local communities and the implications for their relative performance.

As before, our assessment does not extend to post-16 performance nor does this study provide a value for money assessment or cost benefit analysis of the free schools programme. It would require a rigorous understanding of the long-term impact on pupil outcomes of attending a free school which is not currently possible. Clearly, such an analysis would also need to consider the ongoing costs associated with providing additional, sometimes surplus, school places, the capital expenditure to provide new school buildings and land (including a comparison with other approaches to new places), costs to central government, and the cost of free school closure and free school proposals that did not reach opening stage. We are considering how we might best address these issues in future studies.

[4] Department for Education, 'PM Pledges Thousands More Good School Places'.
[5] Andrews and Johnes, 'Free Schools in England'.

Part 1: Access to free schools

This section focuses on additional free school places created since May 2016, covering the expansion of existing free schools and the establishment of new ones since our previous report. In this period, proposers of free schools were required by the Department for Education (DfE) to "demonstrate parental demand [and] whether there is either a need for additional school places or a need for additional high quality school places in the local area."[6] As in our previous report, we assess the extent to which these conditions have been met.

Our previous publication reported that, by the end of 2016/17, there were 347 open free schools spread across every region in England. This represented just two per cent of all state-funded schools, with some areas of the country having no free school places at all. In assessing the extent to which DfE's conditions for opening a free school had been met, the report found that free school growth had been greatest in areas most in need of new school places, but that free schools had also provided additional places in areas where there was already an excess of capacity. These findings were broadly consistent with similar analysis conducted by NFER of free schools opening between 2013/14 and 2016/17.[7] We also found that most additional capacity had been generated by the expansion of existing schools, rather than by the establishment of free schools. Our analysis found that the free schools programme had, to date, demonstrated limited success in addressing areas of underperformance. We concluded that this may be addressed by encouraging greater growth of free schools outside of high performing London.

As well as updating this analysis, this section also introduces new analysis on access to special free schools.

Location by need for additional places

Here we calculate the change in the number of school places available to pupils, based on their home lower layer super output area (LSOA), between 1 May 2016 and 1 May 2018.[8] We then split these additional school places by how they were generated; by expansion of existing schools (free schools or other types of state-funded schools); or by establishment of new schools (new free schools or other types of new state-funded schools). [9]

To estimate the number of school places available to pupils living in a given LSOA, we calculate a proxy catchment area for each state-funded school by identifying the LSOAs that are within

[6] Department for Education, 'Mainstream Free Schools: Assessing the Need for a New School in a Local Area', March 2015, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/409701/Assessing_the_need_for_free_schools.pdf.

[7] Jen Garry et al., 'Free for All?: Analysing Free Schools in England, 2018.' (National Foundation for Educational Research, May 2018).

[8] LSOAs are small geographic areas with a population of between 1,000 and 1,500.

[9] In this period we calculate that 35 new primary free schools were established. In addition there were eight new all-through free schools and 22 new secondary free schools established. If a free school has a linked predecessor in DfE's '*Get information about schools'* database we do not count it as new provision, as these tend to be former independent schools.

reasonable travel distance of the school.[10] Each school's capacity is divided equally between all the LSOAs of which they are within reach. The total school places apportioned to each LSOA provides an estimate of the number of places available to resident phase-age pupils. We do this separately for primary and secondary school places. Using a similar approach for the number of pupils on roll in each phase provides an estimate of the number of pupils on roll in each area.

School capacity as at May 2016 and May 2018 are derived from the School Capacity (SCAP) survey. [11] This data enables us to summarise where existing schools have increased their capacity (or decreased it by closing) over the time period, and whether new schools have been established. Linking this data with additional information from DfE's 'Get Information About Schools' allows us to distinguish free schools from other types of state-funded school.

Having calculated the change in the number of school places generated by new and existing schools, we group areas by their need for extra school capacity. In order to do this for each LSOA, we estimate how full local schools would be at May 2018 had no school capacity been added since May 2016.[12] We call this the 'occupancy rate'.

While we believe that this approach provides a reliable measure of the need for more school places, it does have weaknesses. This is because it assumes the change in pupil population between 2016 and 2018 is independent of school provision. It is possible that a growth in pupil numbers in a given area is due to families relocating to be near a specific school, as opposed to, for example, expansion of neighbourhoods through the building of new housing. In other words, rather than the school places responding to local demand, it is people responding to the availability of places in the school.

Figures 1.1 and 1.2 summarise these calculations, alongside a benchmark that shows the change in number of school places required (per 1,000 pupils) to achieve an 'ideal' occupancy rate of 90 per cent for each group.[13] In other words, the points represent the demand for additional school places and provide a gauge for how far demand has been met.

We find that:

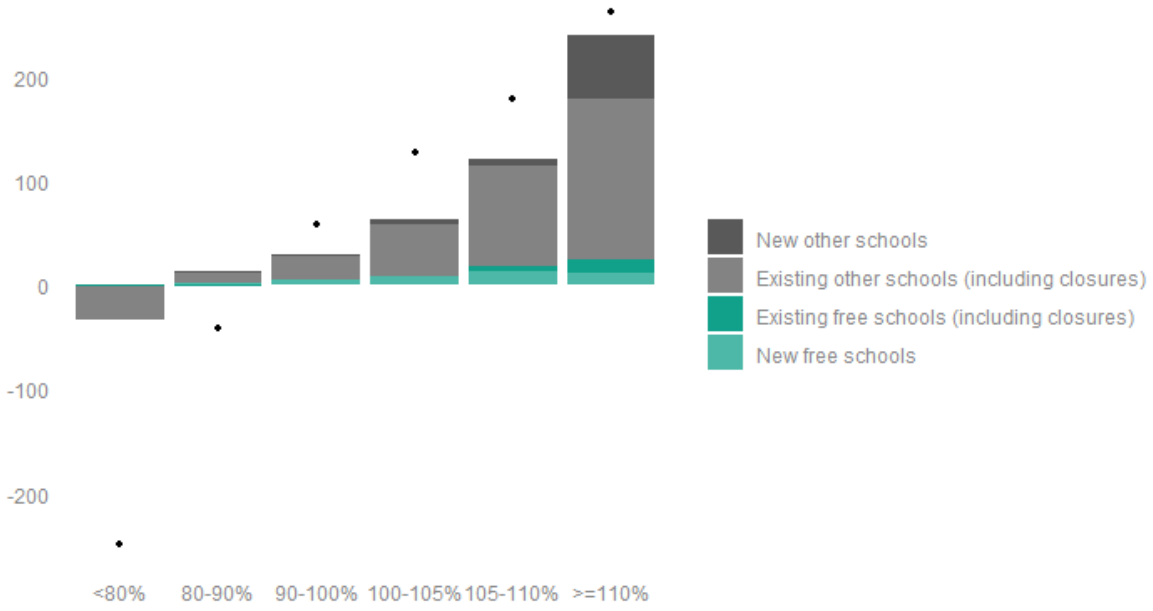
- **For primary schools, additional free school places have been created at a greater rate in areas estimated to have the greatest need for additional places.** Between May 2016 and May 2018, new primary free schools provided just under 11 places per 1,000 pupils in areas where school occupancy was estimated to be above 110 per cent. These schools added just over 4 additional primary school places per 1,000 pupils in areas with estimated 90-100 per cent occupancy.
- **For secondary schools, additional free school places created between May 2016 and May 2018 do not appear to have been successfully linked to areas with greatest need for extra capacity.** In this time period, new secondary free schools added just under 4 additional

[10] A reasonable travel distance is the distance travelled by up to 90 per cent of pupils of the same phase and area type nationally in 2018. Further details are provided in Annex 1.
[11] The SCAP Survey is an annual survey published by Department for Education providing information on the number of state-funded primary and secondary school places in England https://www.gov.uk/government/collections/statistics-school-capacity.
[12] This is the number of pupils on roll in May 2018 divided by number of places in May 2016.
[13] Whilst there is no established ideal occupancy rate, 90 per cent is selected on the basis that it allows flexibility in the system in terms of school choice.

school places per 1,000 pupils in areas where school occupancy was estimated to be at least 105 per cent.[14] In contrast, new secondary free schools added over 15 new secondary places per 1,000 pupils in areas where school occupancy is estimated at between 90 and 100 per cent.

- **For both primary and secondary free schools, additional school places have been created by both free schools and other types of state-funded schools in areas where there is already an excess in capacity.** In areas where school occupancy is estimated to be between 80 and 90 per cent (indicating there is no demand for extra capacity based on pupil numbers alone), new primary free schools added nearly three places per 1,000 pupils and new secondary free schools added seven new school places per 1,000 places. This is not unique to free schools: other existing primary schools added nine additional places and existing secondary schools added five additional places per 1,000 pupils in these areas.
- **For both primary and secondary free schools, changes in the number of places offered by existing schools were more strongly associated with school occupancy rate, and the majority of additional places were provided by the expansion of existing schools.**

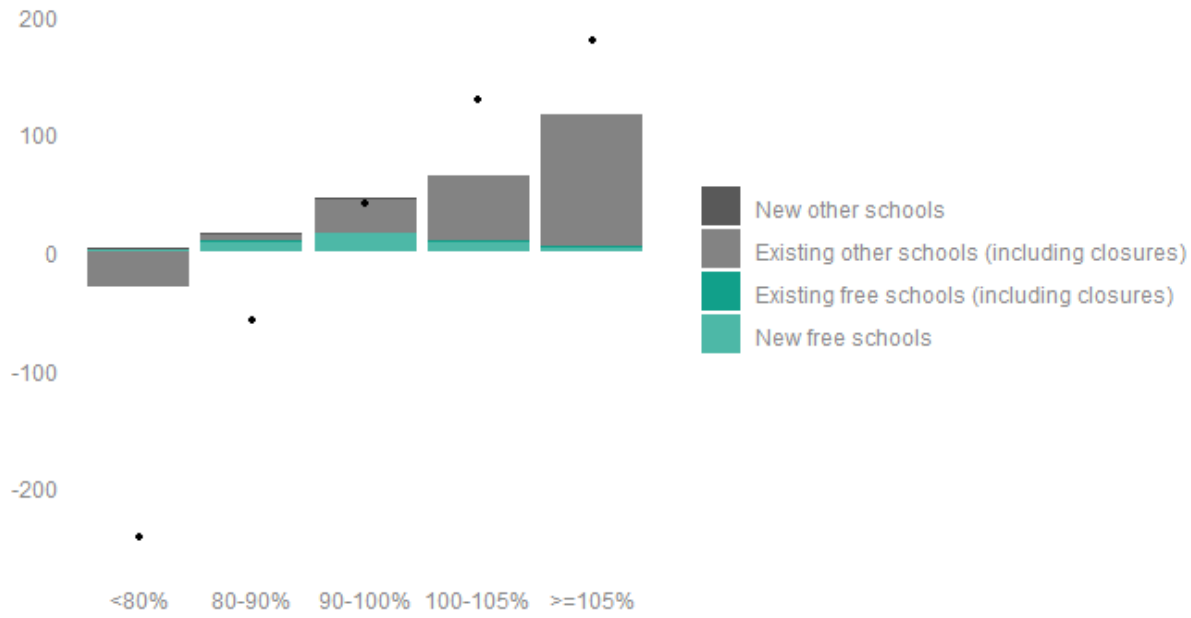
Figure 1.1: Change in number of primary school places per 1,000 pupils between 2016 and 2018 by estimated school occupancy rates at LSOA level, by school type



• *Points indicate the change in number of school places required (per 1,000 pupils) to achieve 90 per cent occupancy for each group*

[14] At secondary level we collapse the occupancy rates 105-110 and 110+ per cent. We do this due to low numbers of LSOAs being estimated to have occupancy rates above 110 per cent at secondary level (n=14).

Figure 1.2: Change in number of secondary school places per 1,000 pupils between 2016 and 2018 by estimated school occupancy rates at LSOA level, by school type



• *Points indicate the change in number of school places required (per 1,000 pupils) to achieve 90 per cent occupancy for each group*

Location by need for additional places and higher quality provision

We now add a second dimension, grouping LSOAs by the quality of their existing provision, because the standards of local schools are also a basis on which free school providers might make their application. In the application process, DfE state that "underperforming schools will usually be defined as schools rated as 'requires improvement' or 'inadequate' by Ofsted", but also stating that a school could be classified as underperforming owing to its attainment data.

To create a simple and consistent measure of school standards, we measure the quality of an area's existing schools by their average Ofsted ratings as at 1 May 2016. The latest Ofsted rating of each school within reach of the LSOA at that point is taken, the LSOA average is the aggregate of all those ratings, and all LSOAs are then divided into quintiles for quality of provision.[15] The change in number of school places generated by new and existing schools (whether free schools or other types of state-funded schools), can then be split according to quality of the existing provision at 2016.

We present this information in Figures 1.3 and 1.4 in conjunction with the need for additional places as set out above. This is because it is difficult to interpret the two figures in isolation as schools may be established or expanded either due to the need for additional places or due to the quality of existing provision. Figures in this table are given for new free schools only.

[15] A value of 1 is assigned to an outstanding rating, 2 to good, and so on.

Data bars in each cell represent the number of places added per 1,000 pupils:

- If free schools are opening where additional places are needed, then the number of places should increase from left to right.
- If free schools are opening where standards are low, then the number of places should increase from top to bottom.

The colour-fill of each cell represents the extent to which new free school places provided the extra capacity require to achieve 90 per cent occupancy in each LSOA grouping:

New free school places provided between **0 per cent** and **10 per cent** of the additional capacity required to achieve 90 per cent occupancy

New free school places provided between **10 per cent** and **33.33 per cent** of the additional capacity required to achieve 90 per cent occupancy

New free school places provided between **33.33 per cent** and **50 per cent** of the additional capacity required to achieve 90 per cent occupancy

New free school places provided more than **50 per cent** of the additional capacity required to achieve 90 per cent occupancy

Cells with "-" indicate categories with no pupils, and other greyed-out cells indicate where there is no basic need for capacity, but there may be need for more high quality school places.

We find that:

- **For primary free schools, we see success in linking free school growth to need for school places, but it is clear that growth is often concentrated in areas where existing provision was already good quality.** While the largest proportion of school places are created in areas estimated to have school occupancy above 105 per cent, these are in areas ranking among the top two fifths for school quality.
- **For secondary free schools, the link between free school growth and need for additional school places is weaker, but there appears to be more success in providing additional school places where there is lower quality existing provision.** In the second to bottom fifth of areas for school quality where there was also need for extra capacity, new secondary free schools provided over 50 per cent of the required additional places. However, no capacity was added in the bottom fifth of areas for school quality where capacity is estimated to be above 100 per cent. Note that we do not assess the quality of the school places added.
- **For both primary and secondary free schools, where capacity has been added in areas with no basic need for extra capacity (those estimated to have less than 80 to 90 per cent occupancy rate), this has been added mainly in areas with overall good quality existing provision.**

Note that because this analysis looks at new provision across two dimensions with a relatively small number of new schools, the precise values it generates are likely to be sensitive to the decisions taken in individual cases over this time period. Therefore, it should be taken as indicative of general trends rather than a definitive estimate for each combination.

Figure 1.3: New primary free school places at LSOA level (per 1,000 pupils) between 2016 and 2018 by quality of existing provision and estimated school occupancy rates

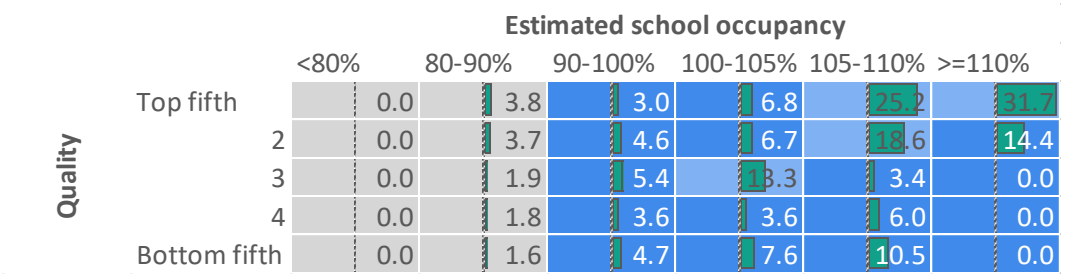
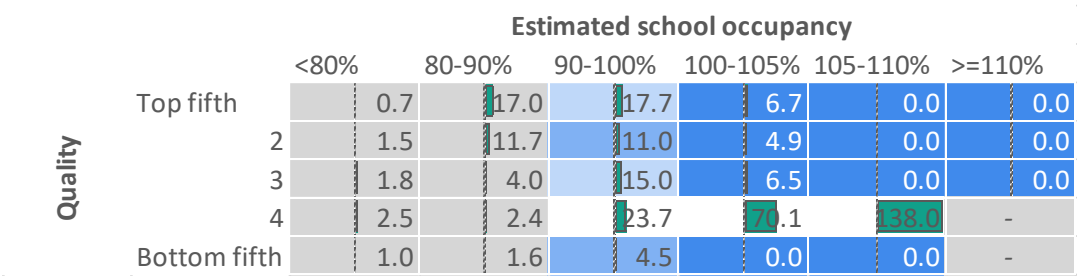


Figure 1.4: New secondary free school places at LSOA level (per 1,000 pupils) between 2016 and 2018 by quality of existing provision and estimated school occupancy rates



Access to special free schools

The assessment criteria for setting up a special free school are less straightforward than those for setting up mainstream schools. There is an additional stage to initially invite local authorities to bid to establish new special free schools. The application guidance states that the intention is to "...open new special free schools … in the places where good new schools will be most beneficial and needed, and that fit within local authorities' strategies."[16] The more detailed criteria cover the requirement to demonstrate a clear vision for how the school will improve outcomes; an understanding of and ability to meet the needs of the expected cohort; a strong track record of providing a high standard of education; that ambitious and realistic expectations would be set; that the provision would offer good value for money; a strong understanding of teacher recruitment and retention issues; and a new or innovative approach.

[16] Department for Education, 'Guidance and Criteria For Proposer Groups Interested in Applying to Set up a Special Free School or an Alternative Provision Free School', March 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785222/Special_and_AP_free_schools_guidance_and_criteria_for-proposers.pdf.

On the announcement of the first special free schools to be approved in November 2011, the Department for Education stated that "[t]he first special free schools are being set up by passionate and talented groups, who want to improve state education provision and choice for families with children with special education needs (SEN) and disabilities. Too often, parents struggle to find a special school that meets the needs of their child."[17]

Given that the application process is designed to allow for differing strategies at local authority level, and that SEND covers a very broad category of needs, there is no clear-cut way of quantitatively assessing on a national level whether special free schools have been established in areas where they are most beneficial and needed. Equally, special free schools currently represent only a small minority of schools. With 34 special free schools open as at October 2019, this represents 3.6 per cent of state-funded special schools, just over a quarter of which are in London (Figure 1.5).

Figure 1.5: Number of special free schools open in England as at October 2019

In this context, this section presents a simple breakdown of the percentage of pupils with statements of SEND or with education, health and care plans (EHCPs) who attended special free schools in each year between 2016 and 2018. This is presented in Figure 1.6 in comparison with the percentage of these pupils attending other types of state-funded mainstream or special provision.

Alongside this we present the distance travelled, in miles, by up to 90 per cent of these pupils to attend each type of provision over the same time period. We reported in 2018 on travel distances to access special provision, finding that, while policy debates at the time centred on concern that pupils were living more than three miles from a good mainstream school, special school pupils in cities were travelling on average nearly four miles to attend school each day.[18] In rural areas the average

[17] Department for Education, 'First Special and Alternative Provision Free Schools given the Green Light', GOV.UK, November 2011, https://www.gov.uk/government/news/first-special-and-alternative-provision-free-schools-given-the-green-light.
[18] Jon Andrews, 'Access to Special Schools in England' (Education Policy Institute, March 2018).

was ten miles. It is therefore relevant to consider the distance travelled by pupils with statements of SEND or EHCPs to attend each type of provision.

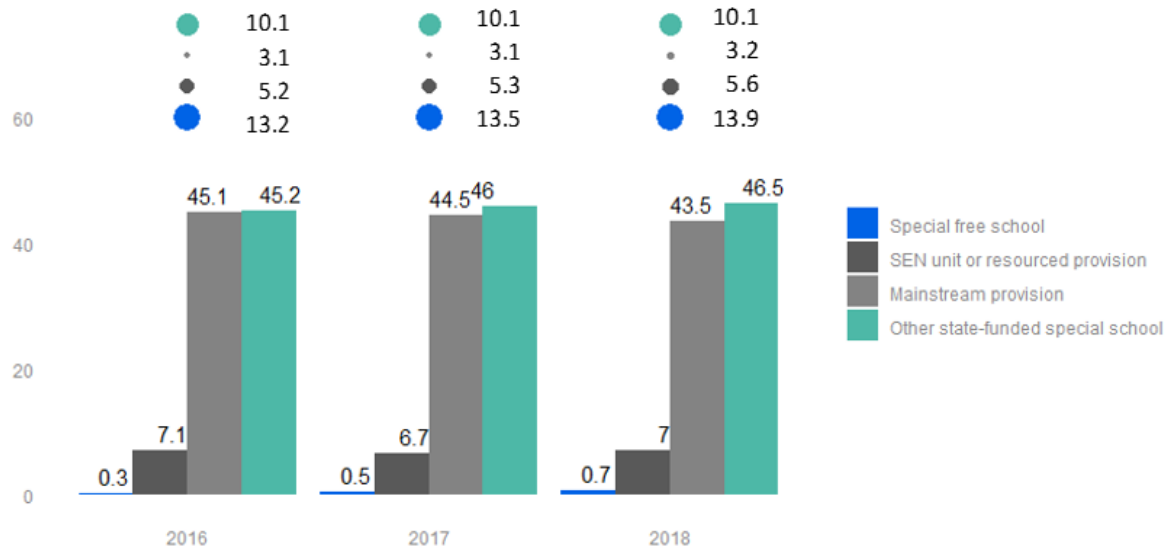
We focus on pupils with statements of SEND or EHCPs because we are interested in the take-up of special free schools.[19] We combine all ages together rather than splitting out primary-age and secondary-age pupils, due to the small number of special free schools.

The percentages in Figure 1.6 do not total to a hundred because alternative provision, non-maintained special schools and other independent schools are not included in the chart.

We find that a very small but growing proportion (<1 per cent) of pupils with EHCPs or statements of SEND attend special free schools. In 2016 this figure was 0.3 per cent, increasing slightly to 0.5 per cent in 2017 and to 0.7 per cent by 2018. With 37 special free schools announced in early 2019, it can be expected that these figures will continue to increase.

Pupils with EHCPs or statements of SEND attending special free schools travel farther to attend their school than similar pupils attending other types of provision. Ninety per cent of pupils with EHCPs or statements of SEND travel up to 13.9 miles to attend a special free school, while the next largest distance in this analysis is travelled by pupils attending other types of state-funded special schools (10.1 miles). This finding could be interpreted in multiple ways. For example, the finding that pupils with EHCPs/statements of SEND travel farther to attend a special free school could indicate that special free schools have been established in areas lacking closer suitable provision, or alternatively suitable nearby provision could exist but the pupils and/or the parent/carer prefers the special free school because it caters for a particular need.

Figure 1.6: Time series showing percentage of pupils with EHCPs/statements of SEND attending schools by types of provision, and miles travelled by 90 per cent to attend each type of provision



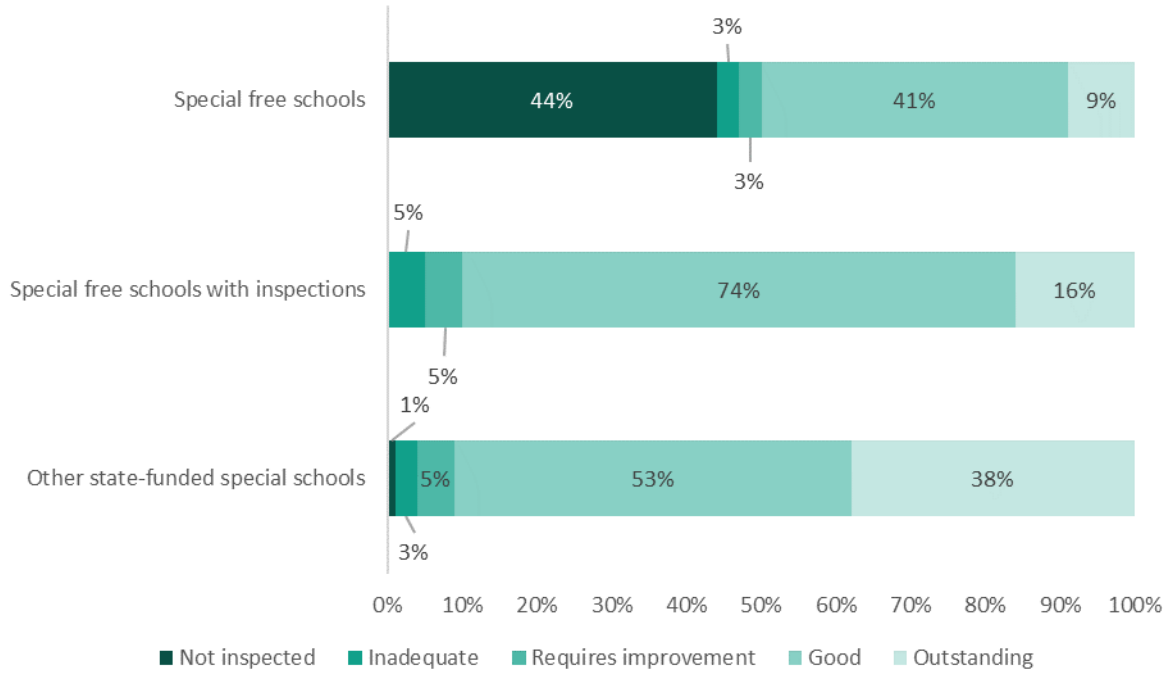
[19] An EHC plan is required in order to access state-funded special provision. Pupils may also attend state-funded special provision in order to be assessed for an EHC plan.

The analysis presented so far does not address the quality of special free school places available. In Figure 1.7 below we compare Ofsted ratings (as at September) of special free schools (n = 34) with those of other state-funded special schools (n = 952).

We find that:

- Almost half of special free schools (15 of 34) have not yet been inspected by Ofsted, whereas only one per cent of other state-funded special schools are without an Ofsted inspection.
- Looking only at special free schools with inspections (n = 19), we see that these schools are less likely than other state-funded special schools to be rated Outstanding by Ofsted.
- Ofsted-inspected special free schools are also more likely to be rated as Inadequate than other state-funded special schools.

Figure 1.7: Ofsted ratings of special free schools (n = 34, 19 with inspections) compared with those of other state-funded special schools (n = 952), as at September 2018



Summary

- While our 2017 publication reported success for both primary and secondary free schools in directing growth of free schools to areas with the most need for additional school places, the analysis presented here only finds this in the primary phase.
- As was found in 2017, most of the required additional system capacity is generated by expansion of existing schools.

- Additional capacity is created by new free schools in areas where there is already an excess of capacity, though this is not unique to free schools. This spare capacity has mainly been created in areas where school quality is already good.
- In 2017, we reported that the free schools programme has been less successful in addressing areas of underperformance – particularly at secondary level. In this present analysis, however, we see some evidence of secondary free school capacity being created in underperforming areas, although no capacity has been added in the very lowest performing areas in terms of Ofsted outcomes.
- For primary free schools, growth of free schools is concentrated in areas where existing provision is good quality. This finding is consistent with DfE analysis showing that, on average, only two applications in each wave gave standards of local schools as their basis of need, and statements acknowledging that "[a] large majority of the free school applications approved in waves 5-12 were in areas with basic need for more school places."[20,21] We note that the most recent call for applications to set up a free school states that they are looking for "applications that are located in areas with both: demonstrable basic need for a high proportion of additional school places …; and low educational standards" (original emphasis).[22]
- A very small but growing proportion (<1 per cent) of pupils with EHCPs or statements of SEND attend special free schools. This is to be expected given that there are currently only 34 open special free schools. These pupils travel up to three miles further to attend a special free school than to attend another type of state-funded special school. This finding has various interpretations, including that special free schools are being established where there is more acute need for additional capacity in special provision, or that special free schools are preferred over other special provision located nearby.

[20] Department for Education, 'Mainstream Free School Applications: Assessment of Need and Deprivation. Wave 12 Update', April 2017, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/607858/wave_12_free_schools_basic_need_and_deprivation.pdf.

[21] To date, free schools have been established in a series of 'waves', wherein proposers are invited to apply to set up a free school according to a set of assessment criteria that is specific to that wave.

[22] Department for Education, 'How to Apply to Set up a Mainstream Free School'.

Part 2: School preferences

Background

Part of the rationale for the free schools programme is to provide more school choice for parents. Since the beginning of the programme, the Department for Education has asserted that free schools are popular with parents. In this section we revisit our previous analysis on the extent to which these claims are supported by the Department's own pupil preferences data collected through the school admissions process.

When choosing school places, parents usually apply to their home local authority for mainstream school places regardless of a state school's legal status. Depending on the local authority, parents can express preference in order between three and six schools – though parents may choose not to state a full set of preferences.

This feature of the admissions process is crucial when considering the relative popularity of schools through preferences data. It means that on average, each pupil expresses a preference for around 2.4 schools. So, any claim based on the 'number of applications per place' needs further context around the order of the preferences.

Where there are more applicants than places available, free schools can decide for themselves how they will prioritise applicants for school places, but they have to comply with the School Admissions Code. Some free schools choose to opt out of the local authority's coordinated admissions scheme in their first year of opening and instead ask for direct applications.

In our previous report we found that the assertion that free schools are popular with parents did not appear to be supported by the available data, at least in comparison to other school types. We also found that, in general, free schools have not yet established themselves as the preferred local school. There was, however, some indication that patterns of applications and preferences may change over time.

The analysis in this section relates to admissions to schools in the 2016/17 academic year (unless otherwise stated). It is based on preferences data at individual pupil level matched to the January school census. As there is no single 'best measure' to gauge the popularity of schools, we consider how free schools fare against a basket of measures in comparison to other school types, namely: [23]

- **The proportion of preferences that were a first preference** – this captures the relative strength of parental preferences for free schools among those who apply but can be distorted by the total number of applications that different types of school receive, which varies by local authority;
- **The average number of first preference applications** that free schools receive – this is simple and intuitive but does not account for the number of places available in each school which might influence whether parents apply in the first place;
- **The average number of first preference applications per school place available** – this provides a sense of whether a school is managing to attract enough new pupils to fill up its

[23] Other studies that have examined school admissions data and free schools have also explored a range of indicators. There are overlaps between these approaches but with some differences, all have strengths and weaknesses. For example, see Jen Garry et al., 'Free for All?: Analysing Free Schools in England, 2018.' (National Foundation for Educational Research, May 2018).

available spaces. However, as we do not have data on the Published Admissions Number (PAN) for each school, we instead use an approximation for the size of the intake year; and

- **The propensity to apply to, or attend, the nearest school** – this is a measure of being a preferred 'local school' but, since bypassing a local school could also be seen as parents making an active choice, this measure is not straightforward to interpret.

We also undertake new analysis on **the characteristics of pupils applying to free schools**. Our specific interest is in whether the school choice process operates differently for disadvantaged pupils seeking access to free schools.

The proportion of preferences that were a first preference

We firstly consider the proportion of applications to each school type by the order of preference. This gives a sense of whether a school is where parents genuinely want their child to attend or whether it is in some senses a 'fall-back' option. Figures 2.1 to 2.4 break down the preferences received by phase, location, school type, and the rank of the preference.

Of all preferences expressed for a primary free school, just under one third (32 per cent) were a first preference – the lowest of any school type; 42 per cent were a third preference or below, the highest of any school type. Overall there were 621,000 primary applicants who expressed 1.5 million preferences – of which 42 per cent were first preference. This pattern is similar outside of London (Figure 2.2), where primary free schools still have a low propensity to be first preference, even where fewer preferences are permitted.

Of all preferences expressed for a secondary free school, 31 per cent were a first preference – again, the lowest of any school type; across all secondary schools, there are 521,000 secondary applicants who expressed 1.27 million preferences – of which 41 per cent were first preference. Figure 2.3 shows that 45 per cent were as a third preference or below, the highest of any school type. As for primary, this is not driven by a 'London effect': outside of London, we also see the proportion of preferences that were a first choice remains lower for secondary free schools than for any other school type (Figure 2.4).

Together these findings are consistent with our earlier findings (for admissions to schools in the 2015/16 academic year, the year previous to the data analysed here), showing that **primary and secondary free schools are the least popular type of school based on this particular measure**.

However, this fails to give a sense of the overall number of applications that a school may attract – whether first preferences or lower-ranking. A school with few applications but all of them first preferences would show favourably on this measure whereas a school attracting a lot of lower-ranking preferences would not.

Figure 2.1: Proportion of applications by order of preference – primary

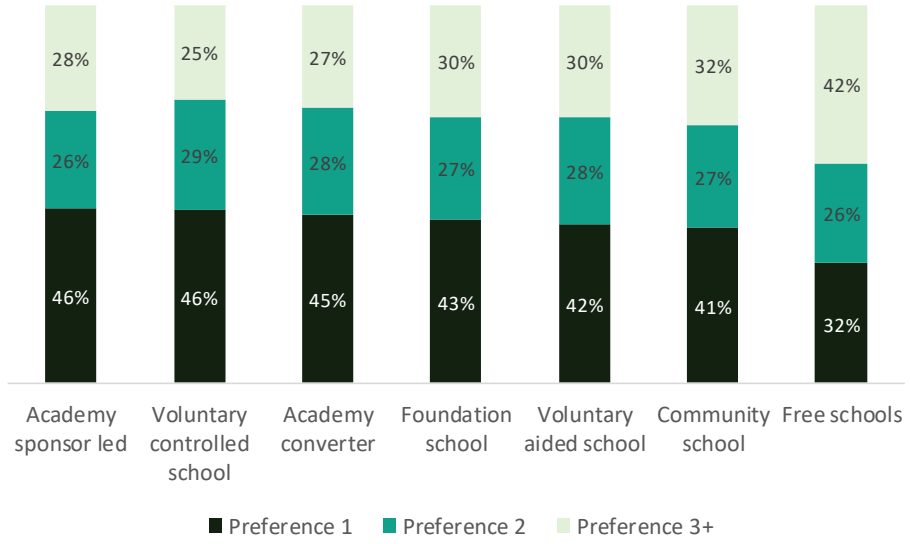


Figure 2.2: Proportion of applications by order of preference – primary pupils outside of London

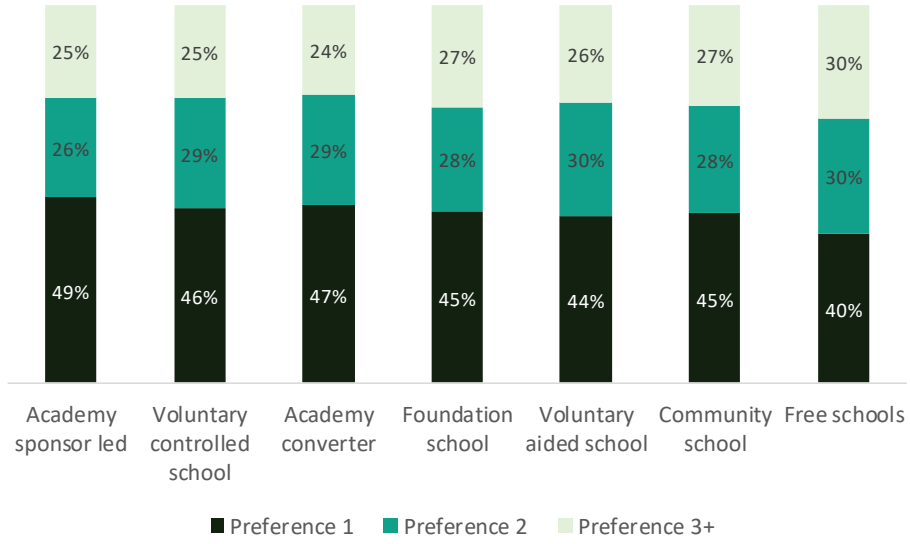


Figure 2.3: Proportion of applications by order of preference – secondary

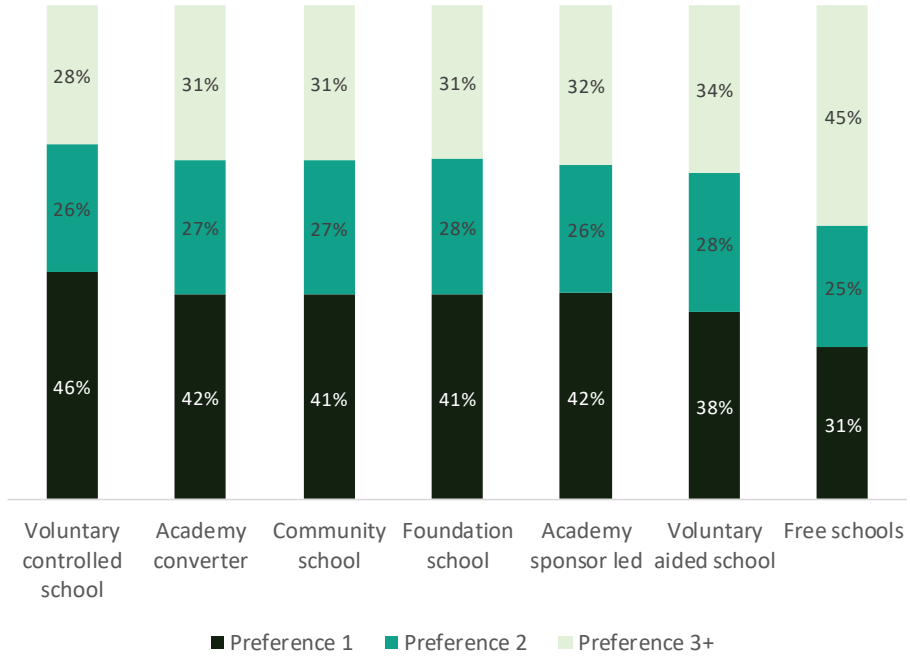
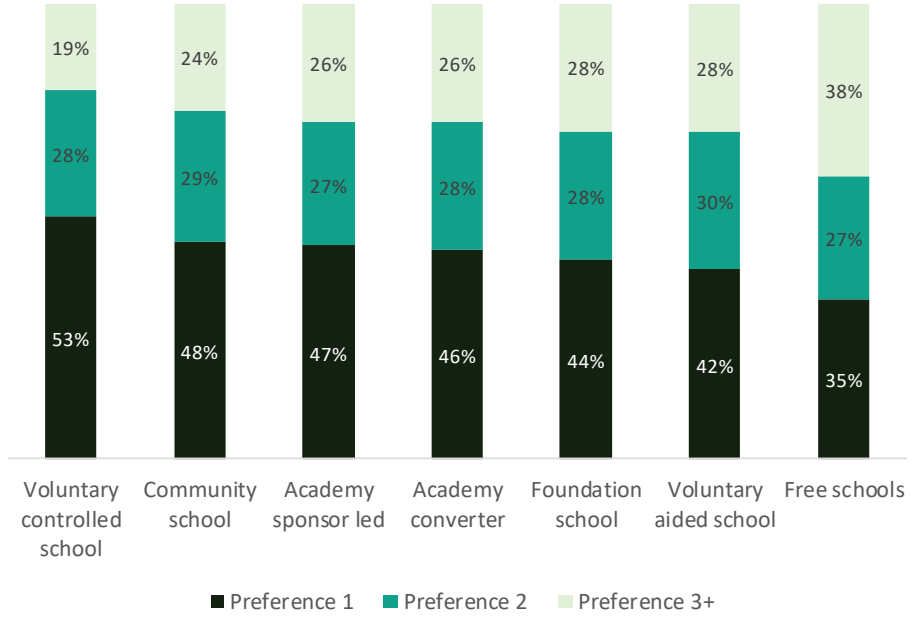


Figure 2.4: Proportion of applications by order of preference – secondary pupils outside of London



Number of first preference applications

We now consider the average number of first preferences that a school receives. Unlike the previous measure, this should not be affected by where different types of school are located (which determines the number of preferences allowed) because in every local authority parents have the option to nominate at least three schools. This is a measure of the interest in a school, independent of its number of places.

Primary free schools appear more popular based on the *number* of first preference applications they receive than their *propensity* to be a first preference school; **this is not the case for secondary free schools which also attract low volumes of first preferences.**

Figure 2.5 shows that, on average, primary free schools attract 41 applications that are first preference. This is fewer than converter academies and community schools (each averaging 46) and similar to foundation schools (42). **Taking into account lower-ranking applications, primary free schools attract more overall applications than any other school type**. This does not just reflect free schools being disproportionately located in London where more preferences are allowed – this finding also holds outside of London (not shown).

By contrast, **secondary free schools attract the lowest number of first preference applications of any school type** (114, on average – Figure 2.6). They also receive fewer applications in total than most other school types – and again this finding holds whether in or outside of London.

Figure 2.5: Volume of applications by order of preference – primary

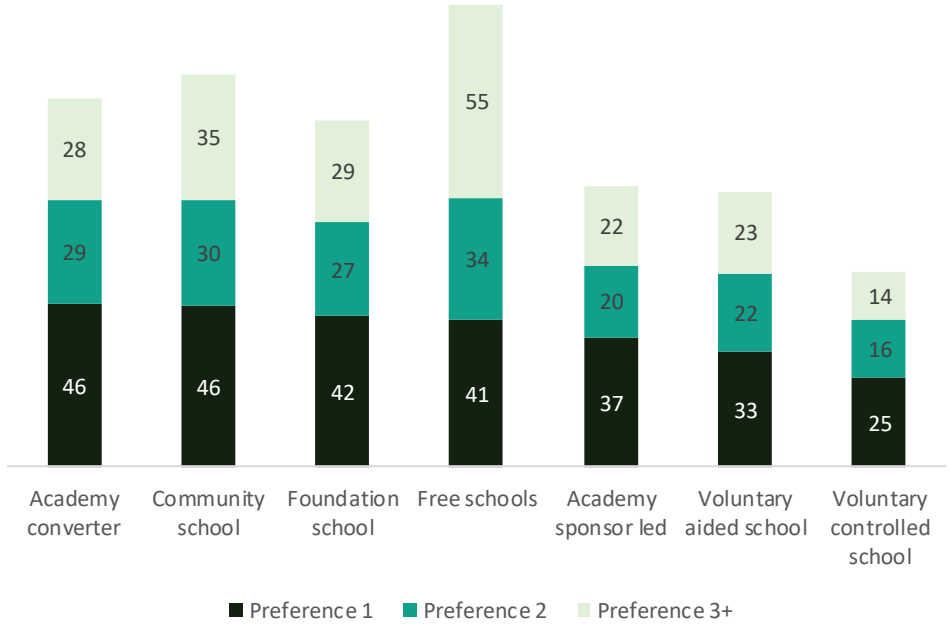
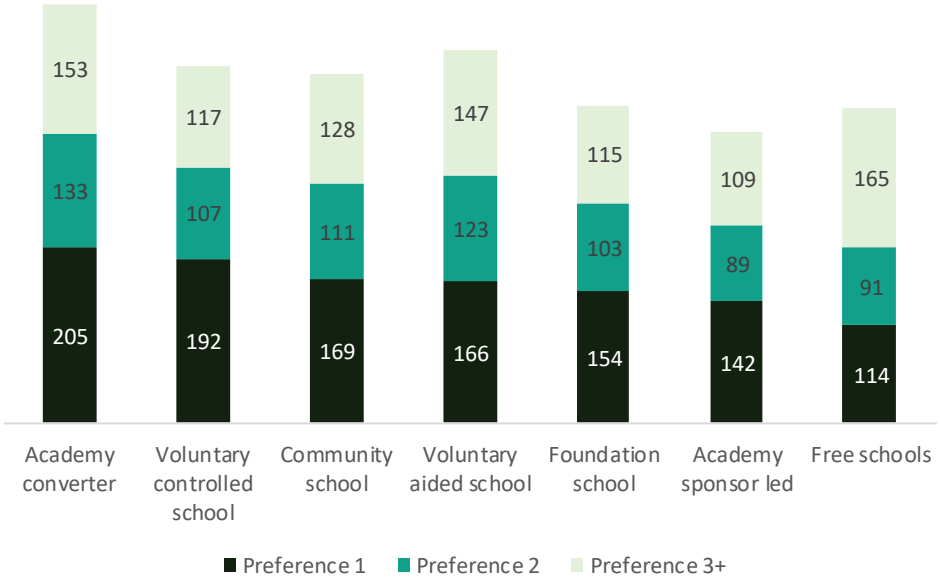


Figure 2.6: Volume of applications by order of preference – secondary



Applications relative to number of places

The number of applications a school receives only tells part of the story: a school might receive a relatively high number of first (or total) preferences but struggle to fill all its available places. Here we consider the number of applications a school receives per pupil places available.

Ideally, we would do this using the Published Admissions Number (PAN) for each school, as this determines how many pupils a school can admit in its intake year. However, as we do not have PAN data, we approximate the size of the intake year by dividing each school's overall capacity by the number of year groups, making an adjustment for schools with sixth forms. This assumes all year groups are equal size so may be a crude approximation for the PAN, particularly for new schools.

Primary free schools are the joint top performing school when considering number of first preferences to number of places (jointly with community schools and converter academies). They receive almost one first preference application per place available (Figure 2.7). Once lower preferences are taken into consideration, primary free schools receive more applications per place than any other school type.

Secondary free schools are mid-ranking when considering number of first preferences to number of places. They receive 0.8 first preference applications per place available (Figure 2.8). However, once lower preferences are taken into consideration, secondary free schools receive more applications per place than any other school type.

Note that when considering preferences below a third preference the results will be sensitive to the number of preferences permitted within a particular area.

Figure 2.7: Number of applications per places available – primary

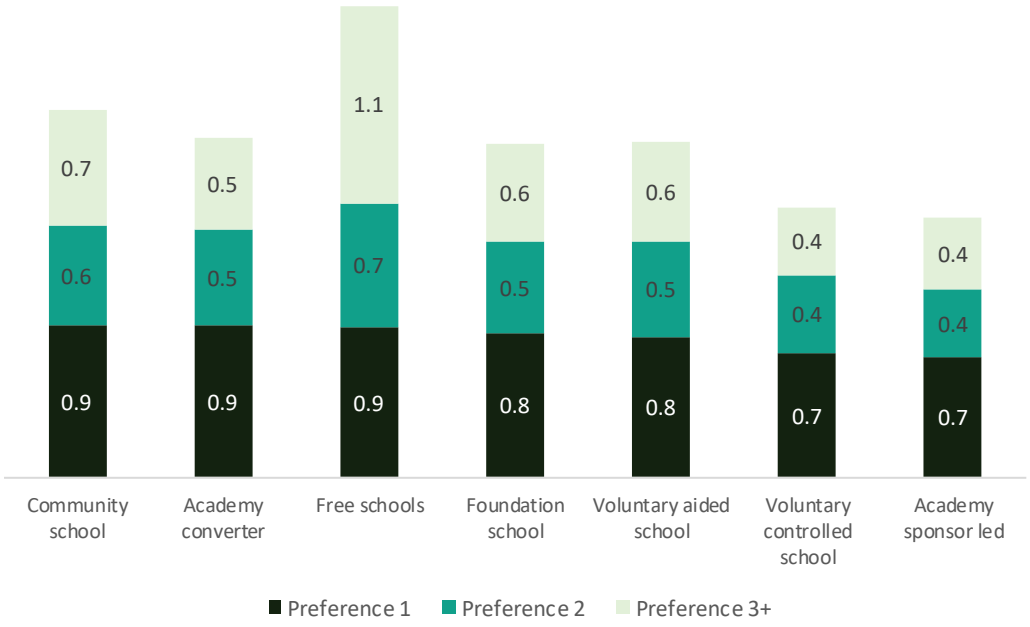
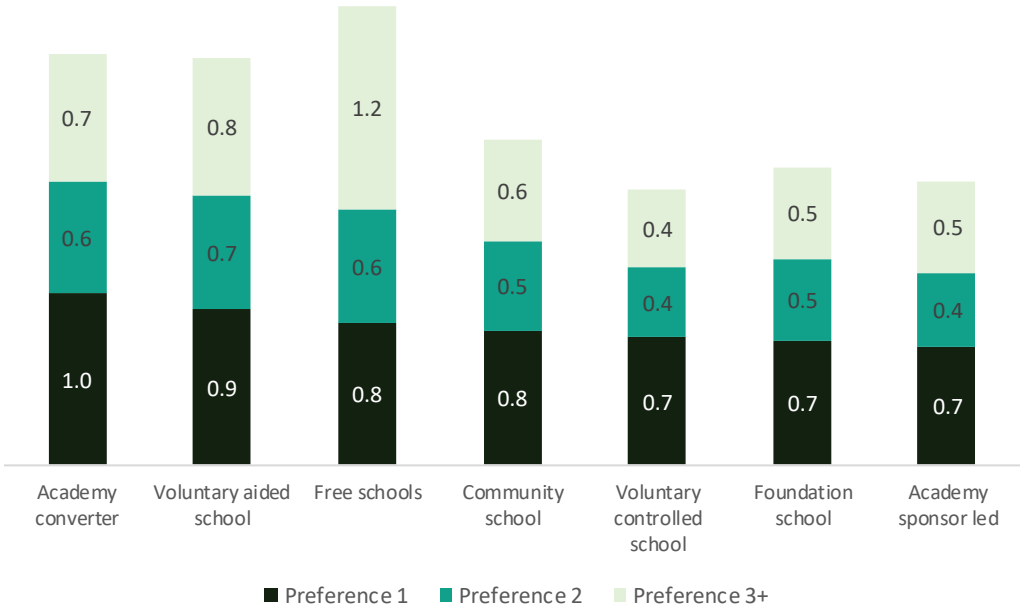


Figure 2.8: Number of applications per places available – secondary



Applications to nearest school

The school system in England is diverse, with a range of different school types and admission arrangements e.g. selection by academic ability or by faith. Despite this diversity, **nearly half of pupils in England still attend their nearest school** (based on analysis of pupils in the January school census).

However, we find that this tends to be considerably lower for free schools – consistent with our previous report.

For primary schools, where the nearest school is a free school just over a fifth of pupils in the intake year attend the school – this is the lowest for any school type (Figure 2.9). Amongst secondary free schools the proportion is one third – the second lowest, after voluntary aided schools, which predominantly have a religious character (Figure 2.10).

This can potentially be interpreted in a number of ways. One way would be to conclude that free schools have, in general, not yet established themselves as the 'local school' that parents choose in the absence of a particularly strong preference for another school.

However, there are three counterarguments. Firstly, a free school – like a voluntary aided school, or a selective school – might exist to offer a different type of education to that offered by current local schools and is not intended to become the first choice of the majority.

Secondly**, free schools may take several years to establish themselves within the local community and their popularity may then improve over time.** This does appear to be the case for free schools at secondary level (Figure 2.10, though note that the large increase in year 6 is more likely to reflect that particular wave of free schools since they also had a high rate in earlier years.) 'Zero years' relates to free schools that have not yet been open a full year, though free schools do not always participate in the local admissions arrangements in their first year of operation. The picture is less clear-cut at primary level (Figure 2.19), though this may reflect the smaller number of primary free schools.

To address this, in Figure 2.11 we pool four years of school census data. This means that – for a given length of time a school is open, we capture several cohorts of free schools across 2015 to 2018. This shows that **free schools do attract a slightly larger share of local pupils the longer they have been open**, at both primary and secondary phases.

Thirdly, when parents already have a child attending another school, they are probably less likely to send a younger sibling to a newly opened free school. As we do not hold data on siblings, we cannot account for this in our analysis.

We also use the preferences data to assess the popularity of free schools at a local level and this confirms similar patterns to the attendance data, as well as to our previous report. We find that **among local schools, families are least likely to apply to a free school as their first preference at both primary and secondary levels –** though, again, this share does tend to rise the longer the free school has been open (Figures 2.12 and 2.13).[24]

[24] In Figures 2.12 and 2.13, where schools have been open for 'zero years', these are a self-selecting group of free schools that have chosen to participate in the centrally co-ordinated admissions process by local

Figure 2.9: Proportion of pupils attending their nearest school by type of nearest school and free school length of time open – primary, 2018

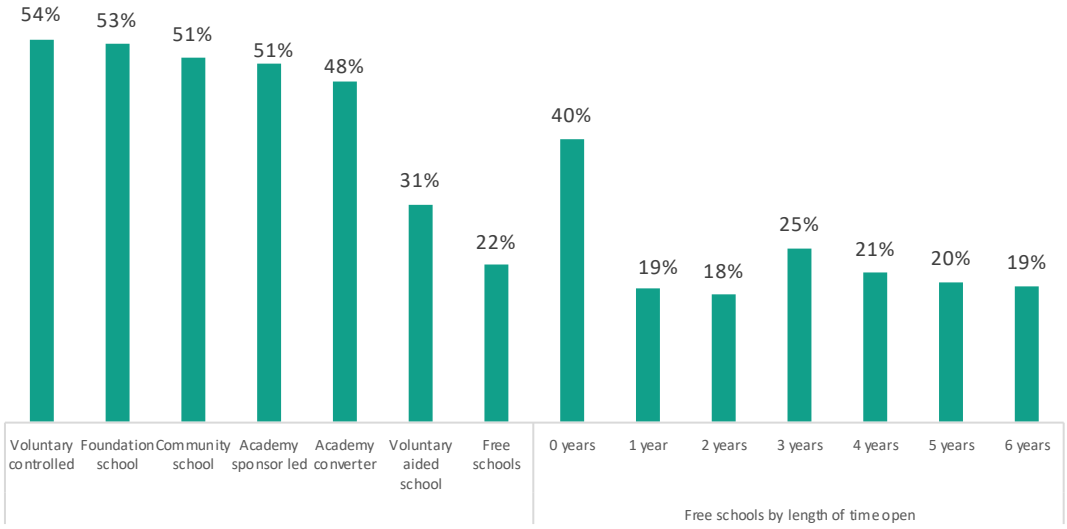
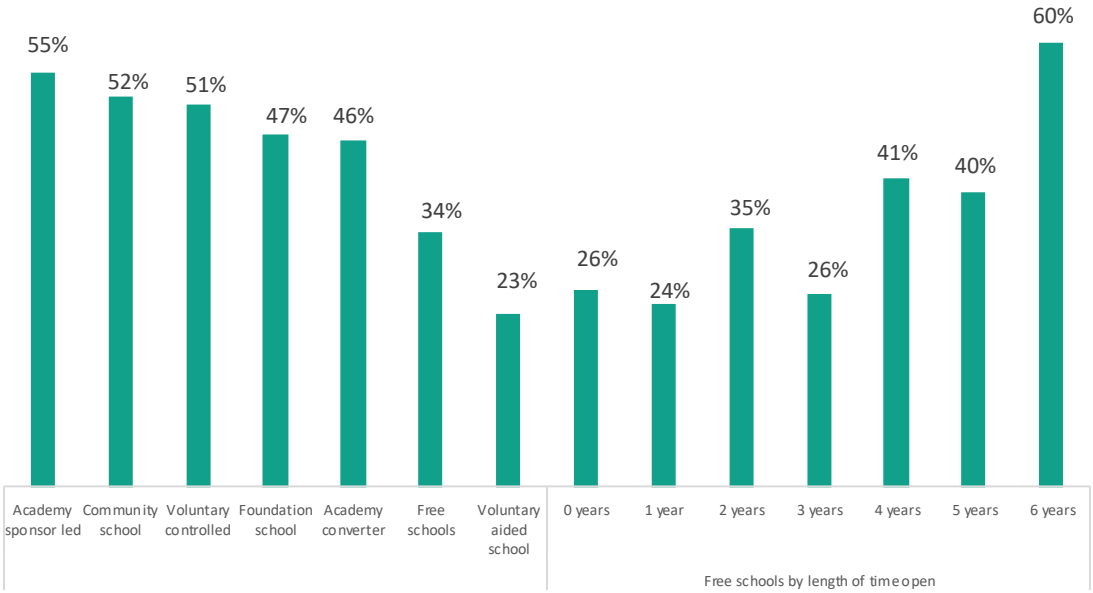


Figure 2.10: Proportion of pupils attending their nearest school by type of nearest school and free school length of time open – secondary, 2018



authorities. These free schools are therefore captured in the preferences data, though might be different in some way to other schools that have opted to run their own admissions in their first year of opening.

Figure 2.11: Proportion of pupils attending their nearest school if it is a free school – by phase and length of time open (pooled over 2015-2018)

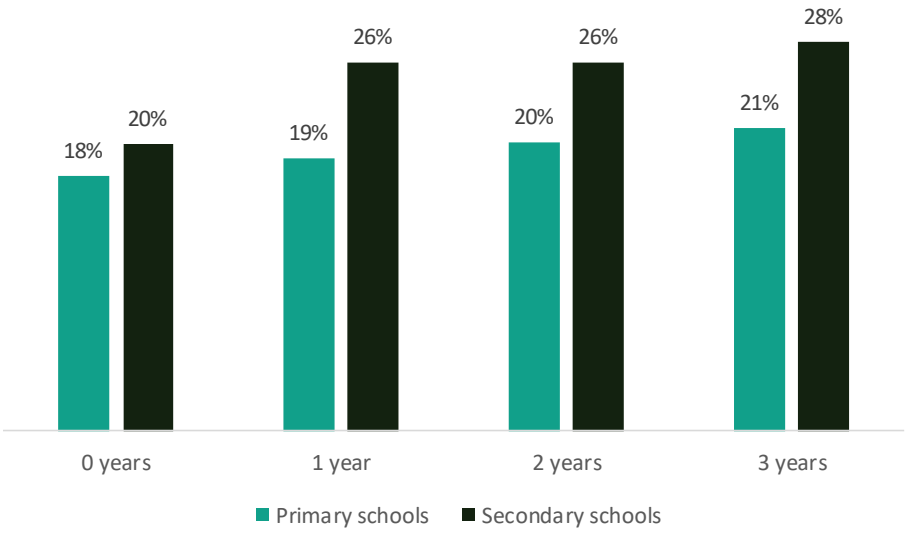


Figure 2.12: Proportion of pupils that expressed a preference for their nearest school by school type and free school length of time open – primary

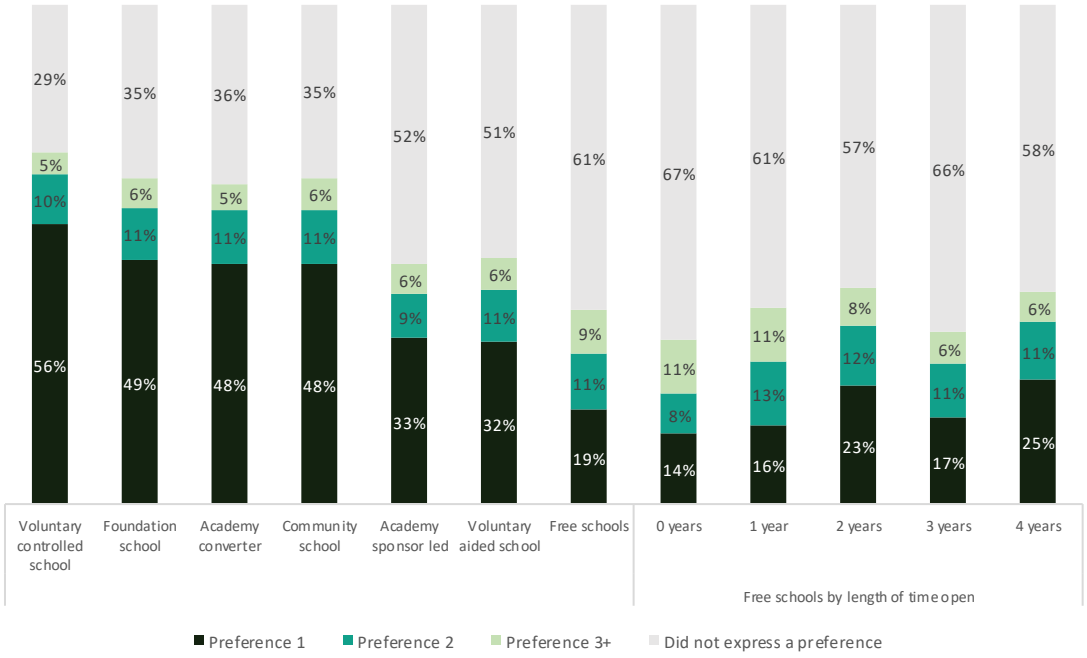
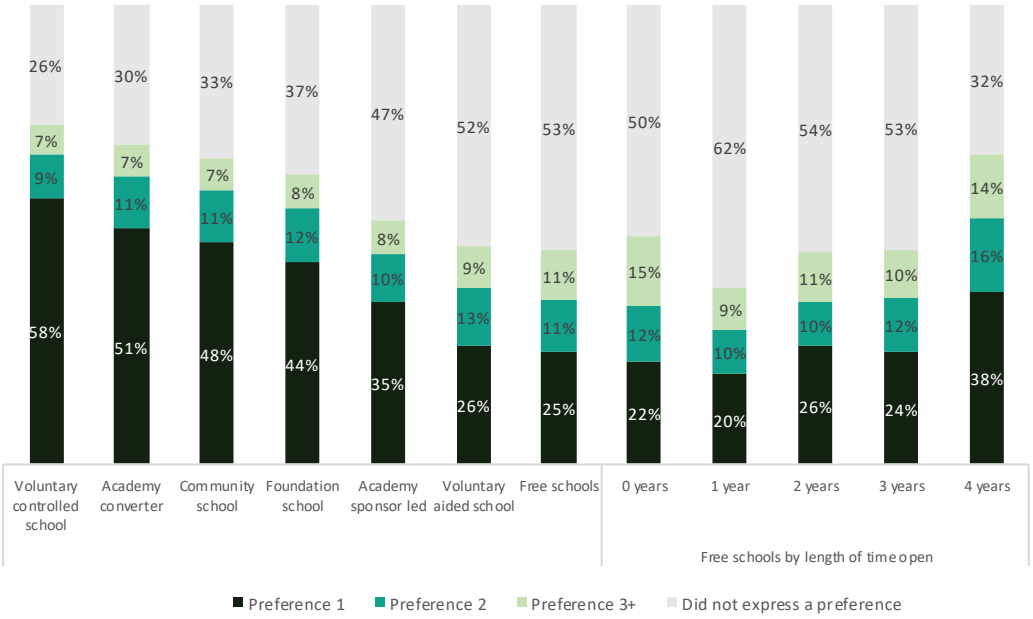


Figure 2.13: Proportion of pupils that expressed a preference for their nearest school by school type and free school length of time open – secondary



Characteristics of applicants

In the final section of this chapter we consider whether disadvantaged pupils are more likely to apply to a free school. We do this by matching the preferences data to pupils' characteristics as recorded in the January school census 2017. This will capture only those pupils who applied through the normal round coordinated by local authorities for school entry in September 2016 and attended a state-funded school in January 2017. We find that **disadvantaged pupils are *less* likely to apply to primary free schools as their first preference than non-disadvantaged pupils but are *more* likely to apply to secondary free schools.** This is a potential concern for equitable access to primary free schools.

We assess whether disadvantaged pupils are more likely to apply to certain types of schools in two ways. Firstly, we calculate the raw percentages of first preference applicants who are eligible for free school meals (FSM) for each school type. This proportion is slightly lower for primary free schools than for all state-funded primary schools (11 per cent and 13 per cent respectively).

Secondly, we calculate the odds that first preference applicants are disadvantaged for each school type. Odds ratios have the advantage of taking into account the relative sizes of the disadvantaged and non-disadvantaged groups which is masked by the first, more intuitive, measure. If being disadvantaged made no difference to the likelihood that pupils would apply to different types of school as their first preference, the odds ratios would be around 1 for each.

Instead we find for primary free schools, the ratio is 0.80. This means that, nationally, the odds of a disadvantaged pupil applying to a primary free school as their first preference are around 80 per cent of their non-disadvantaged peers. By contrast, for sponsored academies, their odds are twice as high as their non-disadvantaged peers. These gaps are particularly marked for primary pupils outside of London (Figure 2.15) who are only two-thirds as likely to apply to a free school as a first preference as their non-disadvantaged peers – the lowest of any school type.

Amongst secondary schools, the percentage of first preference applicants who are disadvantaged is slightly *higher* for secondary free schools than for all state-funded secondary schools (16 per cent and 14 per cent respectively). The corresponding odds ratio is 1.17, i.e. the odds of a disadvantaged pupil applying to a secondary free school as their first preference are nearly one-fifth higher than for a non-disadvantaged pupil. This is entirely driven by non-London pupils (Figure 2.17), as disadvantaged pupils in the capital are equally likely to apply to a secondary free school with an odds ratio of 0.99 (Figure 2.16).

It is worth remembering that these disadvantage gaps in first preference application rates are 'raw' in the sense that they do not take into account where different types of pupils live in relation to different types of school. This impact of local geography interacts with the school choice process to influence how well free schools serve their local populations.

Figure 2.14: Proportion of first choice applications by primary school type and pupil disadvantage – London

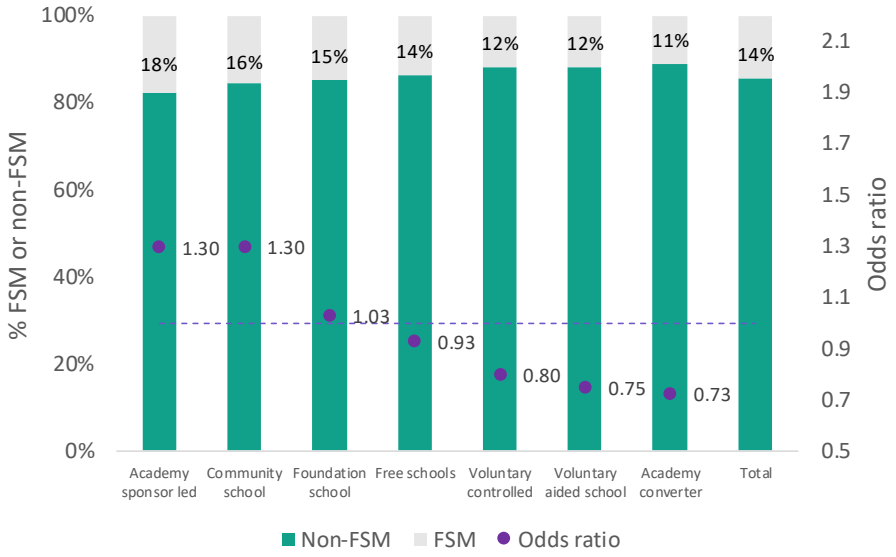


Figure 2.15: Proportion of first choice applications by primary school type and pupil disadvantage – outside of London

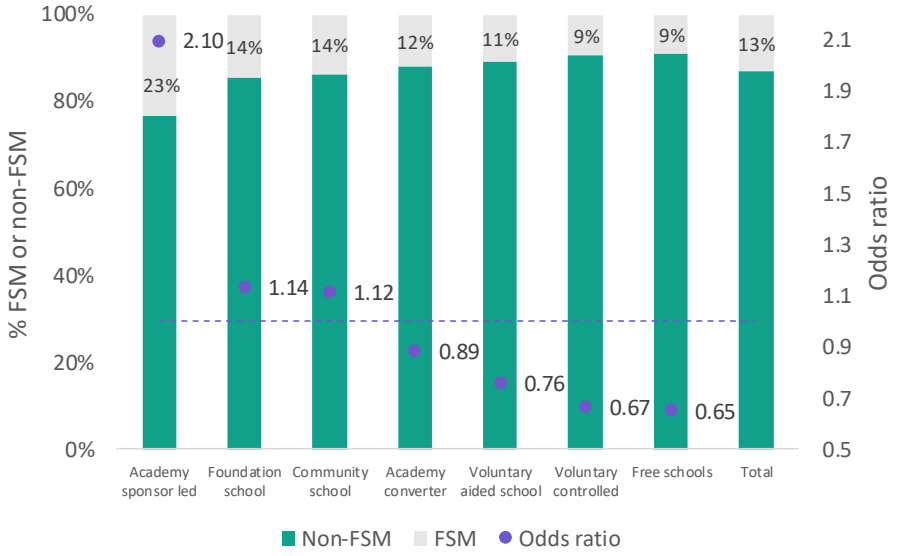


Figure 2.16: Proportion of first choice applications by secondary school type and pupil disadvantage – London

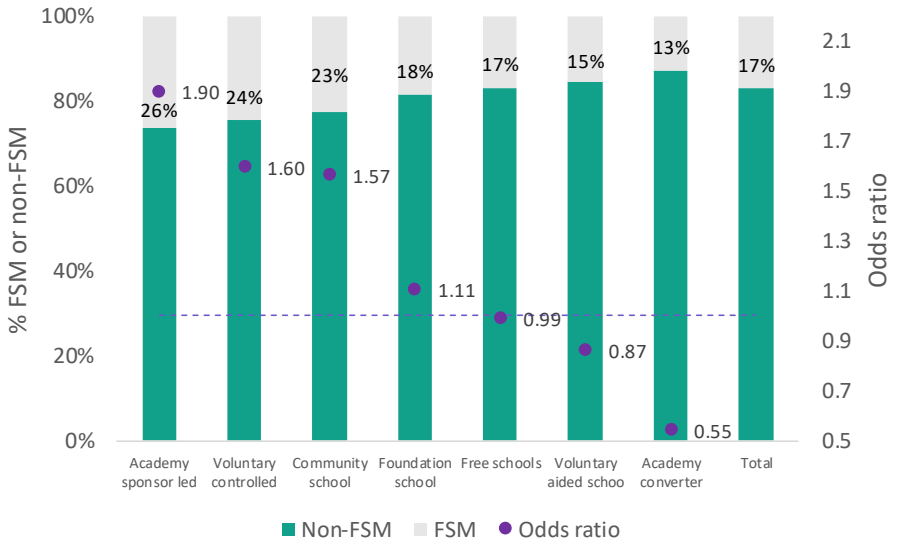
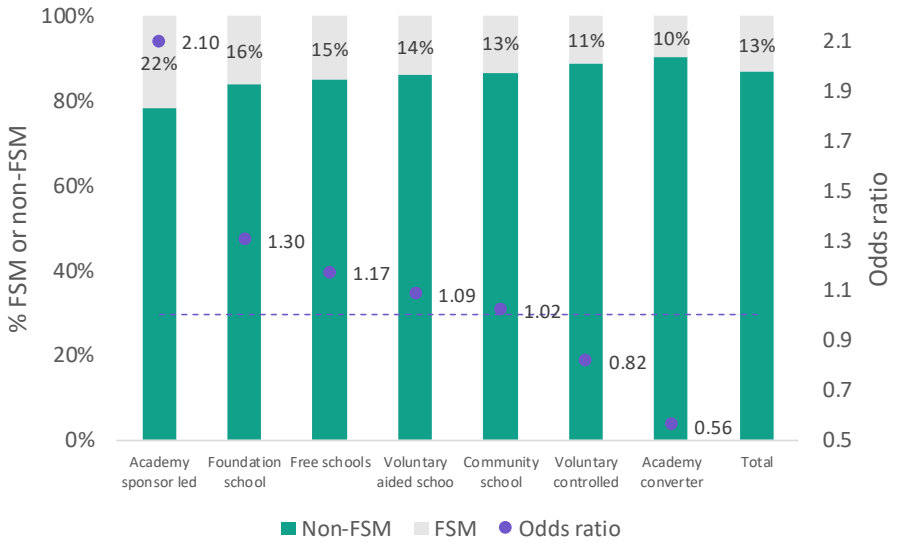


Figure 2.17: Proportion of first choice applications by secondary school type and pupil disadvantage – outside of London



Summary

There is no single measure to gauge the popularity of free schools so we look across a basket of measures to draw an overall picture. This indicates that based on most, but not all, measures – **free schools are not yet as popular as other school types**. There is evidence that this may change over time as free schools become more established. These findings chime with our earlier 2017 report. In summary:

- Free schools have a low propensity to be a first preference school at both primary and secondary level.
- Relative to other school types, primary free schools are more popular based on the average *number* of first preference applications they receive than their *likelihood* of being chosen as a first preference school, though this is not the case for secondary free schools that also attract low volumes of first preferences.
- Both primary and secondary free schools appear more popular once we consider their number of first preference applications relative to their intake capacity.
- Free schools are not yet the preferred 'local school' at primary or secondary but there are important caveats here:
    - Free schools might deliberately aim to offer something different to what is already on offer locally;
    - Free schools appear to grow in popularity among local pupils as they become more established.
- Looking at the characteristics of those applying, disadvantaged pupils are *more* likely to apply to secondary free schools as their first preference compared to non-disadvantaged pupils, but *less* likely to apply to primary free schools. This is a potential concern for equitable access to primary free schools.

Part 3: The characteristics of free school pupils and their local communities

Background

In the prime minister's recent call for applications to set up a new wave of free schools, it was stated that "over 40 per cent of free schools are in the 30 per cent most deprived communities in the country".[25] It is true that there are more free school places in more economically deprived areas, however the question remains whether free schools serve the most disadvantaged pupils in those communities. Related to this question is whether free schools are attended by a pupil population that is representative of the areas they are located in.

Findings from our previous report suggested that, overall, primary free school pupils were less likely to be eligible for free school meals than other pupils, meaning that while a primary free school may have been located within reach of the most economically disadvantaged areas they did not necessarily attract the pupils we would identify as disadvantaged. For secondary free schools pupils, our 2017 report found a more mixed picture: looking at the most deprived areas, we found similar patterns as for the primary phase where pupils attending free schools were less likely to be disadvantaged (eligible for free school meals) than those attending other types of state school. Looking only at the more affluent half of areas in England, however, pupils attending secondary free schools were more likely to be eligible for free school meals than other pupils.

Overall, we concluded that where free schools are within reach of the most deprived areas, the number of disadvantaged pupils actually attending those schools was disproportionately low. This was consistent with other research which had focused on earlier waves of free schools, and had taken a different approach to estimating the 'catchment areas' of free schools.[26]

It is particularly important to assess the claim that free schools serve the most disadvantaged communities, because narratives around the impact free schools have on the life chances of disadvantaged pupils are often invoked to make the case for expanding the programme. Commenting on a visit to a secondary free school in September 2019, the Secretary of State for Education, Gavin Williamson, commented that "…communities have been stuck within a cycle which has been difficult to break out of – that is why free schools have been so successful and will become increasingly more important."[27]

Information on the characteristics of pupils that attend state funded schools, including free schools, is collected via the school census. Amongst a range of data, the school census records eligibility for free school meals.

[25] Department for Education, 'PM Pledges Thousands More Good School Places'.
[26] Rebecca Allen and Rob Higham, 'Quasi-Markets, School Diversity and Social Selection: Analysing the Case of Free Schools in England, Five Years On', *London Review of Education* 16, no. 2 (17 July 2018): 191–213, https://doi.org/10.18546/LRE.16.2.02; Garry et al., 'Free for All?'
[27] 'Minister's War on "Poverty of Ambition" Hitting Thousands of Pupils', Evening Standard, 18 September 2019, https://www.standard.co.uk/news/politics/gavin-williamson-britain-needs-to-tackle-a-poverty-of-ambition-hampering-prospects-of-thousands-of-a4240066.html.

We use this data to examine the characteristics of pupils who attend free schools and those in the local area. We do this in two different ways. Firstly, we compare the level of disadvantage among pupils attending free schools to those living in similarly deprived neighbourhoods. Secondly, we compare the level of disadvantage among free school pupils with those living within the school's catchment area. In doing so we consider the extent to which free schools reflect their local communities.

Disadvantaged pupils from similarly deprived neighbourhoods

We examine pupils attending free schools during the 2017/18 academic year. We consider the proportion of pupils eligible for free school meals in free schools and other state-funded mainstream schools by the IDACI score of the pupil's home LSOA.[28] Figure 3.1 shows this for primary-age pupils and Figure 3.2 shows this for secondary-age pupils.[29]

Primary-age pupils in free schools are less likely to be eligible for free school meals than other pupils living in similar areas. This is consistent with what we found previously for the 2015/16 academic year, except for primary free schools in the two least deprived deciles (these were previously representative of other schools). In the least deprived areas, the gap in representation is less pronounced than in the most deprived areas. Overall, we find that the proportion of pupils eligible for free school meals in primary free schools is 12.5 per cent. If this matched the proportion of the areas served (in terms of IDACI decile) it would be 15.4 per cent.

Secondary-age pupils in free schools who live in the most deprived areas are still less likely to be eligible for free school meals than other pupils in those areas. However, for pupils in the least deprived (half of) areas, free school meal eligibility in free schools is actually *higher* than that in other areas. Overall, we find that the proportion of pupils eligible for free school meals in secondary free schools is 14.0 per cent compared with 14.6 per cent of other pupils drawn in the same proportions from the areas served by free schools.

While this approach allows comparison of pupils in similarly deprived areas, it does not reflect the composition of the areas that are actually within reach of existing free schools. Free schools are, in reality, within travel distance of neighbourhoods with varying levels of economic disadvantage, and the level of disadvantage of their catchment area will be affected by this.

[28] The Income Deprivation Affecting Children Index (IDACI) is part of the Indices of Multiple Deprivation (IMD). It is an area-based measure defined at the level of Lower Super Output Area (LSOA) and was last calculated in 2015. It takes the form of a score between 0 and 1, which can be interpreted as the proportion of children under the age of 16 in the LSOA who are in income deprived families.

[29] In our previous 2017 report we used only the intake year of each phase (Reception and Year 7). In this update we have used all primary-age and secondary-age pupils. We previously did intake years to account for the possibility that for newly established free schools it may take time to attract a representative pupil body. Arguably, by 2018, enough schools have been open long enough that it bears looking at the whole school population.

Figure 3.1: Proportion of primary-age pupils who were known to be eligible for free school meals in free schools and other state-funded mainstream schools by IDACI decile, 2018

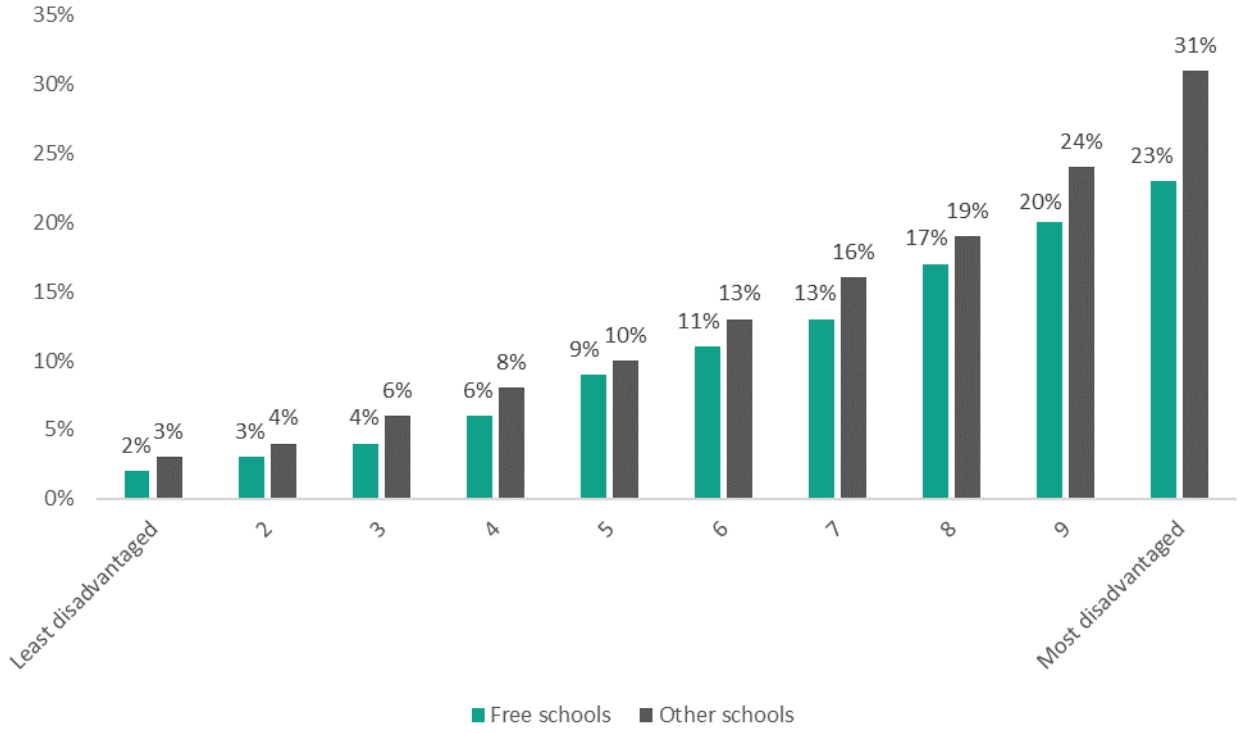
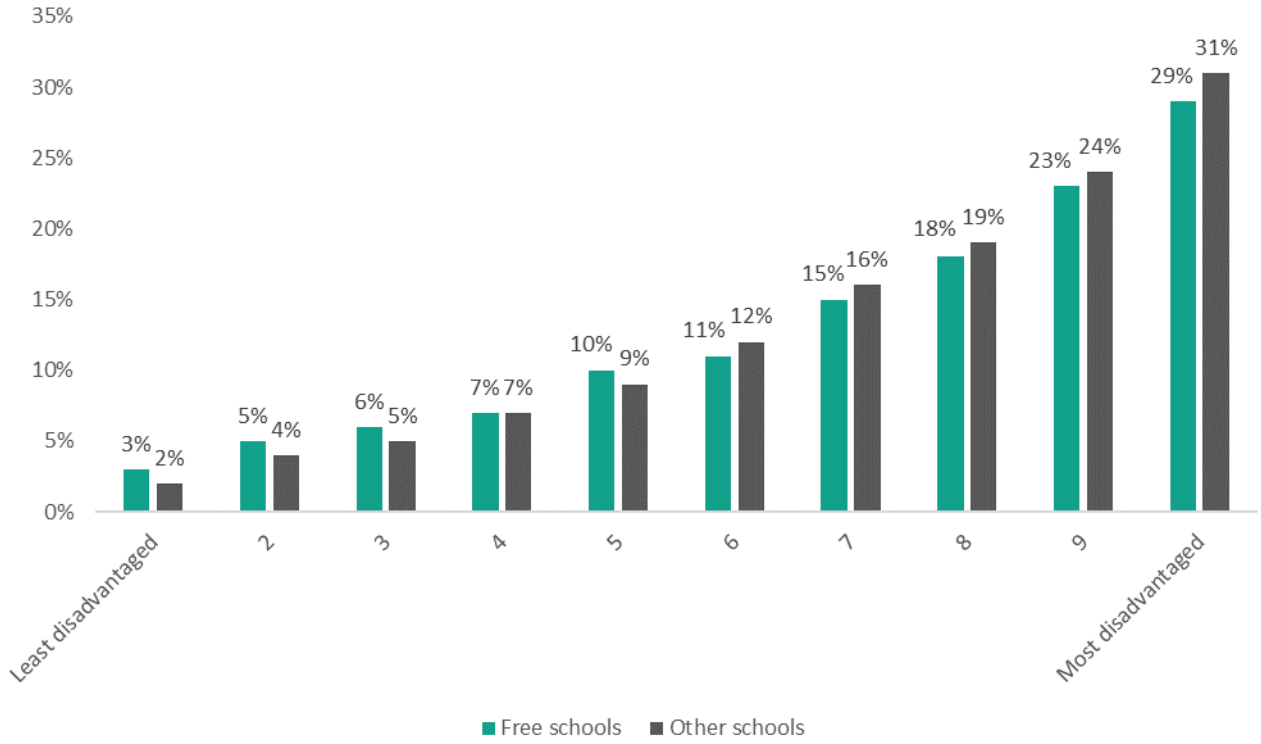


Figure 3.2: Proportion of secondary-age pupils who were known to be eligible for free school meals in free schools and other state-funded mainstream schools by IDACI decile, 2018



Disadvantaged pupils within a reasonable travel distance of free schools

We now identify proxy catchment areas for each open free school to better capture the level of disadvantage of their potential pupil intake. That is, the percentage of pupils who could reasonably be expected to attend the school who are eligible for free school meals. This is based on those who live within the distance travelled by 90 per cent of pupils nationally, split by location of the school (urban, town, or rural), and by phase (primary or secondary).

This allows us to identify pupils living in LSOAs that are within a reasonable travel distance of a given school. The proportion of these pupils who are eligible for free school meals is the level of disadvantage for that school's proxy catchment area. This can then be compared to the level of disadvantage of the pupils attending that free school. If the free school is attracting a representative pupil intake from their catchment area, we would expect their levels of disadvantage to be similar.

We present these calculations in Figures 3.3 and 3.4 in box plots split by disadvantage quintile (based on level of free school meal eligibility in each proxy catchment area). These box plots show the distribution of school-level free school meal eligibility rates within each group – this illustrates that within an area with a given level of disadvantage, there is still variation between different schools.

Free schools serving the least disadvantaged catchment areas tend to have higher levels of free school meal eligibility among their pupils than might be expected. In the least disadvantaged areas, the median proportion of primary pupils eligible for free school meals is 6.1 per cent, while free schools within reach of similar areas have median levels of FSM eligibility of 7.9 per cent. In the most disadvantaged fifth of England, the median proportion of FSM eligibility is 24.0 per cent. Primary free schools with catchment areas ranking among the most disadvantaged areas have a median level of FSM eligibility of 19.7 per cent.

For secondary free schools, we find that free schools serving the middle quintiles are more or less in line with their catchment area average, suggesting that they are, overall, representative of the communities they serve. Towards the top quintiles, however, free schools become more varied with some schools having substantially lower and higher levels of disadvantage than their catchment areas, and free schools with the most disadvantaged areas tending to have lower levels of free school meal eligibility than might be expected.

In the least disadvantaged areas, the median proportion of secondary pupils eligible for free school meals is 6.9 per cent, while free schools within reach of similar areas have median levels of FSM eligibility of 10.4 per cent. In the most disadvantaged fifth of England, the median proportion of FSM eligibility is 21.8 per cent. Secondary free schools with catchment areas ranking among the most disadvantaged areas have a median level of FSM eligibility of 21.2 per cent.

Figure 3.3: Level of disadvantage in primary free schools, compared with primary-age pupils within travel distance of those schools, by disadvantage decile (measured by eligibility for free school meals), 2018

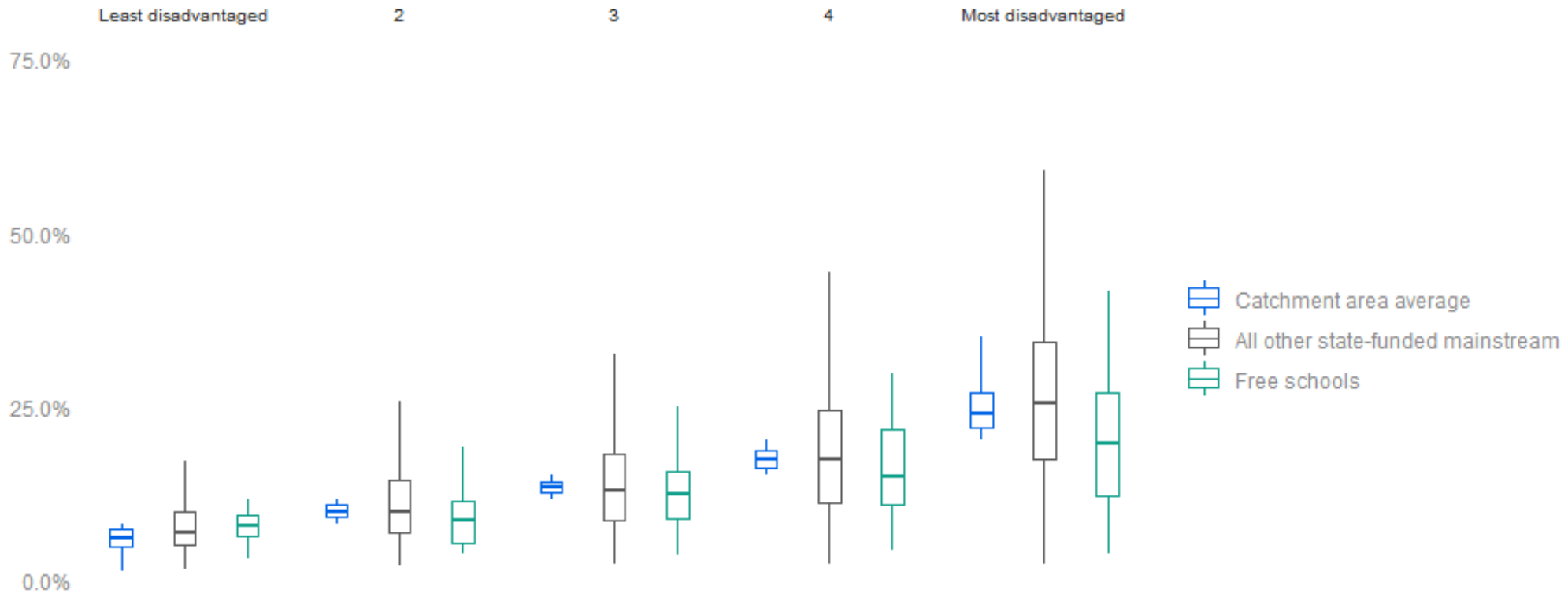
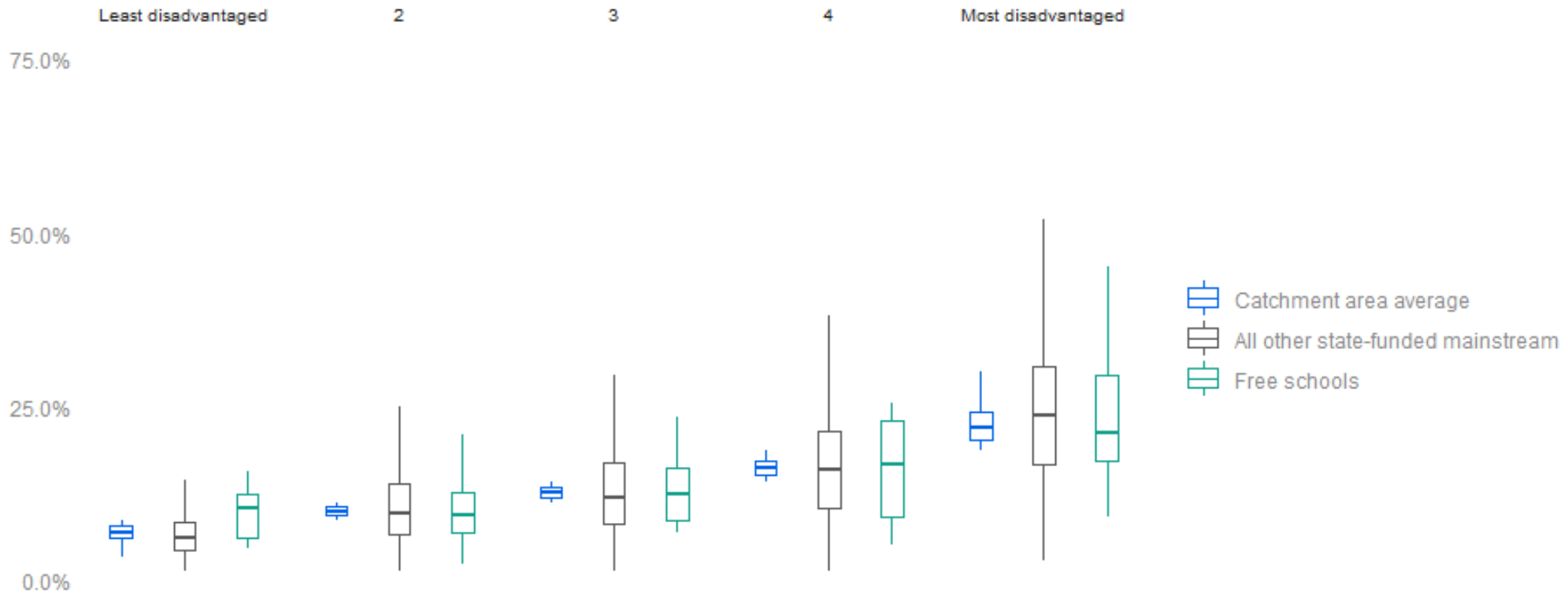


Figure 3.4: Level of disadvantage in secondary free schools, compared with secondary-age pupils within travel distance of those schools, by disadvantage decile (measured by eligibility for free school meals), 2018



Area classification of secondary free school pupils' neighbourhoods

As noted above, many free schools are located in areas of high economic disadvantage. However, it is also the case that there can be wide variation between areas of similar economic disadvantage, in terms of other characteristics and how economic disadvantage impacts on educational attainment. Local areas might appear similar based on their IDACI score or their level of eligibility for free school meals, but their realities may be very different on the ground.

To develop a more nuanced picture of the characteristics of pupils attending free schools compared to other schools – and where different types of schools are located across England – we have conducted new exploratory analysis. We do this using the residential-based area classifications produced by the Office for National Statistics (ONS) based on 2011 census data.

The ONS has placed each of the 391 UK local authority districts into different groups (clusters) based on their 2011 census characteristics, with similar local authorities grouped together, and more detailed clusters identified at LSOA-level. These are based on five main census dimensions: demographic, household composition, housing, socio-economic, and employment.[30] In this way, localities across the UK can be compared and classified according to these particular census characteristics.[31] We allocate pupils to neighbourhood type based on the LSOA of their home postcode.

In Figure 3.5 we present a breakdown of the proportion of pupils attending free schools who live in each neighbourhood type, compared with pupils attending other state-funded schools. This is presented in order of level of disadvantage in each neighbourhood type. As this is exploratory analysis, we have conducted this for secondary schools only. We split this by all and non-London (Figure 3.6).

We find that **secondary free schools draw nearly half of their pupils from just 3 of 24 different area types – these areas are those named 'inner city cosmopolitan', 'urban cultural mix', and 'young ethnic communities'**. **While these are among the most disadvantaged area types in England, we also find that two similarly highly disadvantaged area types are disproportionately under-served by free schools – these are areas named 'hampered neighbourhoods' and 'challenged white communities'.**

The names of these areas are descriptive and there is of course variation in the characteristics of those living in these areas. The ONS has produced radial plots to visualise the characteristics of these

[30] The ONS education measures used to identify clusters are based on the population aged 16 and over. This is helpful because it avoids circularity in using these area classifications to look at educational outcomes of the under-16 population in these areas.

[31] For further details on how and why ONS approached the 2011 area classifications, including a visualisation detailing the characteristics of each area classification see: https://www.ons.gov.uk/methodology/geography/geographicalproducts/areaclassifications/2011areaclassifications.

areas insofar that they differ from the UK average. We draw on these plots in the following paragraphs to give a description of the areas discussed in this analysis.[32]

In comparison with the standardised UK mean, neighbourhoods designated as 'inner city cosmopolitan' have higher levels of population density and higher numbers of overcrowded households. These areas have higher than average levels of non-White ethnic groups, in particular those designated as 'mixed ethnic groups' and those identifying as Black, African, Caribbean or Black British. These areas have a lower than average percentage of the population born in the UK or in Ireland, and a higher percentage being born in other nations belonging to the European Union (particularly pre-2004 accession countries). There is a higher than average proportion of people in these areas for whom English or Welsh is not their main language. A particularly high level of the population live in flats, and a lower-than-average percentage work in manufacturing. In 'inner city cosmopolitan' areas there is a higher than average proportion of the population aged over 16 whose highest level of education is level 4 or above, which is the highest level of education covered in the ONS indicators.

Areas described as 'urban cultural mix' and 'young ethnic communities' are broadly similar to areas labelled as 'inner city cosmopolitan', though these areas tend to have lower levels of higher education qualifications in comparison with 'inner city cosmopolitan' areas. People living in 'urban cultural mix' areas are also more likely to be social renters and/or live in terrace or end-terrace houses. People living in areas described as 'young ethnic communities' are more likely to identify in the census as Indian or Pakistani and are less likely to identify as White. A lower than average proportion of households are without children. There are slightly higher levels of unemployment in both 'urban cultural mix' and 'young ethnic communities' areas.

Neighbourhoods described by ONS as 'challenged white communities' and 'hampered neighbourhoods' have lower than average proportions of non-White ethnicities, with the exception of slightly higher shares of those identifying in the census as Indian or belonging to 'Arab or other ethnic groups' (for 'challenged white communities') and 'mixed ethnic groups' and Black, African, Caribbean or Black British (for 'hampered neighbourhoods'). Like 'inner city cosmopolitan' and similar areas, residents of these two areas have very low propensity to live in detached houses or bungalows, and are more likely to be social renters in terrace or end-terrace houses. Unlike the cosmopolitan areas, they have very low proportions of higher education qualifications at level 4 or above and are much more likely to be unemployed. People living in these areas tend to work across mining/quarrying/construction; manufacturing; energy/water/air condition; wholesale/retail or transport/storage.

[32] 'Pen Portraits and Radial Plots - Office for National Statistics', accessed 3 October 2019, https://www.ons.gov.uk/methodology/geography/geographicalproducts/areaclassifications/2011areaclassifications/penportraitsandradialplots.

Figure 3.5: Proportion of pupils living in ONS area classification groups by school type, and the percentage of pupils living in these areas who are disadvantaged

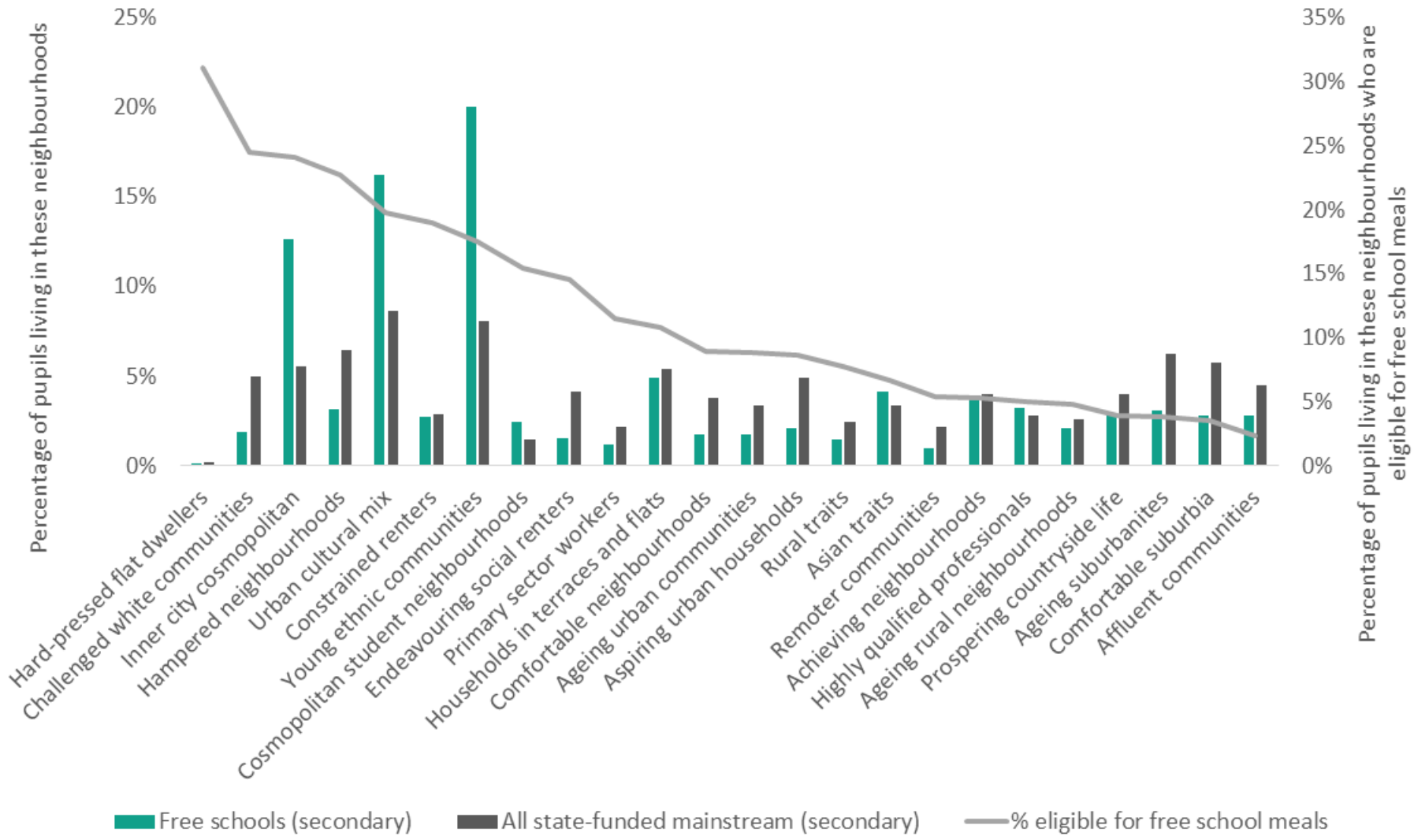
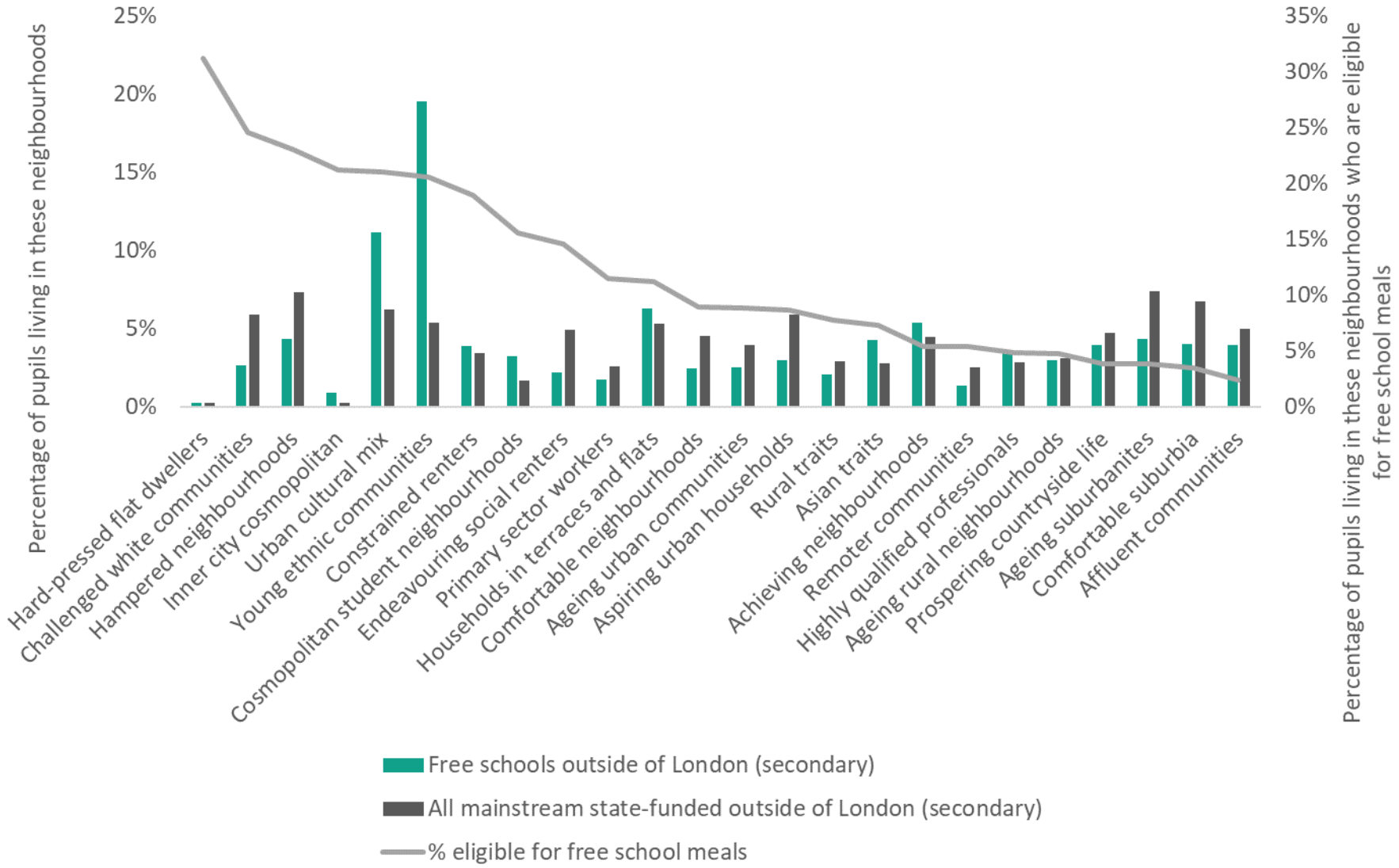


Figure 3.6: Proportion of pupils living in ONS area classification groups by school type, and the percentage of pupils living in these areas who are disadvantaged – excluding London



As illustrated in Figures 3.5 and 3.6, **secondary free schools draw disproportionately from some of the most economically disadvantaged areas –** specifically those named 'inner city cosmopolitan' (13 per cent compared with 6 per cent nationally), 'urban cultural mix' (16 per cent compared with 9 per cent nationally), and 'young ethnic communities' (20 per cent compared with 8 per cent nationally). Free schools draw disproportionately less from other (similarly or more) disadvantaged communities: 'challenged white communities' (two per cent compared with five per cent nationally) and 'hampered neighbourhoods (three per cent compared with six per cent nationally)'.

These patterns are not purely due to a London effect. There is a similar picture looking at secondary schools outside of London, with the exception that few pupils live in an 'inner city cosmopolitan' area regardless of the type of school they attend.

Together this forms a picture of free schools serving high proportions of certain types of disadvantaged community, and disproportionately low proportions of others. The disadvantaged areas served by free schools have higher than average proportions of different ethnic communities. People living in these areas are less likely to have been born in the UK or in Ireland, tend to live in flats or terraces and some have higher than average proportions of higher education qualifications at or above level 4.

Residents living in the highly disadvantaged areas that are markedly under-served by free schools tend to be predominantly white, are more likely to be unemployed and have lower than average proportions of higher education qualifications at level 4 or above. **These distinctions are relevant because, as seen in the following section, these different classifications of disadvantaged community have very different patterns of educational attainment.** We return to this exploratory analysis when we consider the performance of free schools.

Summary

- Where free schools are located within reach of the most disadvantaged communities, they do not, yet, appear to be attracting a representative proportion of disadvantaged pupils.
- Where free schools serve less deprived areas, the disadvantage of their pupil intake tends to be slightly higher than that of the catchment area, particularly at secondary level.
- Forty-eight per cent of secondary free school pupils are drawn from just 3 of 24 different area 'types' (as classified by Office for National Statistics). These three areas, namely those labelled 'inner city cosmopolitan', 'urban cultural mix', and 'young ethnic communities', are among the most economically disadvantaged in England. Notably however, two other (similarly or more deprived) area 'types' are considerably less well served by free schools, namely 'hampered neighbourhoods' and 'challenged white communities'.
- Overall this indicates that secondary free schools in areas with similar levels of disadvantage to other state schools based on free school meal eligibility, can – and often do – have very different local characteristics. For pupils in these schools, their lived experience of disadvantage could be different to those in other schools with similar proportions of disadvantaged pupils. It highlights the importance of looking beyond any single measure of pupil disadvantage when considering school context, and particularly when thinking about the relationship with school performance.

Part 4: Performance of free schools

Background

When we assessed the performance of free schools in our previous report, we concluded that there was insufficient data to reach robust conclusions on the effectiveness – good or bad – of free schools both in terms of Ofsted outcomes and pupil attainment and progress.

We found that attainment and progress at the end of primary school was relatively poor but highlighted that those statistics were derived from a relatively small number of schools which were likely to be atypical of the programme as a whole – not least because none would have had a complete cohort of pupils from the reception year, to year six (though some would have had pupils that had spent the entire period of Key Stage 2 in the school). Results for secondary free schools showed that on Progress 8 – the government's preferred measure of performance – free schools were the joint highest performing school group, alongside converter academies, equivalent to a tenth of a grade in each subject above the national average.

A key concern for assessing free school performance raised in the previous report was that headline measures did not take into account the different profile of pupils seen in free schools. In particular, we drew attention to the fact that many free schools have a higher than average proportion of pupils for whom English is not their first language, a group which on average makes more progress than pupils with similar prior attainment nationally. To attempt to assess the impact of this, we carried out an initial 'similar pupils' analysis based on the 2016 performance data in which we employed propensity score matching to identify a group of pupils with similar characteristics to those in free schools. We found little difference between free schools and other schools using this approach and the results were inconsistent across different measures.

Such an analysis is still some way from an attempt at drawing a causal relationship between attendance at a free school and pupil outcomes with many factors still unaccounted for. For example, it seems likely that parental engagement in a child's education would be higher in some of the earlier cohorts given that some of the schools would have been set up in response to parental demand for them.

However, the performance of free schools naturally remains an important part of the public debate around their introduction and continued expansion. For example, on launching the 14th round of applications to set up free schools, the Department for Education stated in a press release that "there are now over 500 open free schools nationwide, with more than 220 set to open in the coming years. Of those inspected by Ofsted, 84 per cent have been rated good or outstanding, with 30 per cent rated outstanding – and in 2018, four of the top 10 Progress 8 scores for state-funded schools in England were achieved by free schools."[33] The New Schools Network, the charity set up to support the development of new free schools, highlights that free schools are "outperforming all other school types at Key Stage 1 [and] at Key Stage 4, free schools are getting above average GCSE results and are top of the progress league table."[34]

[33] Department for Education, 'PM Pledges Thousands More Good School Places'.
[34] 'Free Schools: The Basic Facts and Figures', accessed 10 October 2019, https://www.newschoolsnetwork.org/what-are-free-schools/free-schools-the-basics.

In this update we do not attempt to provide a causal analysis of the effectiveness of free schools in comparison to other schools but examine the importance of context – school intakes – in the performance seen to date.

Contextualising performance

For both primary and secondary schools we create a contextual value added score, controlling for a range of characteristics that are among the key observable drivers for differences in outcomes. Specifically, we control for:

- Pupil prior attainment.[35]
- Pupil eligibility for free school meals.
- Economic deprivation of the pupil's home LSOA.[36]
- Pupils having an identified special educational need or disability.
- Pupils having English as an additional language – separate factors for those that were in state-funded school during Key Stage 1 and those who joined during Key Stage 2 – including interaction with prior attainment.[37]
- Pupil ethnicity and interaction between ethnicity and level of disadvantage of pupil's home postcode.
- Pupil's postcode is in London.

The outcome for Key Stage 2 (KS2) is a standardised score that combines individual pupils' scores for maths and English (equally weighted). These scores are then standardised around zero. The outcome for Key Stage 4 (KS4) is the headline performance measure Attainment 8.

We construct a simple linear regression model on the relevant outcome of all pupils in state-funded mainstream schools who finished KS2 or KS4 in 2018 to estimate the effects of each characteristic listed above on attainment. We then use this as a model to predict the outcome for pupils based solely on their characteristics. That is to say, for a given combination of prior attainment and characteristics, what would a pupil achieve on average. The difference between this score and what the pupil actually achieved is their contextualised value added score (CVA). For KS4, the CVA is divided by 10 to create a measure that is comparable with the headline value added measure Progress 8. We then take the average of these CVA scores within individual schools and groups of schools. Full details are provided in Annex 2.

[35] For Key Stage 4, prior attainment is calculated based on individual pupils' attainment at Key Stage 2 in English and maths (equally weighted). For Key Stage 2, we use individual pupils' early years foundation stage profile total score.

[36] The Income Deprivation Affecting Children Index (IDACI) is part of the Indices of Multiple Deprivation (IMD). It is an area-based measure defined at the level of Lower Super Output Area (LSOA) and was last collected in 2015. It takes the form of a score between 0 and 1, which can be interpreted as the proportion of families in the LSOA, with children aged under 16, who are income deprived.

[37] Jo Hutchinson, 'Educational Outcomes of Children with English as an Additional Language' (Education Policy Institute, February 2018).

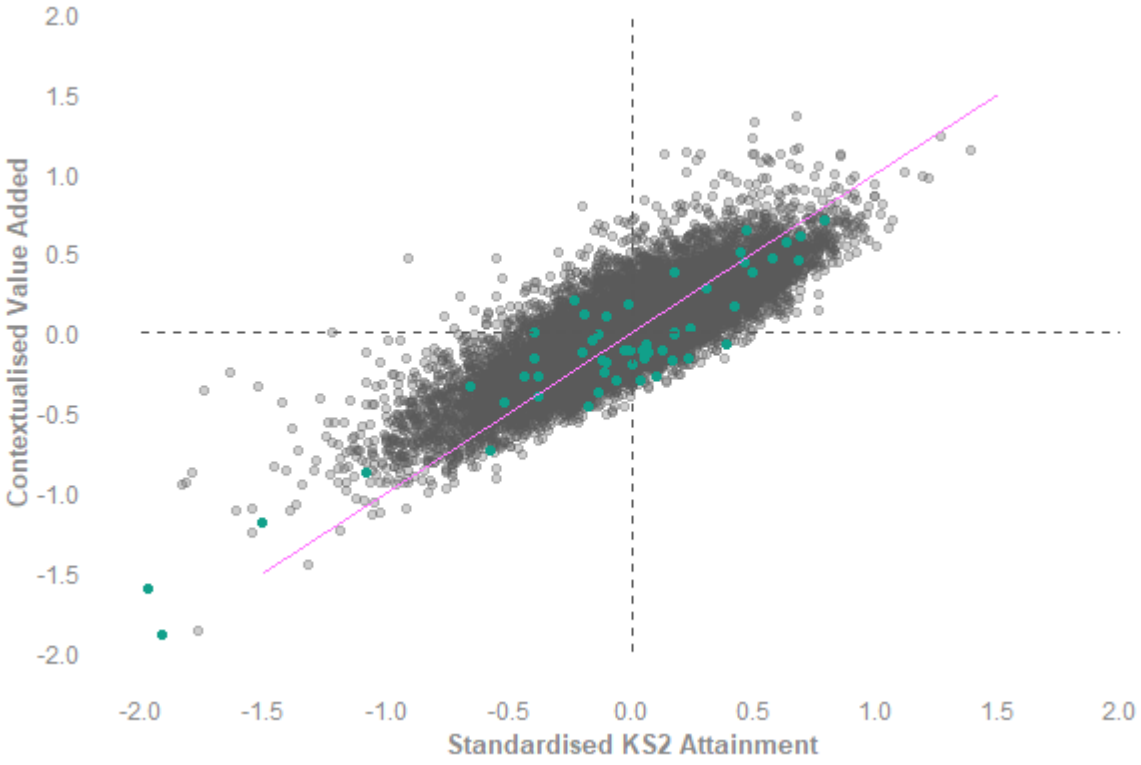
Performance at Key Stage 2

This analysis covers 57 primary free schools with results published in the school performance tables. Results of five of these schools are suppressed in this analysis due to low numbers of pupils with complete data.

Figure 4.1 plots the contextualised value added scores of individual primary free schools and other state-funded mainstream schools against their average attainment at Key Stage 2. As would be expected, there is a strong correlation between Key Stage 2 attainment and the CVA measure – all other things being equal, higher attainment will lead to a higher CVA score. Scores to the right of the vertical line are above average for attainment, scores above the horizontal line are above average for CVA.

As with other schools, there are a wide range of outcomes for free schools at Key Stage 2. Some perform very well on both attainment and CVA, however for others, results are exceptionally low on both measures. The very wide variation for free schools in particular may be explained by the diversity of schools now recorded as free schools including former independent schools, schools set up in response to basic need, schools designed to innovate, and schools set up in response to parental demand.

Figure 4.1: Contextualised value added scores of individual primary free schools (green) and other state-funded primary schools (grey) by standardised KS2 attainment, 2018

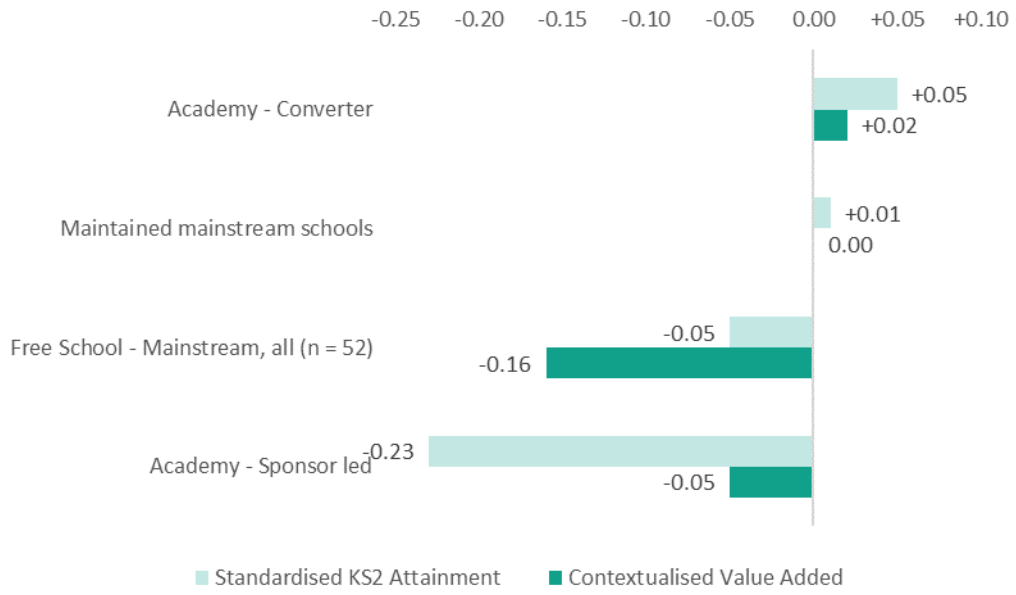


We now summarise the aggregated results of both attainment and CVA by state-funded school type. This is not intended as measuring the causal impact of attending a free school but simply the average outcomes of pupils that attend them in terms of raw attainment and CVA.

We find that:

- **Average attainment in primary free schools is lower than all other state-funded school types apart from sponsored academies.** The standardised KS2 attainment of primary free schools is -0.05 compared with +0.05 for converter academies, +0.01 for local authority-maintained mainstream schools and -0.23 for sponsored academies. Sponsored academies have typically replaced underperforming schools and so we would expect their results to be lower than average, particularly if they have only recently opened.
- **After contextualisation, outcomes in free schools are lower than all other state-funded school types, including sponsored academies.** Our contextualised value added score for primary free schools is -0.16, compared with the next lowest average of -0.05 for sponsored academies.

Figure 4.2: Average standardised KS2 attainment and average contextualised value added, by school type, 2018

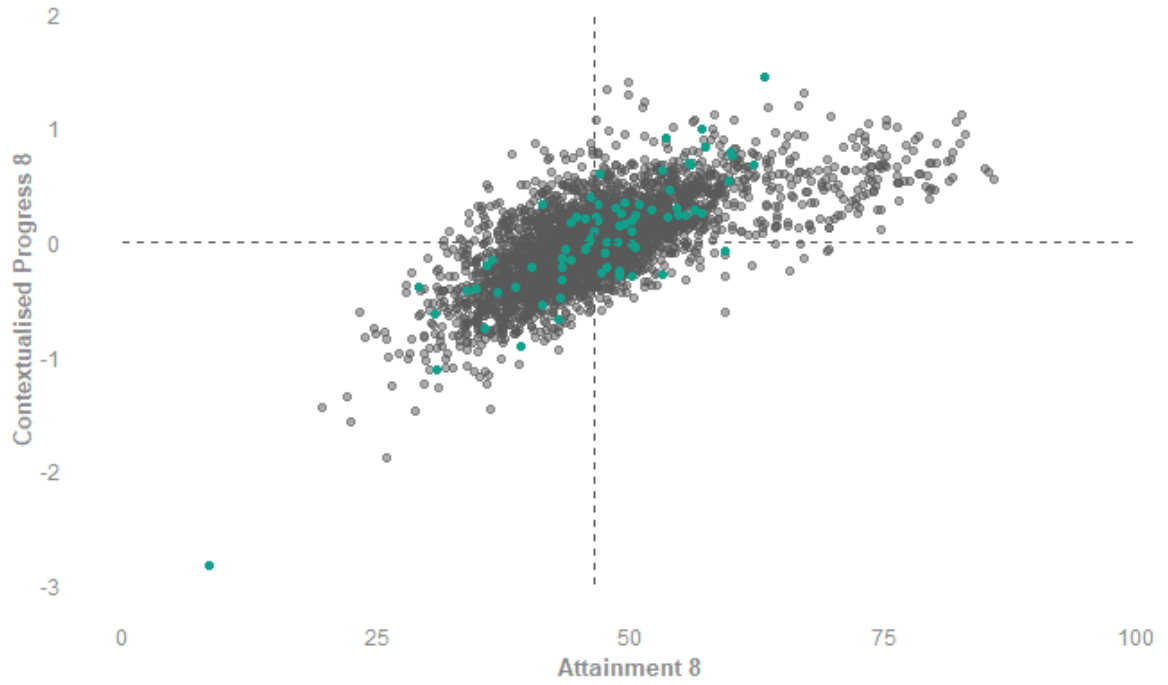


Performance at Key Stage 4

This analysis covers the 77 secondary free schools with results published in the 2018 school performance tables. Results of two of these schools are suppressed due to low numbers of pupils with complete data.

Figure 4.3 plots the contextualised value added scores of individual primary free schools and other state-funded mainstream schools against their average attainment at Key Stage 4 as measured by Attainment 8. As would be expected, there is a strong correlation between Attainment 8 and the CVA measure – all other things being equal, higher attainment will lead to a higher CVA score. Scores to the right of the vertical line are above average for attainment, scores above the horizontal line are above average for CVA. As with performance at Key Stage 2 we find that free schools have a wide range of outcomes with examples of both high and low performance.

Figure 4.3: Contextualised Progress 8 score of secondary free schools (green) and all other state-funded secondary schools (grey), by their Attainment 8 score, 2018



We can also compare the contextualised Progress 8 measure with the published Progress 8 measure. This gives us a more direct illustration of the effect of pupil characteristics on performance. Figure 4.4 shows that:

- **Those free schools with lower starting Progress 8 scores tend to increase their estimated value added after contextualising for their pupil intake.** However, even after contextualising, pupils in these schools still appear to make less progress on average than pupils with similar characteristics nationally.
- Conversely, **those schools starting with higher Progress 8 scores tend to have lower CVA scores. In the majority of these schools, it appears that pupils still make more progress on average than similar pupils nationally**, even after contextualising for their individual characteristics.

Secondary free schools still have the highest value added scores of any state-funded school type, even after contextualising for their pupil characteristics. Figure 4.5 shows the average Progress 8 and contextualised Progress 8 score by school type. For free schools the 'raw' Progress 8 score is +0.24 and after contextualising +0.12, a difference of 0.12, or one eighth of a grade per subject per pupil. This compares with average Progress 8 score of converter academies dropping from +0.11 to +0.05 after contextualising for pupil characteristics. The equivalent scores for maintained mainstream schools and sponsored academies respectively are -0.03 decreasing to -0.05 and -0.19 increasing to -0.06.

Figure 4.5: Contextualised Progress 8 score of secondary free schools (green) and all other state-funded secondary schools (grey), by their published Progress 8 score, 2018

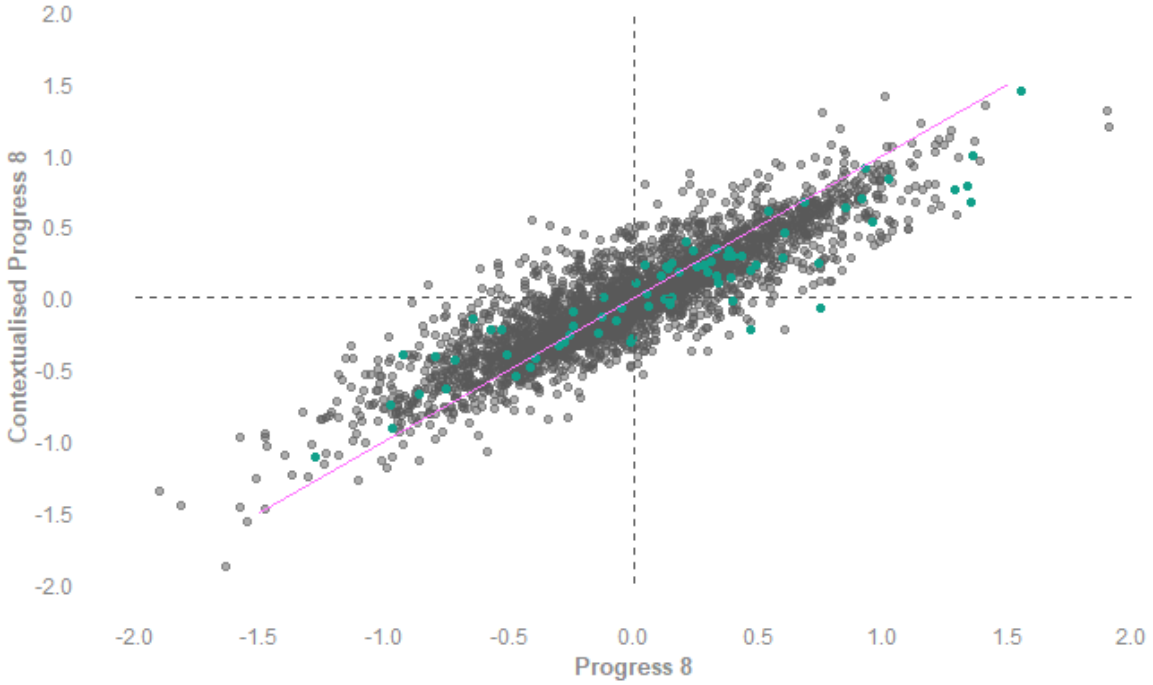
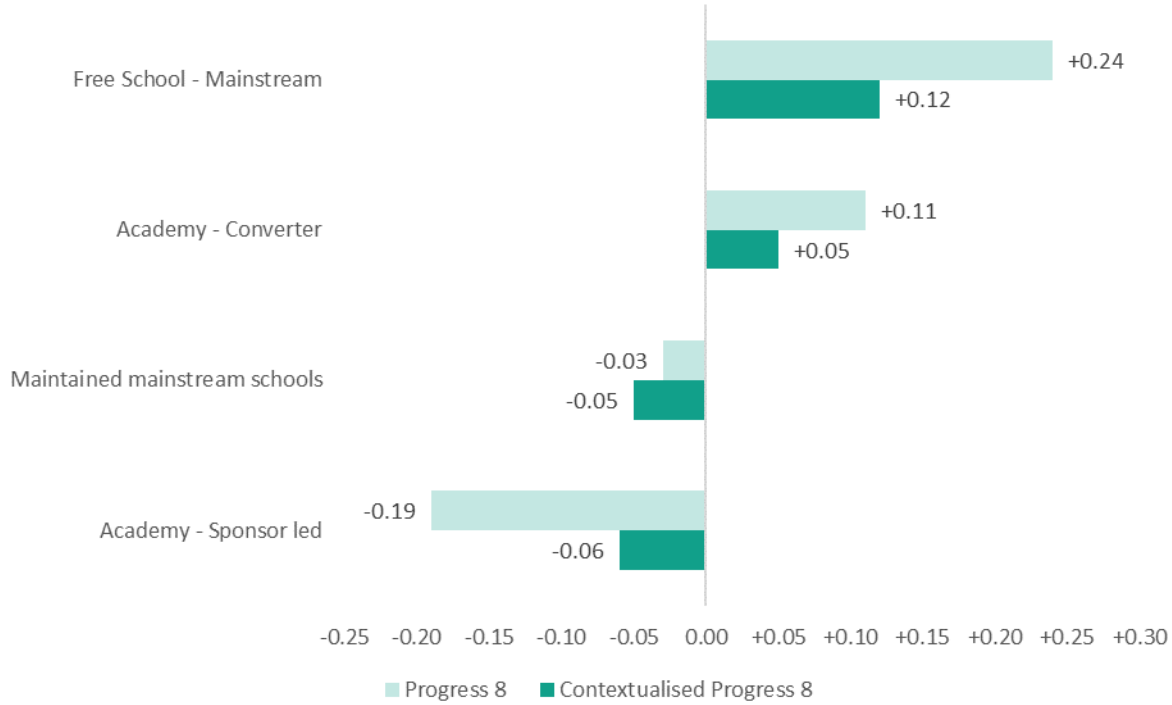


Figure 4.6: Average Progress 8 and contextualised Progress 8, by school type, 2018



The role of pupil neighbourhood type

The characteristics contained within the school census – such as eligibility for free school meals and ethnicity – provide an incredibly rich source of data about individual pupils at state-funded schools in England. However, such characteristics in isolation do not always tell us about the lived experiences of children. We know for example that disadvantage, first language, and ethnicity interact in complex ways to affect educational outcomes. So, a pupil who has been identified as economically disadvantaged in one setting, may achieve very different results to a similarly economically disadvantaged pupil in another.

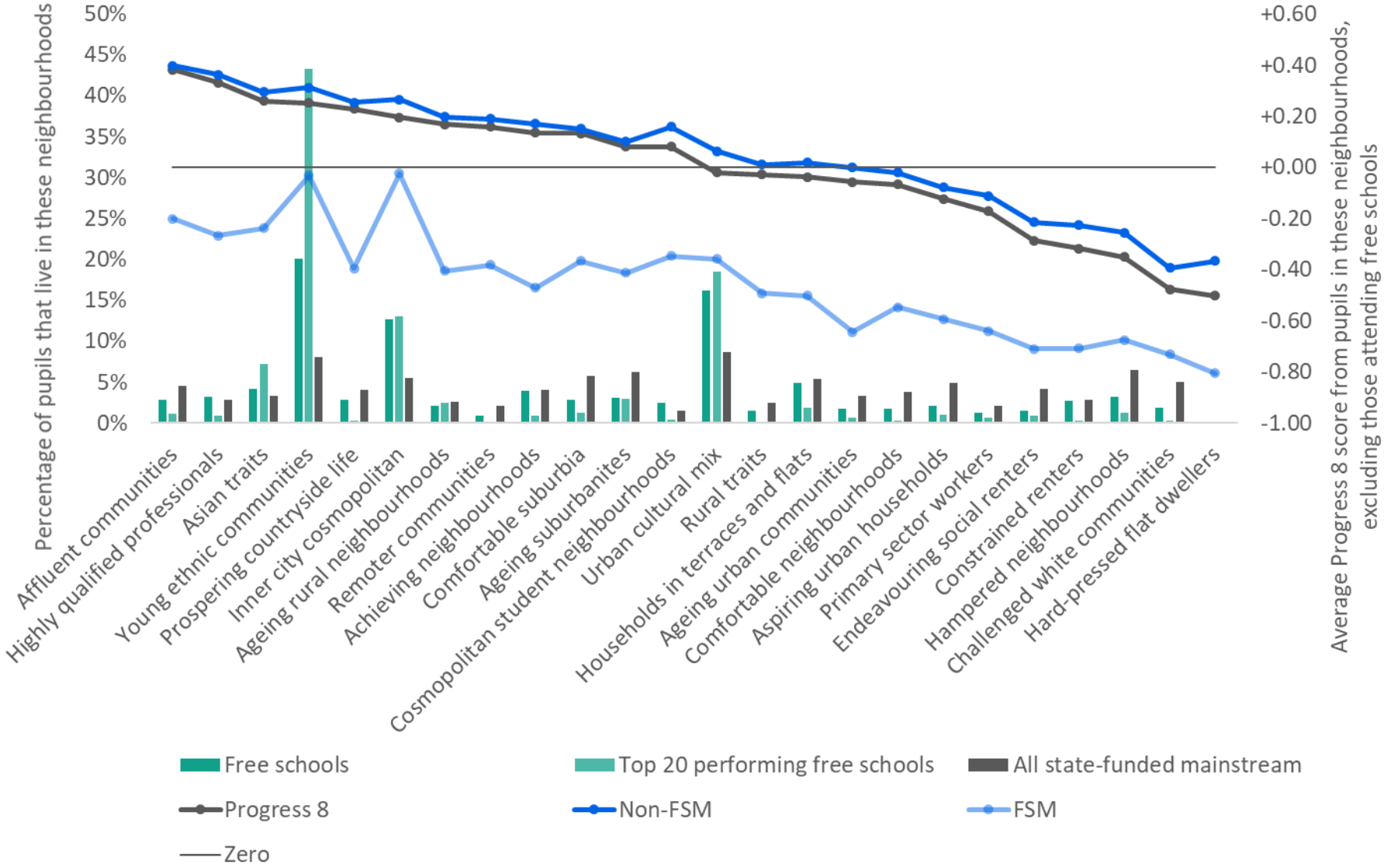
Untangling all of these effects, and the effect of the communities in which pupils are growing up, is beyond the scope of this report. But it is important to acknowledge such effects when assessing the performance of schools or groups of schools.

To explore this further we return to the exploratory analysis introduced in Part 3 where we looked at the area-based classifications created by the Office for National Statistics (ONS). We found that free schools draw disproportionately from neighbourhoods coded by ONS as 'young ethnic communities', 'inner city cosmopolitan' and 'urban cultural mix'. The 20 top performing free schools draw particularly heavily from areas classified as 'young ethnic communities', with 43 per cent of pupils who attend this schools living in these area types. Free schools, in particular the top performing free schools, also draw disproportionately greater proportions of pupils from neighbourhoods coded as 'Asian traits', though this group represents a small proportion of the total.

We now extend this by looking at the typical Key Stage 4 performance of pupils in the different neighbourhood types at LSOA level. We excluded free school pupils from this calculation. While such pupils represent a small proportion in those areas, we wish to isolate the attainment effect from the performance of free schools. So we present the average Progress 8 scores of pupils in each neighbourhood type based on pupils attending all state-funded mainstream schools except free schools. In Figure 4.7 we show for each area type:

- the proportion of all state-funded mainstream Key Stage 4 pupils that live in that area type;
- the proportion of free school pupils that live in that area type,
- the proportion of pupils at high performing free schools that live in that area type, and
- the Progress 8 score (all pupils and split by FSM and non-FSM) for pupils in those areas that attend state-funded mainstream schools (but not free schools).

Figure 4.7: Distribution of pupils and average Progress 8 score by ONS area classification group, split by school type



Three of the area types where substantial portions of free school pupils live are among the highest ranking for average Progress 8 scores nationally. The average Progress 8 score of pupils not attending free schools who live in areas coded as 'Asian traits' is +0.26, the equivalent scores for 'young ethnic communities' and 'inner city cosmopolitan' are +0.25 and +0.23 respectively. On average, pupils in these areas achieve a quarter of a grade higher in each of their GCSE subjects than pupils with similar prior attainment nationally.

Pupils in free schools are disproportionately found in the highest performing area types. If we rank the 24 area types by Progress 8 scores, we find that 55 per cent of pupils in free schools are in the top 10 performing areas compared with 43 per cent of pupils at state-funded mainstream schools. These areas all have Progress 8 scores above +0.1. Among the top five area types (where Progress 8 scores are all above +0.2) we find 33 per cent of free school pupils compared with 23 per cent of all state-funded mainstream pupils. For high performing free schools (those in the top 20 of free schools for Progress 8) this increases to 53 per cent.

Only a small proportion of pupils in free schools live in the lowest performing area types. If we look at the bottom 5 area types, that all have Progress 8 scores below -0.25, we find 9 per cent of free school pupils and 19 per cent of all state-funded pupils. The highest performing free schools draw just 3 per cent of their pupils from these areas.

A further notable finding from this analysis is that there are two area types – 'young ethnic communities' and 'inner city cosmopolitan' – in which disadvantaged pupils have Progress 8 scores that are close to zero. In other words, pupils eligible for free school meals make the same progress as the average across all pupils. This is not to say that there is no disadvantage gap, they are still behind their peers the area and non-disadvantaged pupils nationally, but they are significantly above the national average Progress 8 score for FSM pupils of -0.53. **Across all state-funded mainstream secondary schools, 14 per cent of pupils are drawn from areas in which pupils eligible for free school meals achieve a Progress 8 score of close to zero. In free schools this rises to 33 per cent, and in the highest performing free schools (top 20 for Progress 8) this increases to 56 per cent.**

Free schools draw disproportionately fewer pupils from two areas with equally high levels of disadvantage, namely 'challenged white communities' and 'hampered neighbourhoods'. In Figure 4.7 it can be seen that these two areas that are underserved by free schools rank among the lowest in terms of Progress 8, with average scores of -0.48 and -0.35 respectively.

Overall, it appears that secondary free schools do indeed serve some of the most economically disadvantaged communities in England, but that these pupils are not necessarily educationally disadvantaged. Pupils living in these particular communities are likely to make good progress regardless of the type of school they attend. Their educational attainment does not appear to be impacted by economic disadvantage in the same ways as we see elsewhere. Meanwhile, other types of economically disadvantaged communities are underserved by free schools, and pupils living in these areas have some of the lowest average progress scores in the country.

While further investigation would be required to understand why these neighbourhoods tend to perform well educationally – it is likely due to a combination of the characteristics of the pupils, their families and the quality of existing provision.

Summary

When we assessed the performance of free schools in our previous report, we concluded that there was insufficient data to reach robust conclusions on the effectiveness – good or bad – of free schools both in terms of Ofsted outcomes and pupil attainment and progress.

We do not attempt to draw a causal relationship in this analysis between attendance at a free school and pupil outcomes. We do continue to see a mixed picture of outcomes with pupils in free schools achieving results that are below average at the end of primary school and above average at the end of secondary school. In both cases there high and low performing schools beneath those averages.

Contextualising the results provides an additional dimension to these findings where we find that much – but by no means all – of the high performance of some schools is likely to be down to the characteristics of the pupils that attend them. The exploratory analysis here demonstrates that free schools, particularly those identified as high performing, are disproportionately drawing their pupils from neighbourhood types that already achieve higher results on average. The outcomes for disadvantaged pupils in these areas is also significantly higher than the national average for such pupils, supporting previous analysis that has demonstrated some of the complex relationships between ethnicity, first language, disadvantage, and pupil progress.

This is not to dismiss the very high performance of some schools. The results in individual schools are often well above the averages seen in even the highest performing neighbourhoods. But it is clear, that far more context is needed when discussing the results of free schools and in particular the outcomes for disadvantaged pupils. This is a far from homogeneous group.

Conclusion and recommendations

Free schools are an increasingly important part of the school system in England, not just in terms of their numbers – having grown from none in 2010 to over 500 today – but also for their role in the public discourse about high performing schools and the approaches that they take.

Reaching an overall conclusion on the effectiveness of the free schools programme as a whole is difficult due to its diverse and evolving aims. Some are set up in response to 'basic need', i.e. simply because more school places are needed in an area and that is the route by which school are opened; some are set up because existing provision is not of a high quality; and some are set up to allow innovation and different approaches to those already offered. The term 'free school' is often therefore something of an umbrella term, which, in reality, means any new state-funded school.[38]

There are, however, a number of things that we have been able to explore within this report, and our previous report on free schools, that are useful barometers of success of any programme designed to create new school places.

Are free schools being set up where they are most needed?

Looking at where free schools have been established between 2016 and 2018, we find that primary free school places continue to be created where there is a need for more school places, but that this is less the case for secondary free schools. Both primary and secondary free schools are also being set up in areas where there is already an excess in school capacity. When free schools are set up in areas that already have excess capacity, it appears that the creation of places has not necessarily been directed towards areas in need of more high quality schools.

The most recent call for applications to set up free schools stipulates that proposers must demonstrate a need for both extra capacity and also for more high quality school places.[39]

Are free schools popular with parents?

There is no single measure that captures this fully and we looked across a basket of measures to draw an overall picture. This included ranking free schools in terms of the proportion of first preferences they received in comparison with other school types, and the propensity of pupils to attend a free school when it is their nearest or 'local' school.

Our findings based on the 2016/17 preferences data are broadly similar to those presented in this earlier analysis. Based on most – but not all – measures, free schools are not yet as popular as other school types.

The proportion of parental preferences to free schools that are first preferences is lower for free schools than other schools amongst both primary and secondary schools. Primary free schools are more popular based on the *number* of first preference applications they receive, though this is not the case for secondary free schools.

[38] For a discussion of the varied aims and characteristics of proposers of early waves of free schools, see Rob Higham, 'Free Schools in the Big Society: The Motivations, Aims and Demography of Free School Proposers', *Journal of Education Policy* 29, no. 1 (2 January 2014): 122–39, https://doi.org/10.1080/02680939.2013.792017.

[39] Department for Education, 'How to Apply to Set up a Mainstream Free School'.

Both primary and secondary free schools appear popular once the number of places they have is taken into account, but free schools are less likely be the preferred 'local school' at both primary or secondary (this may be because free schools are offering 'something different' and there is some evidence that free schools become more popular the longer they are established).

Disadvantaged pupils are *more* likely to apply to secondary free schools as their first preference compared to non-disadvantaged pupils, but *less* likely to apply to primary free schools. This is a potential concern for equitable access to primary free schools.

Do they serve disadvantaged pupils and communities?

Primary free schools still do not have as many disadvantaged pupils as might be expected given the areas they serve. This is not the case, however, where free schools are established in less disadvantaged catchment areas: in these instances, their pupil intake tends to be slightly more disadvantaged than average.

In secondary free schools, it now appears that, with the exception of the most economically deprived areas, free schools are broadly representative or slightly over-representative of disadvantaged pupils in the communities they serve. Moreover, in the least economically deprived areas, secondary free schools have more disadvantaged pupils than would be expected given their catchment area.

Overall, while many free schools have been established in the most economically deprived areas in England, it may not always be the case that they are attended by a representative proportion of pupils who can be identified as disadvantaged.

In new exploratory analysis we exploit area descriptors from the Office for National Statistics (ONS) to examine the types of areas that free schools are drawing their pupils from. These area-based descriptors are based on five main census dimensions: demographic, household composition, housing, socio-economic, and employment.

Forty-eight per cent of secondary free school pupils are drawn from just 3 of 24 different 'types' of local community. These three areas, namely those labelled 'inner city cosmopolitan', 'urban cultural mix' and 'young ethnic communities', are among the most economically disadvantaged in England. Notably however, two other (similarly or more deprived) area 'types' are considerably under-served by free schools – namely 'hampered neighbourhoods' and 'challenged white communities'.

While these five areas are similar in terms of levels of disadvantage, there are clear distinctions between those served by free schools and those not reached by free schools in terms of the language, ethnicities and educational attainment of their residents.

We know that disadvantage, first language, and ethnicity interact in complex ways to affect educational outcomes. Therefore, a simple comparison based on economic disadvantage may not always reflect the level of educational challenge in a community. Overall, secondary free schools in areas with similar levels of disadvantage to other state schools based on free school meal eligibility, can – and often do – have very different local characteristics. For pupils in these schools, their lived experience of disadvantage could be different to those in other schools with similar proportions of disadvantaged pupils.

What are the outcomes of pupils who attend free schools?

When we assessed the performance of free schools in our previous report, we found that there was insufficient data to reach robust conclusions on the effectiveness – good or bad – of free schools both in terms of Ofsted outcomes and pupil attainment and progress.

We have not attempted to draw a causal relationship in this analysis between attendance at a free school and pupil outcomes. We do continue to see a mixed picture of outcomes with pupils in free schools achieving results that are below average at the end of primary school and above average at the end of secondary school. Contextualising the results to control for pupil characteristics such as ethnicity and eligibility for free school meals provides an additional dimension to headline results.

Average attainment in primary free schools is lower than all other state-funded school types apart from sponsored academies. Secondary free schools have the highest Progress 8 scores of any state-funded school type, even after contextualising for their pupil characteristics. We find that much – but by no means all – of the high performance of some schools is likely to be down to the characteristics of the pupils that attend them.

We carry out additional exploratory analysis of performance in this report using the neighbourhood classifications discussed above. It demonstrates that free schools, particularly those identified as high performing, are disproportionately drawing their pupils from neighbourhood types that already achieve higher results on average. The outcomes for disadvantaged pupils in these areas is also significantly higher than the national average for such pupils, supporting previous analysis that has demonstrated some of the complex relationships between ethnicity, first language, disadvantage, and pupil progress.

Implications for the free schools policy

This new, exploratory, analysis examining the intakes of free schools using data from the Office for National Statistics is perhaps the most significant. It is well established that the 'school effect' on attainment is relatively small and typically accounts for less than 10 per cent of the variation in pupil outcomes.[40] Therefore, an understanding of the intake of a school is central to understanding its performance.

These new findings have two significant implications for judging the performance of free schools, particularly in the case of pupils who are economically disadvantaged.

Firstly, secondary free schools are disproportionately drawing from neighbourhood types from which pupils, on average, perform well on the government's Progress 8 measure. Pupils in free schools identified as top-performing are almost twice as likely as other pupils to live in these highest performing neighbourhood types.

Secondly, while these neighbourhoods have high levels of disadvantage, disadvantaged pupils tend to perform much better than similar pupils nationally. Over half of pupils in top performing free schools are drawn from areas in which pupils eligible for free school meals achieve, on average, a Progress 8 score of zero – meaning that they achieve around half a grade higher in each of their GCSE subjects than similar pupils nationally. In fact, in terms of outcomes they are more similar to non-FSM pupils nationally than FSM pupils. So, while these pupils are often economically

[40] Department for Education and Standards, 'Variation in pupil progress: 2003', July 2004.

disadvantaged, they are not educationally disadvantaged in the way that we might see in other areas.

This is not to dismiss the high outcomes of individual free schools. When we talk about high performing neighbourhoods, we talk in terms of pupils achieving a fifth of a grade higher in each subject than similar pupils nationally. For the highest performing free schools this can be over one grade in each subject. But this context is important when we are discussing the performance of free schools and in particular some of the highest performing schools – quite simply we would expect the results, in particular measures of progress, to be higher than average.

This context is also important in regard to free schools that have been established to innovate or to offer parents 'something different'.

There are likely to be implications for how we assess the efficacy of the approaches employed by these schools, whether that is in regard to curriculum, teaching, or behaviour, and the extent to which they are transferable to other schools. We make no comment on the relative merits of any particular approach here, but the data clearly demonstrate that while some of the highest performing schools are serving communities that are economically disadvantaged, these communities are not necessarily educationally disadvantaged. More generally, the analysis from the Office for National Statistics suggests that these areas have socio-economic and cultural differences from areas that have so far been less well served by the free schools programme.

Annex 1: Estimating the number of school places and the number of pupils on roll in small area geographies

This report estimates the provision of school places in small areas of the country known as lower layer super output areas (LSOAs). There are just over 30,000 such areas in England each having a population between 1,000 and 1,500.

However, data on schools in England is rarely published at this level. Instead it is generally available at either top-tier local authority level, of which are there 152 in England, or at individual institution level. For much of our analysis the top-tier authority is simply too large and even relatively small authorities can have distinct areas within them.

We therefore derive estimates of the number, quality and demand for places in these small areas using a variety of datasets.

Reasonable travel distances

Underpinning the analysis is an estimate of the catchment area of individual schools. There is no comprehensive dataset setting out the catchment area of each school in England, instead we include all LSOAs that are within a 'reasonable travel distance' of the school. This is estimated by calculating the distance currently travelled by pupils to schools across England and finding the distance which captures 90 per cent of pupils (i.e. 90 per cent of pupils travel this distance or less). This is split by phase and area type. The area type is defined by the location of the school.

These distances are set out in Figure A1 and are derived from the January school census 2018.

Figure A1.1: Reasonable travel distances by school phase and location

	Primary	Secondary
Urban - conurbation	1.5	3.2
Urban – city / town	1.6	4.7
Rural – hamlet / village / town	3.7	7.5

We consider that this method is preferable to examining the areas from which each school currently draws its pupils for two reasons. Firstly, it enables us to apply the same methodology to new schools which do not yet have sufficient pupil data to make an estimate. Secondly, using existing entry patterns would mean 'locking-in' any bias in school intakes – e.g. pupils being drawn from the more affluent areas of a town – rather than the areas that a school *could* be drawing from. Ultimately, these proxy catchment areas aim to capture the pool of pupils who could reasonably be expected to attend the school.

This method is, however, based on straight-line travel distances between the centres (population-weighted centroids) of LSOAs, and does not take into account the exact location of the school within an LSOA, geographic obstacles (e.g. rivers) or transport links (e.g. bus routes). This method may not, for an individual school, fully reflect the areas within reach, but it nevertheless provides a good basis when taken in aggregate.

The result of this analysis is, for each LSOA, a list of LSOAs that are within a reasonable travel distance.

School places in small area geographies

The number of places offered by a school, or the school capacity, is collected and published by the Department for Education through the School Capacity Survey. The analysis in this report uses data from May 2016 and May 2018.

In order to translate this institution level data to area-based measures, we divide the number of places provided by the school equally between all of the LSOAs that are within a reasonable travel distance of that school. This data is then aggregated at LSOA level to get a total number of school places in an area (this can be split by school type).

Schools located in Wales and Scotland are not taken into account, meaning that the number of school places within reasonable travel distance of a given LSOA may be underestimated if it is located on the borders of either of those countries.

Demand for new places in small area geographies

Whilst estimates of 'basic need' (the need for additional school places) are published by the Department for Education, they are only available at local authority level. As set out above there is likely to be variation in different areas within the same authority. Instead we produce our own estimates at LSOA level. In previous reports we have looked at school capacity at our starting point (calculated as above) and applied the local authority growth estimates to each LSOA. However, given that these growth estimates tend to be fairly inaccurate, in this report we have estimated the number of phase-age pupils (primary- and secondary-age) in each LSOA (number on roll) at our end point (May 2018). We do this by taking the actual number of pupils on roll in each school and dividing them equally between all of the LSOAs that are within a reasonable travel distance of it.

Annex 2: Contextualising value added scores at Key Stage 2 and Key Stage 4

As described in Part 4 on the performance of free schools, we aimed to assess the impact of free schools' pupil characteristics on Key Stage 2 (KS2) and Key Stage 4 (KS4) attainment published in annual performance tables.

To do this, we used pupil-level attainment data from the 2018 National Pupil Database (NPD) for both KS2 and KS4, linked with data on pupil characteristics from the spring school census taken in January 2018. This extract of the NPD is also linked to data on pupils' prior attainment. We use only pupils attending state-funded mainstream schools.

We used this data in a simple linear regression model to estimate the effects of a range of pupil characteristics on educational attainment.

Specifically, we control for:

- Pupil prior attainment.[41]
- Pupil eligibility for free school meals.
- Economic deprivation of the pupil's home LSOA.[42]
- Pupils having an identified special educational need or disability.
- Pupils having English as an additional language – separate factors for those that were in state-funded school during Key Stage 1 and those who joined during Key Stage 2 – including interaction with prior attainment.[43]
- Pupil ethnicity and interaction between ethnicity and level of disadvantage of pupil's home postcode.
- Pupil's postcode is in London.

There is no single 'correct' way of controlling for differences between outcomes and the use of different factors can produce different results. We have, however, used a set of controls that reflect the key drivers for differences in outcomes, that vary between schools, and for which we have reliable and consistent data.

The outcome for Key Stage 2 (KS2) is a standardised score that combines individual pupils' scores for maths and English (equally weighted). These scores are then standardised around zero. The outcome for Key Stage 4 (KS4) is the headline performance measure Attainment 8.

The coefficients of the two models (for KS2 and for KS4) are presented in Figures A2.1 and A2.2. The coefficients are all used to predict outcomes for pupils based solely on their characteristics and prior attainment. The difference between this score and what the pupil actually achieved is their

[41] For key stage 4, prior attainment is calculated based on individual pupils' attainment at key stage 2 in English and maths (equally weighted). For key stage 2, we use individual pupils' early years foundation stage profile total score.

[42] The Income Deprivation Affecting Children Index (IDACI) is part of the Indices of Multiple Deprivation (IMD). It is an area-based measure defined at the level of Lower Super Output Area (LSOA) and was last collected in 2015. It takes the form of a score between 0 and 1, which can be interpreted as the proportion of families in the LSOA, with children aged under 16, who are income deprived.

[43] Hutchinson, 'Educational Outcomes of Children with English as an Additional Language'.

contextualised value added score (CVA). We then take the average of these CVA scores within individual schools and groups of schools.

Figure A2.1: Coefficients of simple linear regression model for Key Stage 2 attainment

	estimate	std.error	statistic	p.value
Intercept	-2.558	0.007	-350.604	0.00E+00
Pupil lives in London	0.127	0.003	41.879	0.00E+00
Pupil has an identified special educational need or disability	-0.747	0.003	-262.871	0.00E+00
Pupil has English as an additional language, and attended state-funded school in England at the end of Key Stage1	0.074	0.004	17.073	2.46E-65
Pupil has English as an additional language, and joined state-funded school system in England after KS1	-0.103	0.019	-5.356	8.52E-08
Pupil is eligible for free school meals	-0.156	0.003	-54.652	0.00E+00
Economic deprivation (IDACI score) of pupil's home LSOA	-0.146	0.009	-17.147	6.92E-66
Pupil's prior attainment - Foundation Stage Profile total score	0.030	0.000	415.140	0.00E+00
Pupil is Bangladeshi	0.160	0.021	7.569	3.76E-14
Pupil is Indian	0.310	0.012	26.355	5.51E-153
Pupil is of any other Asian background	0.266	0.016	16.917	3.49E-64
Pupil is Pakistani	0.082	0.012	6.613	3.78E-11
Pupil is Black - African	0.052	0.014	3.784	1.54E-04
Pupil is Black Caribbean	-0.191	0.023	-8.155	3.50E-16
Pupil is of any other Black background	-0.164	0.028	-5.846	5.05E-09
Pupil is Chinese	0.536	0.027	19.691	2.75E-86
Pupil is of any other Mixed background	0.139	0.013	10.884	1.38E-27
Pupil is White and Asian	0.162	0.014	11.482	1.63E-30
Pupil is White and Black African	0.016	0.022	0.723	4.70E-01
Pupil is White and Black Caribbean	-0.171	0.015	-11.078	1.61E-28
Pupil's ethnicity information not yet obtained	-0.023	0.035	-0.647	5.18E-01
Pupil is of any other ethnic group	0.152	0.018	8.311	9.50E-17
Pupil's ethnicity information refused	0.088	0.028	3.209	1.33E-03
Pupil is White - Irish	0.079	0.032	2.499	1.25E-02
Pupil is of Traveller or Irish Heritage	-0.441	0.081	-5.445	5.18E-08
Pupil is of any other White background	0.172	0.009	18.587	4.36E-77
Pupil is Gypsy / Roma	-0.567	0.040	-14.068	6.07E-45
Pupil is Bangladeshi * IDACI score of pupil's home LSOA	0.169	0.063	2.678	7.40E-03
Pupil is Indian * IDACI score of pupil's home LSOA	-0.108	0.051	-2.099	3.58E-02
Pupil is of any other Asian background * IDACI score of pupil's home LSOA	0.075	0.059	1.255	2.09E-01
Pupil is Pakistani * IDACI score of pupil's home LSOA	0.075	0.043	1.770	7.68E-02
Pupil is Black - African * IDACI score of pupil's home LSOA	0.162	0.040	4.055	5.01E-05
Pupil is Black Caribbean * IDACI score of pupil's home LSOA	0.173	0.071	2.418	1.56E-02

Pupil is of any other Black background * IDACI score of pupil's home LSOA	0.555	0.084	6.590	4.39E-11
Pupil is Chinese * IDACI score of pupil's home LSOA	0.371	0.107	3.471	5.19E-04
Pupil is of any other Mixed background * IDACI score of pupil's home LSOA	-0.087	0.048	-1.820	6.87E-02
Pupil is White and Asian * IDACI score of pupil's home LSOA	-0.036	0.061	-0.586	5.58E-01
Pupil is White and Black African * IDACI score of pupil's home LSOA	0.207	0.077	2.684	7.28E-03
Pupil is White and Black Caribbean * IDACI score of pupil's home LSOA	0.289	0.053	5.437	5.43E-08
Pupil's ethnicity information not yet obtained * IDACI score of pupil's home LSOA	0.024	0.138	0.175	8.61E-01
Pupil is of any other ethnic group * IDACI score of pupil's home LSOA	0.109	0.058	1.891	5.86E-02
Pupil's ethnicity information refused * IDACI score of pupil's home LSOA	-0.094	0.119	-0.794	4.27E-01
Pupil is White - Irish * IDACI score of pupil's home LSOA	0.124	0.144	0.866	3.87E-01
Pupil is of Traveller or Irish Heritage * IDACI score of pupil's home LSOA	0.530	0.263	2.016	4.38E-02
Pupil is of any other White background * IDACI score of pupil's home LSOA	0.105	0.033	3.178	1.48E-03
Pupil is Gypsy / Roma * IDACI score of pupil's home LSOA	0.713	0.142	5.012	5.38E-07

Figure A2.2: Coefficients of simple linear regression model for Attainment 8 at Key Stage 4

	estimate	std.error	statistic	p.value
Intercept	54.378	0.123	442.175	0.00E+00
Pupil lives in London	1.693	0.057	29.837	1.91E-195
Pupil's prior attainment - attainment at KS2 (English and maths weighted equally)	-15.520	0.178	-87.392	0.00E+00
Pupil's prior attainment squared	1.346	0.070	19.232	2.15E-82
Pupil's prior attainment cubed	0.342	0.007	47.044	0.00E+00
Pupil has an identified special educational need or disability	-6.011	0.059	-101.679	0.00E+00
Pupil has English as an additional language, and attended state-funded school in England at the end of Key Stage1	-3.932	0.299	-13.142	1.91E-39
Pupil has English as an additional language, and joined state-funded school system in England after KS1	-13.246	0.161	-82.332	0.00E+00
Pupil has English as an additional language, and attended state-funded school in England at the end of Key Stage1 * Pupil's prior attainment	1.107	0.062	17.899	1.27E-71
Pupil has English as an additional language, and joined state-funded school system in England after KS1 * Pupil's prior attainment	4.466	0.046	97.896	0.00E+00
Pupil is eligible for free school meals	-4.058	0.057	-71.071	0.00E+00

Economic deprivation (IDACI score) of pupil's home LSOA	-19.744	0.164	-120.499	0.00E+00
Pupil is Bangladeshi	2.559	0.375	6.826	8.76E-12
Pupil is Indian	5.506	0.221	24.928	4.49E-137
Pupil is of any other Asian background	3.925	0.287	13.689	1.20E-42
Pupil is Pakistani	1.540	0.226	6.816	9.36E-12
Pupil is Black - African	0.260	0.261	0.996	3.19E-01
Pupil is Black Caribbean	-3.900	0.411	-9.490	2.33E-21
Pupil is of any other Black background	-1.939	0.525	-3.694	2.21E-04
Pupil is Chinese	9.549	0.502	19.013	1.41E-80
Pupil is of any other Mixed background	1.875	0.258	7.276	3.44E-13
Pupil is White and Asian	3.539	0.297	11.927	8.64E-33
Pupil is White and Black African	-0.702	0.468	-1.501	1.33E-01
Pupil is White and Black Caribbean	-2.323	0.311	-7.477	7.61E-14
Pupil's ethnicity information not yet obtained	-1.022	0.422	-2.419	1.56E-02
Pupil is of any other ethnic group	2.103	0.319	6.589	4.44E-11
Pupil's ethnicity information refused	-0.429	0.452	-0.949	3.43E-01
Pupil is White - Irish	2.472	0.532	4.647	3.37E-06
Pupil is of Traveller or Irish Heritage	-14.376	2.742	-5.242	1.59E-07
Pupil is of any other White background	2.708	0.168	16.161	9.81E-59
Pupil is Gypsy / Roma	-10.128	1.009	-10.034	1.08E-23
Pupil is Bangladeshi * IDACI score of pupil's home LSOA	13.866	1.128	12.292	1.01E-34
Pupil is Indian * IDACI score of pupil's home LSOA	7.729	0.967	7.992	1.33E-15
Pupil is of any other Asian background * IDACI score of pupil's home LSOA	9.873	1.113	8.870	7.37E-19
Pupil is Pakistani * IDACI score of pupil's home LSOA	9.624	0.789	12.195	3.34E-34
Pupil is Black - African * IDACI score of pupil's home LSOA	14.453	0.770	18.781	1.15E-78
Pupil is Black Caribbean * IDACI score of pupil's home LSOA	12.845	1.273	10.092	6.04E-24
Pupil is of any other Black background * IDACI score of pupil's home LSOA	16.929	1.599	10.589	3.36E-26
Pupil is Chinese * IDACI score of pupil's home LSOA	11.459	2.090	5.482	4.22E-08
Pupil is of any other Mixed background * IDACI score of pupil's home LSOA	6.135	0.967	6.344	2.25E-10
Pupil is White and Asian * IDACI score of pupil's home LSOA	-0.232	1.320	-0.176	8.60E-01
Pupil is White and Black African * IDACI score of pupil's home LSOA	11.353	1.665	6.820	9.14E-12
Pupil is White and Black Caribbean * IDACI score of pupil's home LSOA	6.057	1.093	5.542	3.00E-08
Pupil's ethnicity information not yet obtained * IDACI score of pupil's home LSOA	2.078	1.564	1.329	1.84E-01
Pupil is of any other ethnic group * IDACI score of pupil's home LSOA	12.269	1.028	11.934	7.93E-33
Pupil's ethnicity information refused * IDACI score of pupil's home LSOA	7.218	1.890	3.819	1.34E-04

Pupil is White - Irish * IDACI score of pupil's home LSOA	-2.383	2.445	-0.975	3.30E-01
Pupil is of Traveller or Irish Heritage * IDACI score of pupil's home LSOA	20.802	8.441	2.464	1.37E-02
Pupil is of any other White background * IDACI score of pupil's home LSOA	6.868	0.589	11.668	1.87E-31
Pupil is Gypsy / Roma * IDACI score of pupil's home LSOA	-0.042	3.063	-0.014	9.89E-01