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Parental choice of primary school in England: what 'type' of school do parents choose?

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Abstract

We investigate the central premise of the theory of markets in education, namely that parents value academic standards. We ask what parents really want from schools and whether different types of parents have similar preferences. We examine parents' stated preferences and revealed preferences for schools (their actual choice of school as opposed to what they say they value in a school). More educated and higher socio-economic status (SES) parents are more likely to cite academic standards, whilst less educated and lower SES parents are more likely to cite proximity. More advantaged parents choose better performing schools, particularly in areas with many schools and therefore a lot of potential school choice. More advantaged parents also choose schools with much lower proportions of pupils eligible for free school meals, relative to other schools available to them. Hence whilst parents do not admit to choosing schools on the basis of their social composition, this happens in practice. Most parents get their first choice of school (94%) and this holds both for more and less advantaged parents, though this is partially because poorer parents make more 'realistic', i.e. less ambitious, choices. If, in areas where there is a lot of potential competition between schools, more advantaged families have a higher chance of achieving their more ambitious choices than do poorer parents, this could tend to exacerbate social segregation in our schools.

Keywords: school preferences, school choice, parental choice

JEL Classification: I20

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1. Introduction

Since the 1988 Education Reform Act, parents in England have had the right to express a preference for the school their child attends. This is done through an application form to their local authority (LA), which then assigns pupils to schools¹. The Education and Inspections Act of 2006 strengthened the role of parental choice in this assignment, banning covert selection of pupils by schools, establishing ‘choice advisors’ for parents, and providing free transport to school for the most disadvantaged. The reforms were based on the idea that allowing parents to choose their school (instead of attending their local school by default) would increase educational standards; schools would improve their performance when they were forced to compete to attract pupils. A dual aim of the reforms was to provide fairer access to schools².

While the theoretical benefits of school choice as a policy are clear, the existing evidence on its impact is mixed (see section 2). Our reading of the literature is that competition, as it currently exists in England, has not significantly improved the academic performance of schools. This may be because parental choice in England is not operating as the theoretical model suggests; for example, parents may be constrained in their choice which hinders the market mechanism. Alternatively, parents may not value academic standards, and so schools do not compete (and raise their standards) on this criteria. Parents may place value on the “wrong” school characteristics (Schnieder and Buckley (2002)), such as the performance of the schools’ sports team, or social status of the pupil intake. In this paper we investigate this central premise of the theoretical model, namely that parents value academic standards. Specifically we ask: do parents value academic standards as one of the most important reasons for their choice of school, or are other characteristics more important? What do parents really want from schools? And do different types of parents have similar preferences across school characteristics?

We investigate these issues by first following the majority of the literature and examining parents’ stated preferences. Second, we look at parents’ revealed preferences for schools, i.e. their actual choice of school as opposed to what they say they value in a school. This enables us to investigate the extent to which parents tend to choose schools which perform better than others in their area in terms of academic achievement compared to social and/or ethnic composition, and how this varies across parental type. Through looking at parents’ revealed preferences we elicit information that is unlikely to be found through analysis of stated preferences alone.

We also ask the degree to which parents’ actual choices are constrained by their geographical location and proximity to their most preferred school³. We address this

¹ Admission to an oversubscribed school is determined by the school’s admissions code. This code can vary, but most schools operate on distance and siblings based criteria. More details can be found in section 4, or see Pennell, West and Hind (2006).

² In the past, access to an oversubscribed school has depended solely on proximity. Evidence suggests that this has increased house prices in desirable catchment areas (Gibbons and Machin (2003)). This effectively prohibits access for pupils with parents that are priced out of the market.

³ If a school is oversubscribed, the school’s published admissions criteria are used to determine which children should be offered places. These criteria have traditionally included geographical criteria such as distance from the home to the school or the school’s ‘catchment area’, along with other criteria such

by exploring how many schools are feasible for parents and how the quality varies within this set of schools. How many pupils attend their closest (or default) school? And do these proportions vary by family type? Finally, are some types of families more likely to get their first choice school?

To address these questions we use an innovative combination of survey and administrative data that comprises the Millennium Cohort Study (MCS) and the administrative data held on each state school pupil by the Department for Children, Schools and Families⁴. The combination of rich longitudinal data in the MCS with administrative data provides a powerful research resource which enables us to add to the international academic literature on school choice and to the policy debate in Britain.

The paper is set out as follows. In Section 2 we briefly review the relevant literature both on school markets and choice. That is followed by a discussion of our data in section 3. We then present our results and conclusions in sections 4 and 5.

2. Policy background and related literature

In the UK, the Education Reform Act of 1988 introduced a school choice mechanism which gave parents the right to express a preference for the school their child would attend. Funding for a particular school depended largely on the number of pupils on the school roll, so schools had an incentive to enrol more pupils. To do this the school had to compete with other schools in the area, along the dimensions that parents cared about. It was thought this would provide a competitive pressure for schools to improve their academic achievement levels. Since 1988 the market system in primary and secondary education has continued and been strengthened with the introduction of new types of school, more emphasis placed on parents' right to choose their school, and the introduction of the School Admissions Code (2007) which prohibits covert selection of pupils by schools.

The market has clear limitations in England however. First, oversubscribed schools cannot expand to meet demand indefinitely⁵. This means that although parents have the right to express a preference for schools, their choice is not guaranteed⁶. Second, failing schools often do not get shut down, which undermines competitive pressure of the market. Rather they are 'turned around' with a swathe of policies aimed at

as the presence of older siblings at the school. The Schools Admissions Code (2007) standardised schools' admission codes.

⁴ The administrative data is a combination of the schools database for England, EduBase, and elements of the Pupil Level Annual Schools Census, PLASC, along with other components of the National Pupil Database, NPD. More details of this unique schools data set can be found in section 3.

⁵ Also, beyond a certain point they need official permission to expand (<http://www.dcsf.gov.uk/schoolorg/guidance.cfm?id=5> accessed 2/11/09)

⁶ Oversubscription criteria determine whether a parent is successful in their first choice. Most schools' admissions are controlled and co-ordinated by their local authority (LA). In these cases, places at oversubscribed schools are determined by criteria such as proximity and whether an older sibling already attends the school. Voluntary Aided and Foundation schools are able to set their own admissions criteria. Additional criteria may include whether the school was named as the 'first preference' on the LA application form, and the pupil's religious denomination in the case of faith schools. Parents are aware of these criteria, and may decide not apply to an oversubscribed school they deem as unfeasible.

improving their test results and often with additional financial investment. Finally (the focus of this paper) it is not obvious that academic standards are necessarily of prime concern to parents. Many other factors may be important to parents when they express their preference for school, including, for example, the peer group and pastoral care at the school.

A number of studies have explored the process of parental choice in detail, often focusing on parents' stated preferences for schools. Survey responses consistently show that academic factors are found to be important to parents (West and Pennell 1999; Coldon and Boulton 1991; Denessen et al 2005; Kleitz et al 2000). Denessen et al (2005) analyse the importance given to a range of reasons for choice of school in the Netherlands. They find that 'quality of education' is given the most importance on average, followed by the 'school climate', 'whether the school pays attention to the child' and 'order and discipline'. Factors relating to the peer group of the school are ranked as the least important reason; the 'possibility to come in contact with other cultures' was given the least importance, followed by the 'other parents are our kind of people'.

Kleitz et al (2000) study data generated from 1,100 charter-school parent surveys in North Texas. They find that over 90% of parents in the survey say that education quality in the school was important or very important to them. Class size was also important to over 80% of parents; proximity by slightly less, while whether friends were attending the school was reported as important or very important by the fewest number of parents. In the US Schneider, Marschall, and Teske (2000) and Schneider et al (1998a) find substantial race and class differences in household preferences for schools. Parents with a college education cite diversity and teaching values as important concerns and place less importance on test scores and discipline than parents with less education. This may reflect the type of schools that pupils are already in, however. Jacob and Lefgren (2007) also find evidence that parents in high income/low income schools have different preferences. They find some support for the notion that less educated parents have less concrete ideas about how a 'good' education is achieved, while more educated parents take a strong academic foundation as given.

The dominant concern regarding school choice is that it will lead to stratification along social or ethnic lines, as different parents value different things in schools and/or face different constraints in realising their choice (Ball 2003; Reay, 2003; Butler and Robson 2003). Schneider and Buckley (2002, page 134) describe the concern that low-income and less educated parents have a "particular susceptibility...to fall for the attraction of non-academic (and thus "wrong") school attributes". Studies have generally found that parents' stated preferences vary according to their socio-economic background and ethnicity (Gewirtz et al 1995; Hastings et al., 2005; Weekes-Bernard 2007; West and Pennell 1999), although Kleitz et al (2000) report no differences between sub-groups of their population of 'choosers'.

Interpreting this evidence can be problematic as parents' stated preferences may differ from their true preferences. This may be particularly true regarding socially sensitive issues such as school ethnic composition (Jacob and Lefgren, 2007). Academic standards may only be mentioned by parents as a 'socially desirable' response, for

example, when school composition is in fact more important to them. Unless faced with choices in a realistic setting, revealed preferences are not elicited.

Schneider and Buckley (2002) report the “remarkable consistency” in the verbal (survey) responses of parents about what they value in schools. They cite six papers based on survey data that find that academic and teacher quality are the most important reasons given by parents in their choice of school. They note, however, that the “optimistic” conclusions based on survey responses are in contrast to evidence from revealed preferences. They use an online schools database in Washington, DC to monitor parent search behaviour as an indicator of parent preferences. Through analysing this search behaviour, they find a “strong bias toward accessing the demographic characteristics of the student population, which is in marked contrast to verbal reports about the importance of race” (Schneider and Buckley 2002, page 138). The authors also cite other work in the US which supports this finding: Weiher and Tedin (2002) show that when choosing charter schools parents in Texas were likely to “sort themselves along racial/ethnic lines . . . *in spite* of their expressed preferences, rather than in conformity with those expressed preferences” (Weiher and Tedin (2002), page 91, italics added).

Finally, Buckley et al (2006) use survey data in Chile to assess whether stated and revealed preferences are consistent. They find that while all parents in Santiago say they are seeking strong academic programs in their children’s schools, they actually choose schools that are widely different on academic quality but similar on socioeconomic dimensions. The authors conclude that parents choose “class – not the classroom”, which stated preferences do not reveal. Our data allow us to investigate both stated and revealed preferences for primary schools in England and to compare the two.

3. Data

Our primary data source is the Millennium Cohort Study (MCS), which is a longitudinal dataset funded by the Economic and Social Research Council (ESRC) and a consortium of Government Departments headed by the Office for National Statistics (ONS). The MCS was sampled from all live births in the UK, which for England and Wales took place over a 12 month period from 1 September 2000 and 31 August 2001. This period coincides with the school academic year, meaning that children in the study in England and Wales form an academic cohort. The MCS is designed to chart the initial health, social and economic conditions of new births in the new millennium (MSC Guide to the Datasets 2008).

For England, the sample was selected from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of deprived areas, defined as the poorest 25% of wards based on the Child Poverty Index (CPI)⁷, and also areas with high concentrations of Black and Asian families⁸. Weights provided with the data are applied to the analyses reported here to correct for the over-

⁷ The CPI is defined as the percentage of children under 16 in an electoral ward living in families that were, in 1998, receiving at least one of the following benefits: Income Support; Jobseekers Allowance; Family Credit; Disability Working Allowance, and is therefore a proxy for neighbourhood deprivation.

⁸ ‘High’ is defined as above 30% of the ward. Proportions are based on the 1991 national census.

representation of disadvantaged and high ethnic minority wards and so to enable us to draw nationally representative inferences. The sample draws from all children that are living in the UK at age nine months and eligible to receive Child Benefit at that age. Child Benefit is a payment made to all main carers and so has extensive coverage; it excludes only those whose residency is temporary⁹.

Our study uses data from England only, as school policy and admission arrangements differ between countries in the UK and because the administrative data for schools we use is collected in England only. 5,748 children were sampled from ‘advantaged’ wards, 5,946 from the ‘disadvantaged’ and 3,461 from the wards with a proportion of ethnic minorities greater than 30%. Due to ineligibility of some families and refusal to participate by others, the final sample achieved was 11,533, with a breakdown of 4,617, 4,522 and 2,394 for the respective groups.

Our paper uses the third survey of the MCS, carried out in 2006 when children in the study are five years old. The timing of the third survey was deliberate: the children were beginning primary school and a main objective of the MCS was “to record the child’s transition to primary school, from the point of view of their parents and their school” (MCS Guide to the Datasets 2008; page 13). A consultation process in 2004 decided that it would be useful to assess issues around school choice, including detailed questions on parents’ preferences for schools and information on the schools they actually applied to (MCS Consultation Group 2004). Variables such as the reasons parents give for their ‘first choice’ of school, the most important reason in this choice, and whether parents achieved their desired school are taken from this section. The data allows us to investigate parents’ stated preferences for schools and to compare the findings from the MCS with previous national and cross-country evidence.

We also explore parents’ revealed preferences for schools. This involves comparing schools in the surrounding area with the school named as the ‘first preference’ on the Local Authority (LA) application form. We compare the first preference school with other schools in the locality in relation to a number of characteristics, which requires a detailed dataset containing information on all primary schools in England. To create this dataset we combine variables from two data sources; EduBase and the National Pupil Database (NPD).

EduBase is a register of all educational establishments in England and Wales, maintained by the Department for Children, Schools and Families (DCSF). EduBase contains administrative information for each school, whether it is in the state or independent sector. This includes the type of school (whether voluntary aided, voluntary controlled etc.), phase of education (primary, middle or secondary) and its exact location (postcode).

The NPD is an administrative dataset that covers all pupils in state schools in England. This dataset contains information on pupils’ attainment at each Key Stage level of the National Curriculum, and also information from the pupil level census such as each pupil’s eligibility for free school meals, recognition of any special

⁹ The Department for Work and Pensions (DWP) estimates that 97.2% of children received Child Benefit by 7 months of age in 2000.

educational need and whether they have English as an additional language. Providing this information for the census (previously known as PLASC, now the Annual Schools Census) is a statutory requirement for all maintained schools in England; data should therefore be accurate and reliable. We aggregate the pupil level data to school level, which gives us school level variables such as the percentage of pupils in the school that are eligible for free school meals (FSM), a proxy for low income; the percentage that have any special educational need (SEN); and the percentage that have English as an additional language (EAL). From the attainment data we also construct a measure of each school's average Key Stage 2 (KS2) points score, and the percentage of pupils that achieve level 5 in all subjects at KS2¹⁰. These indicators are calculated for the cohort of pupils taking the tests in 2003, which were published in school performance tables in 2004 and so were available to MCS respondents when making their school choices¹¹.

Variables taken from EduBase and those constructed from the NPD are combined to form a detailed schools dataset. This dataset does not include information on average attainment or composition for schools in the independent sector as information for these schools is not collected by the DCSF. Our schools dataset enables us to compare schools in the local area with the schools nominated by parents on their LA application form. In section 4 we explain how we construct an indicator for whether any particular school represents a feasible choice for parents in terms of the distance between the home and the school and the school's catchment area.

4. Results

4.1 Stated preferences for schools

The MCS survey contains a detailed set of questions on parents' preferences for schools, their actual nominations on their LA application form, whether they got the school that they named as 'first preference' on that form, and whether they are happy with their child's allocated school¹².

The main respondent (usually a parent) is first asked whether they applied for a primary school place through their local authority's application form. This is the standard method of application: all parents who would like a place for their child at a state primary school should complete the form. Parents are then asked to give details (name, address and postcode) of the schools they put as their first, second, and third nominated preferences on the application form if applicable.

Figure 1 shows the percentage of parents that either expressed no preference on their LA application form, or one, two or three preferences. Around a quarter say they did not complete the LA application form for schools. We believe this proportion is not

¹⁰ Level 5 is above the expected level of attainment at KS2 set by government. This indicator therefore represents the proportion of pupils that achieve highly at the end of primary school.

¹¹ School performance tables are available online each year from the Department of Children Schools and Families (DCSF), for example see: http://www.dcsf.gov.uk/performance/primary_08.shtml, where a variety of statistics on school performance are published.

¹² Full details of the questions asked at wave 3 of the survey can be found at <http://www.cls.ioe.ac.uk/studies.asp?section=0001000200010011>.

representative; statistics collected from a sample of LAs suggest that over 90% of parents complete this form as it is compulsory for allocation to state primary schools. This would seem to imply that our data suffer from one or more of: potential recall bias, whereby a proportion of parents cannot recall, even a short time afterwards (around one year), that they completed the LA form; parents misunderstanding the question in the survey; parents wanting to take a short-cut in the questionnaire.

Following this question, parents are asked what factors were important to them when they considered which school to nominate as their first preference. Specifically, they were presented with a list of reasons for their school nominations and asked “Which of these factors were important in choosing to put this school as first choice on the form?” More than one reason could be given. Most parents give multiple reasons for choosing a particular school (the mean number of reasons given was 4.09), although this varies slightly by parent characteristics such as education and socio-economic status.

Table 1 shows the percentage of main respondents that named each reason on the list as an important factor in their first choice nomination. 67.28% of parents say that proximity to the family home and 62.87% say that a ‘general good impression’ of the school is important. These two reasons are the most commonly cited but whether siblings attend the school and academic standards are also mentioned by a large percentage of parents (46.93% and 43.55% respectively). Small class sizes are mentioned by around a fifth of parents (18.70%) and religion by around a tenth (10.24%). Only 3.91% of parents state that the ethnic mix of the school is an important consideration, but 22.43% mention that where the child’s friends are likely to apply is an important factor. This final consideration may mean that parents choose schools that have a pupil intake with similar characteristics, such as ethnicity and social class.

As shown in Table 1, parents give a large number of reasons for their first choice school. For ease of analysis we group these reasons into ten categories, as shown in Table 2. Appendix 1 gives the details for the grouping. The majority of parents (67.95%) cite proximity and/or ease of travel as important reasons for their naming a school as their first preference on the LA application form. A high percentage gives a ‘general good impression’ of the school (62.90%), as does the school’s characteristics and facilities (52.36%). Whether a sibling attends the school is another important reason often given (46.93% of parents), with academic standards slightly less (43.55%). The reasons given for the choice of first choice school in our data are consistent with previous evidence on parents’ stated preferences for schools as discussed above.

In our data the majority of respondents give more than one stated reason as important in their decision for their first nominated school. Although we do not know the ranking for these stated reasons, we do know the reason they recall was the ‘most important’. Respondents are asked: “And, which of these was the single most important reason (for putting this school as first choice)?” From this question we can identify the main reason for their choice, although caveats apply. These are stated preferences, and when answering this question parents may not consider all reasons, may be reluctant to give socially undesirable responses, or may have forgotten initial decisions which later conditioned their choices, for example moving house. There

may also be a certain amount of recall bias, or parents justifying their decision ex post. These shortcomings are discussed more fully below and in a companion paper to the present one (Burgess et al. 2009).

As before we group the list of most important reasons into ten categories. The percentage of parents giving each grouped reason as the ‘most important’ is given in Table 3. Around a quarter of parents say that proximity and/or ease of travel are the most important reasons for their school choice, with a similar proportion saying that a sibling already attending the school is most important. Around 16% of parents say that academic standards are the most important consideration, and about the same proportion say a ‘general good impression’. Very low proportions of parents cite other reasons as the ‘most important’ in their choice of first preference school on the LA form. The responses for ‘most important’ reason for choice of school are consistent with previous evidence on parents’ stated preferences for schools.

Given the concern that differences in parents’ preferences may lead to social stratification in schools, we also investigate the extent to which parents’ stated preferences vary by socio-economic status and ethnicity (see also Henig 1996; Lee et al 1996).

Table 4 shows the variation in ‘most important’ reason given, by the main respondent’s highest educational or vocational qualification. 40% of those with no educational or vocational qualifications say that proximity is the most important factor in their choice. Those with no qualifications are almost twice as likely to give proximity as their most important reason as compared to those with at least a degree or equivalent qualification. In contrast, those with degrees are over twice as likely to say that academic standards are the most important reason: 20.27% of those with at least a degree give this response, compared with 7.80% of those with no qualifications. A similar pattern exists for the percentages giving a ‘general good impression’ as the most important reason. More educated individuals are also over twice as likely to give religious grounds as the most important reason.

Table 5 shows that a similar pattern exists between those with low and high levels of socio-economic status.¹³ Around one third of those in the lowest SES quintile gave proximity as the most important factor, compared to fewer than one in five of those in the highest quintile citing this reason. Higher SES parents are more likely to cite academic standards and a ‘general good impression’ of the school as the most important reason. As with variation by education, those with higher SES are also more likely to give religion as the most important reason for their school choice.

The evidence discussed in section 2, however, suggests that it is important to analyse parents’ revealed preferences for schools rather than relying on survey data or stated preferences alone. In addition to removing any bias caused through a desire to conform to socially desirable norms, parents may also conflate preferences for

¹³ Our measure for socio-economic status is derived from principal component analysis and includes the following parental variables: whether the main respondent reported financial difficulties in wave 3 of the survey, the highest NS-SEC (National Statistics Socio-economic Classification) of the household, housing tenure, and logged equivalised income. Those in the lowest quintile have the lowest level of socio-economic status, and those in the highest quintile have the highest. See appendix 2 for full details of the procedure.

schools. For example, parents may state that proximity is the most important factor in their school choice when in fact they have moved house to be close to a school that is their most preferred for other reasons. Through using revealed preferences, i.e. looking at the characteristics of the school they actually nominate as their first preference, we can identify parents' preferences for schools with more certainty than by using survey data alone.

4.2 Revealed preferences for schools

To understand the extent to which our data reveal parental preferences we need to briefly recap the primary school admission process in England. Parents are invited to apply for a school place through the local authority (LA) application form, on which up to three schools can be named as preferred schools¹⁴. They are named in order of preference, so the school named first on the application form should be the school that parents most prefer (for qualifications to this see below). Using this form the LA allocates pupils to schools, aiming to maximise the number of parents getting a place at one of their preferred schools. When a school is oversubscribed published admissions criteria determine which pupils will be admitted. Admissions criteria for community and voluntary controlled schools are decided by the local authority and so are common across schools in any one local authority. Voluntary aided and foundation schools control their own admissions and so criteria may vary. Applications to all schools, no matter what type, must be through the co-ordinated admissions form. The allocation process is as follows:

- 1) Parents complete and return their application forms to the LA, stating their preferences in order.
- 2) All schools nominated on the application form are asked whether a place for the pupil is available at the school. At the time of application by the MCS cohort, whether the parent named the school as 1st, 2nd or 3rd preference on the LA form was used as admissions criteria by schools in some LAs. In others, the rank order was not taken into account¹⁵.
- 3) All schools have a binding maximum capacity for entry places. Whether the school has a place for the pupil depends on the number of entry places it has in a given year. If a school is oversubscribed, entry is usually determined on proximity to the school, or 'catchment area' after siblings, pupils in care and those with a statement of special educational needs have been accepted.
- 4) If a pupil is deemed to be eligible for a place in more than one school, the allocation will be determined by the LA through considering which school has been ranked highest on the parent's application form.

¹⁴ A few LAs invite more preferences, but the mode is 3. See Coldron et al (2008) for more details.

¹⁵ Under 'equal preferences' admission criteria, where rank order is irrelevant, parents' incentives are consistent with naming their most preferred school as the highest rank on the LA form. Under 'first preferences first', parents may be more strategic. The admission criteria of 'first preferences first' means that admissions bodies prioritise pupils who named the school as first choice on the preference form. This creates a big risk for parents, as naming an oversubscribed school as your first preference means you reduce the likelihood of entry into your 'default' school, where it is different. Coldron et al (2008) surveyed LAs and found that around 32% used 'first preference first' admission criteria in 2006/2007, two years after our cohort applied to primary school. In addition to this, schools that control their own admissions may apply 'first preference first' criteria even where the LA does not.

All parents intending to send their child to a state primary school should complete the LA application form. If parents say that they applied for a school place through the LA application form, the MCS survey then asks “What is the full name of the school that you put as first choice on the form?” as well as the address and postcode of the school. This question is repeated for the second and third choices if made. We take the school named as the first preference as the ‘revealed’ preference of the parents.

We are aware that the revealed ‘choice’ (first preference) we observe may be constrained in some way. The school that parents name as the first choice on the application form may reflect resigned acceptance rather than true preference if parents view their truly desired first preference as unfeasible. Expressing a preference for the most oversubscribed school in the neighbourhood, for example, especially if it is far away, may seem like a wasted choice. This may be particularly true for families living in disadvantaged neighbourhoods who are likely to be further from the most oversubscribed and/or high attaining schools. In areas which operated under ‘first preference first’ admission criteria in 2004/2005, the risk of putting an oversubscribed school as the first preference is amplified (see footnote 15). To at least partly address this problem we incorporate a further question in the MCS in our analysis. Parents were also asked “were there any schools you would have liked [cohort child's name] to attend but chose not to apply to?” and were then asked to name this school. We represent parents’ revealed preferences for primary school by parents’ first nominated school if they do not say there was another school they would have liked to apply to but didn’t, and the school that parents would have liked to have applied to but didn’t if this is applicable¹⁶.

In practice when filling in the LA application form, parents are choosing between a range of ‘local’ schools, often within their own local authority. In the context of parents’ revealed preferences for schools we want to look at the choice of school out of all such schools that are feasible for the parent, which we call the parent’s ‘feasible choice set’. By comparing the characteristics of the chosen school with those in the choice set, we can elicit parents’ revealed preferences across these characteristics. Given that all schools in the choice set are feasible, the school the parents name on their application form should be the parents’ most truly preferred school from the set of schools they can reasonably access. We can then compare this revealed preference to our evidence of parents’ stated preferences.

4.3 Defining the ‘feasible choice set’

The process of defining this feasible choice set is essential. At first thought it may seem that all schools within a certain distance are feasible for parents, for example within 3km from the home. This distance may vary between rural and urban areas due to different norms and transport links, but the same concept would hold in all areas: within a certain travel distance all schools are considered feasible by parents. By looking at school choice within this set of schools we could then identify parents’ revealed preferences. There is a flaw with this line of enquiry however; parents will be unlikely to waste a nomination on a school they know is unattainable. Within any specified distance boundary, some schools will be popular and have a small

¹⁶ 663 parents, or around 7% of the sample say that they would have liked to apply to another school but didn’t for some reason. 30.77% of these parents say they did not apply because they were doubtful the child would get in, 30.17% because the school was too far away or because of travel constraints.

catchment area. Other schools will be less popular and may admit pupils from a larger distance. We assume that parents have some knowledge of how popular each school is, or where pupils generally travel from to get to the school. Popular schools with small catchment areas may not be a realistic choice, and so should not be included in the parent's feasible choice set. We incorporate this into how we calculate our feasible choice set by first defining each school's catchment area as follows:

- 1) Calculate the straight-line distance between the school and home address for all pupils in the reception year group in 2004. This is the entry cohort in the year before the MCS cohort entered primary school and therefore the year the MCS respondents applied to schools.
- 2) Calculate the 80th percentile: the straight line distance within which 80% of the pupils in the previous year's intake live.

We calculate this catchment area based on the previous year's entry as this is the year that is most relevant to prospective MCS parents. Most LAs provide information on the number of applications for entry and the number of places possible to be allocated in the previous year, which gives an indication of relative supply and demand. This is presented alongside other school information in the application booklet and so is easily accessible. Some LAs also give further information on oversubscribed schools, for example how far away the furthest pupil lived from the school in the previous year. To be in the feasible choice set, we also impose that the school must be in the same LA and within 20km of the pupil¹⁷.

So, to summarise, for every MCS respondent in our sample we calculate the set of schools that are feasible for them to choose between. To be in this feasible choice set a school has to be in the same LA and within 20km of the family's home address, and the family must live within the radius from which 80% of the school's intake has been drawn the previous year.

Parents can change or manipulate their feasible choice set in various ways. Parents may decide to move house to improve the likelihood of entry into their desired school; they may invest more time in religious activities to gain entry in faith schools; they may opt out of the state education system altogether and pay for an independent school. We abstract from these issues here, but in a companion paper we restrict the sample of parents to those who have not moved house since the cohort member was born (Burgess et al. 2009); the results from this sample and the full sample of families are not substantively different. We exclude those in independent schools in our sample as we look at preferences expressed on LA application forms¹⁸.

¹⁷ This final restriction is simply to ensure that schools with very large catchment areas, such as boarding schools, are excluded from the feasible choice set.

¹⁸ In practice, 89 parents apply to the local education authority for a state school place and place their child in a fee paying school. This represents 22% of all pupils in fee paying schools. 51 of the parents who applied to both the state and independent sector were not allocated their first nominated school in the state sector, suggesting some ex post decision making. We abstract from this issue because of the small sample size of the subgroup.

4.4 The 'type' of schools available in the feasible choice set

Table 6 shows that schools in the average feasible choice set vary across different types of family¹⁹. Schools in the feasible choice set for parents in the lowest SES quintile have a much higher average FSM rate (22%) compared to those in the choice sets within which families in the highest SES quintile are located (11%). Parents in the lowest SES quintile have schools which have higher proportions of pupils with EAL than parents in the highest SES quintile (12% compared to 8%), and pupils are also more likely to have any level of SEN (21% compared to 17%). Schools available for low SES parents are less 'white', and more likely to have lower proportions of high attaining students; an average of 17% of pupils get all level 5 at Key Stage 2 for low SES parents, compared with 23% for high SES parents. High SES parents are more likely to have access to voluntary controlled schools. 11% of schools for high SES parents are voluntary controlled, compared with 6% of schools for low SES parents. Similar differences in the characteristics of available schools exist between those with no educational or vocational qualification and those with at least a degree.

These differences in available schools across parent types highlight why it is important to consider a parent's school choice relative to all others available in their feasible choice set. Without considering choices of school in a relative context we would estimate a parent's preferences based on absolute attainment of schools in their area. Table 6 shows that on average, all types of parents have some variation across school characteristics within their feasible choice set, which suggests most parents have some choice between school types. They could, for example, feasibly apply to a high scoring school with a low proportion of pupils eligible for FSM or a low scoring school with a high proportion of pupils eligible FSM (both defined relative to their local area²⁰). We argue that the availability of this choice to most parents can enable us to genuinely illicit parents' revealed preferences.

4.5 Parents' revealed preferences: the characteristics of their chosen school

Given the definition of the feasible choice set above, in this section we ask: what type of school do parents choose (i.e. put first on the LA form), relative to all the others available to them? Do they choose the most highly attaining school in terms of KS2 results, the school with the lowest proportion of low income students, or the nearest school? To look at these questions we rank the schools in each pupil's feasible choice set by each of these three school characteristics in turn. A school ranked number 1 will be the school with the highest KS2 mean score, the lowest proportion of pupils eligible for FSM, or the one to which they live closest to in the feasible choice set, depending on which school characteristic they are ordered by²¹.

¹⁹ Different parent types also have different numbers of schools in their feasible choice set, and we account for this below.

²⁰ A "low scoring" school is defined as a school with KS2 attainment (averaged over 3 years) below that of the median school in the pupil's feasible choice set. A "high scoring" school is defined as a school with KS2 attainment (averaged over 3 years) above the median school. If the school has the same average KS2 attainment as the median school, they are randomly assigned to either the "high" or "low" scoring category. The same methodology is used to define "rich" and "poor" schools relative to all schools in the feasible choice set.

²¹ We could choose to rank these characteristics either from low to high or high to low. By using the ranking here we do not mean to imply that schools with low numbers of FSM-eligible students are in

Table 7 shows the rank of school that parents choose when schools are ranked by their KS2 mean. The table splits parents by their SES quintile and reveals differences in school choice across parent type. A rank of 1 means that, on average, the parent SES type chooses the most highly performing school in their feasible choice set, a rank of 2 means they choose the second most highly performing on average, and so on.

Different parent types have different numbers of schools available in their feasible choice sets. Those in the lowest SES quintile have 5.46 schools in their feasible choice set on average, compared with 5.28 for those in the highest SES quintile. Although this is not a large difference, to control for the number of schools in the feasible choice set we present the statistics separately by the number of schools available. Column 1 of Table 7 shows the rank of school chosen for parents that have 5 schools in their feasible choice set, column 2 for those that have 8, and column 3 for those that have 10. Rows show the rank of school chosen for parents of different levels of socio-economic status (SES). This enables us to compare the choices across parent types while holding constant the number of schools they are able to choose between. Sample sizes for each group are also given.

Consider first column 1, comparing parents who have five schools in their feasible choice set. On average, parents with low SES choose a lower ranked, i.e. lower performing, school, than those in the highest SES quintile: 3.45 compared to 2.69 (both out of five available; a difference in ranking of 0.76). Table 7 shows that there is more variation between parents of high and low SES in areas where there are more schools in the feasible choice set. The difference in ranking is 1.65 for those with eight schools, and 2.54 for those with ten²².

Table 8 shows that parents' preferences are more varied when comparing school choices over schools ranked by the proportion of students that have free school meals (FSM). For those with eight schools in their feasible choice set, the average parent in the lowest SES quintile chooses a school that is ranked 5.26 out of 8. The average parent in the highest SES quintile chooses a school that is ranked 3.72 (again out of 8) on average, 1.54 schools higher in the ranking. For those with ten schools in their feasible choice set, the difference between the highest and lowest SES is around 4 schools in the ranking (8.12 compared with 3.82), although the sample size is small in this case.

This analysis shows that parents of different socio-economic status choose a school based on different characteristics. Those with high SES tend to choose a school ranked more highly in its academic quality, and with a lower proportion of pupils eligible for FSM. We are aware that any interpretation of these differences must be cautious however, as they could arise for a number of reasons:

- 1) The high performing school has covert admission requirements. This could mean that parents' preferences are the same, but some parent types are more

any way 'better' than those with high numbers. Rather, we are illustrating the process of parental choice between schools with different proportions of different student types.

²² The difference is also clear when accounting for the total number of schools in the feasible choice set. Using the ratio of the school rank chosen to the total number of schools, the differences between high and low SES are 0.152, 0.20 and 0.25 for the 5, 8 and 10 school cases respectively.

constrained than others. We have accounted for this as fully as possible in our definition of feasible choice sets, as pupils in the previous year travelled at least as far as pupil *i*. We cannot, however, account for the extent to which knowledge of such covert selection practices may stop some parents from applying to such schools.

- 2) Within the feasible choice set, the high performing school is still further away for low income families.
- 3) All parents attend the local school. This means that in disadvantaged neighbourhoods it looks like parents ‘choose’ high-FSM schools explicitly, and the opposite in advantaged neighbourhoods.
- 4) Parents have different preferences for schools. In rural areas and areas with fewer schools, we do not observe these different preferences as parents must choose the same schools. In urban areas and areas with many schools in the feasible choice set (so there are more options) parents are free to choose and we observe the differences in preferences more clearly.

Our data does not allow us to investigate point 1. This would involve qualitative research into schools’ admission requirements (in practice, not simply as stated on admissions forms). For some recent evidence into secondary school admissions see Pennell et al (2006) for London and Coldron et al (2008) for England. Points 2 and 3 are related. If all parents nominate the closest school, either through actual preference or constraints on their choice, then our model of revealed preferences will simply show that parents prefer schools in their immediate neighbourhoods, no matter what their characteristics. If pupils with FSM are clustered in areas where other pupils also have FSM, then the school their parents choose will have a high proportion of FSM pupils. Similarly, if pupils are clustered with similar ability types, then high ability pupils will appear to ‘choose’ high attaining schools, and low ability pupils will appear to choose low performing schools.

Table 9 gives some evidence that parents in all SES quintiles attend a school close to their home. For those with five schools in their feasible choice set, those with low SES nominate a school which is ranked 2.47 on average. This is between the 2nd and 3rd closest school in the feasible choice set and similar to high SES parents who nominate a school which is ranked 2.10 on average. For those with eight schools in their feasible choice set parents in all SES quintiles choose a school which is between 3 and 3.5 schools away on average, so again there is little variation. There is slightly more variation for those with 10 schools, between 3.53 for the lowest SES quintile and 5.13 for the fourth SES quintile.

In each size of feasible choice set, parents choose a close school. Relative to other school characteristics, there is remarkably little variation between SES quintiles: all parent types choose a close school. This suggests that either parents choose a close school, no matter what its characteristics, or that parents self select into neighbourhoods with their desired school type. If neighbourhood characteristics are correlated with school characteristics and parents choose the closest school, this would explain the variation in school rank chosen when schools are ranked by school performance and the proportion of pupils with FSM.

4.6 Who gets their first choice?

The average parent has five schools with varying characteristics within their feasible choice set, which suggests that parents do have some degree of school choice. What about the outcome of this choice process? In our data a very high proportion of the parents who completed the LA form report getting their first choice of school (94%). This is consistent with individual reports collected from LAs²³. Furthermore, we find little variation in the proportion of parents getting their first choice school across SES quintiles, main respondent's education level, or IMD deciles²⁴. It may be however, that parents of disadvantaged backgrounds are adjusting their preferences on the LA form to reflect a resigned choice and we investigate this further.

Figure 2 shows that there is variation in the proportion of families getting their highest nominated school between different types of geographical areas. Those with fewer schools in their local area are more likely to get a place in their most highly nominated school, with the exception of those with no schools within 3km. Those in more densely populated areas are less likely to get their most highly nominated school. This suggests that geographical location and population density are significant factors in whether a pupil is allocated their most highly nominated school. This may be because there are more excess school places in areas where population density is lower, because parents are willing to travel further, or are willing to apply to a risky 'ambitious' school in more densely populated areas.

Taking this further, we find that although the proportion of parents getting their first choice of school does not vary by SES, the price of being ambitious in your school choice does. In the sample as a whole, parents that apply to the highest ranked school in their feasible choice set have a lower probability of admittance. For example, Table 10 shows that 91% of parents that choose the most highly ranked school in terms of mean KS2 score are admitted compared to 97% of parents that choose the least highly ranked school. Thus there is a potential risk or penalty associated with choosing higher ranking schools. This risk is more evident for students in the lowest SES quintile. Only 80% of low SES parents that choose the school ranked most highly in terms of academic achievement are admitted, compared with 91% of those in the highest SES quintile. Although on average parents of different types are equally likely to gain admittance to their 'most preferred' school on the LA application form, this is not the case if parents of low SES apply to a school with the best academic achievement in their area. This is consistent with qualitative evidence from Weekes-Bernard (2007) who surveyed British Black and minority ethnic parents, and found

²³ We contacted a small number of LAs to find out the proportion of pupils that were allocated to their first choice school. The high proportion is also consistent with data for secondary schools, which is collected by the government. In 2008 82% of families got their highest preference school, ranging from 64.5% in London to 92% in the North East.

<http://www.dcsf.gov.uk/rsgateway/DB/STA/t000791/index.shtml>

²⁴ IMD is the Index of Multiple Deprivation. This index combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. This allows each area to be ranked relative to others according to their level of deprivation

(<http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/>) .

The Indices of Deprivation 2007 have been produced at Lower Super Output Area level (of which there are 32,482 in the country).

that many felt constrained in their choice of school, ruling out schools that were deemed unattainable.

5. Conclusion

School choice is central to the English system of school admissions, and has been a major element of government policy for more than two decades. Parental school choice has its supporters and its critics. Those who believe in market power suggest that giving parents the right to choose the school their child attends will tend to cause schools to compete with one another and raise academic standards as a consequence. This positive view is implicitly based on the assumption that parents will choose schools that are more effective in raising levels of academic achievement. Critics argue that parents may not, however, choose on the basis of academic achievement but rather on other potentially divisive factors, such as ethnic and/or social class composition. We first investigate these issues by following the majority of the literature and examining parents' stated preferences. We then use our preferred strategy and look at parents' revealed preferences for schools based on the choice they make on their primary school admission form, comparing the characteristics of the schools they choose relative to all other feasible schools available to them. This method is an improvement on relying on stated preferences alone, since what parents feel comfortable admitting as the reasons for their school choice may not match their real motivations, as revealed by their actual choice of school.

Around a quarter of parents cite proximity and ease of travel as the most important criteria behind their choice. By contrast, only 4% of parents state that the ethnic mix of the school is an important consideration. On the face of it therefore, parents do choose, if not on academic standards per se (only half of parents cite this as being important and just 16% put it as the most important factor), but on the convenience and characteristics of the school. We do find however, that the reasons cited for school choice vary across different types of parent. More educated and higher SES parents are more likely to cite academic standards and a "general good impression" of the school, whilst lower educated and lower SES parents are more likely to cite proximity.

When we turn to revealed preference we are careful to compare the parents' actual choice of school, i.e. the school they put first on their local authority application form, with other feasible schools in their neighbourhood²⁵. This is important as, unsurprisingly, different types of schools are available for higher and lower SES parents and their children. On average, more advantaged parents choose a better performing school relative to others in their choice set, particularly in areas with many schools and therefore a lot of potential school choice. More advantaged parents are also likely to choose schools with much lower proportions of pupils eligible for free school meals relative to other schools available to them. Whilst parents do not admit to choosing schools on the basis of their social composition, there is evidence that this is happening in practice. Conversely, lower SES parents are less likely to apply to socially advantaged schools, perhaps because they feel they will not be able to get

²⁵ In a companion paper to this (Burgess et al 2009) we further investigate the extent to which parents' first preferences on their application form represent their true preference as opposed to constraints they face in the current school choice system.

into such schools (perhaps due to unobservable illicit admission requirements or, equally, social norms). These results may not however, be purely driven by different types of parent having different preferences for a particular type of school. When we undertake formal modelling of the choice process (Burgess et al. 2009), we find that in fact many apparent differences in parental preference are insignificant. What matters more is location. We find strong and compelling evidence that parents do tend to choose a nearby school. This of course would also tend to undermine the process of school choice which relies on parents choosing better schools rather than closer ones.

Is there any truth then to the idea that poorer children are de facto excluded from some higher performing or socially advantaged schools? In general most parents get their first choice of school (94%) and this is equally true for both more and less advantaged parents. Our results indicate however that this is partially because poorer parents make more 'realistic', i.e. less ambitious, choices on their LA application form, reflecting differences in preference and/or constraint (Burgess et al 2009). Where low SES parents make ambitious school choices they have a much lower chance of securing their first choice of school than similarly ambitious high SES parents. Geographical location and population density are also significant factors in whether a pupil is allocated their most highly nominated school. Again this has implications for school choice policy. If, in areas where there is a lot of potential competition between schools, more advantaged families have a higher chance of achieving their more ambitious choices than do poorer parents, this could tend to exacerbate social segregation in our schools.

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Figure 1: The percentage of main respondents giving none, one, two, or three school choices on their LA common application form

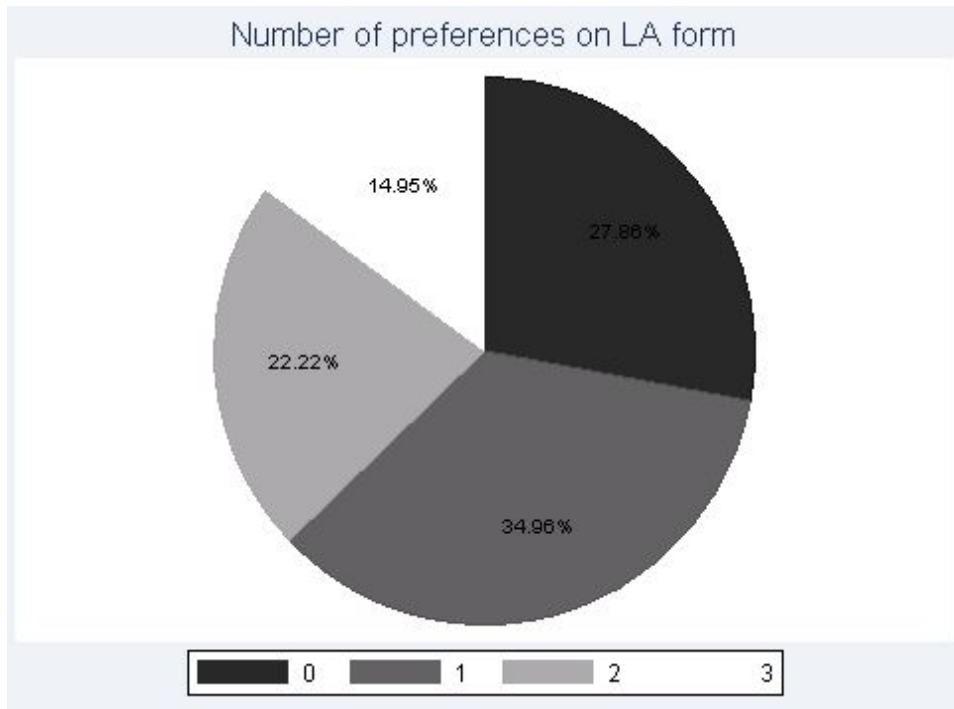


Figure 2: The proportion of parents that get their first choice school (as nominated on their LA application form), by the number of schools within a 3km radius of their home

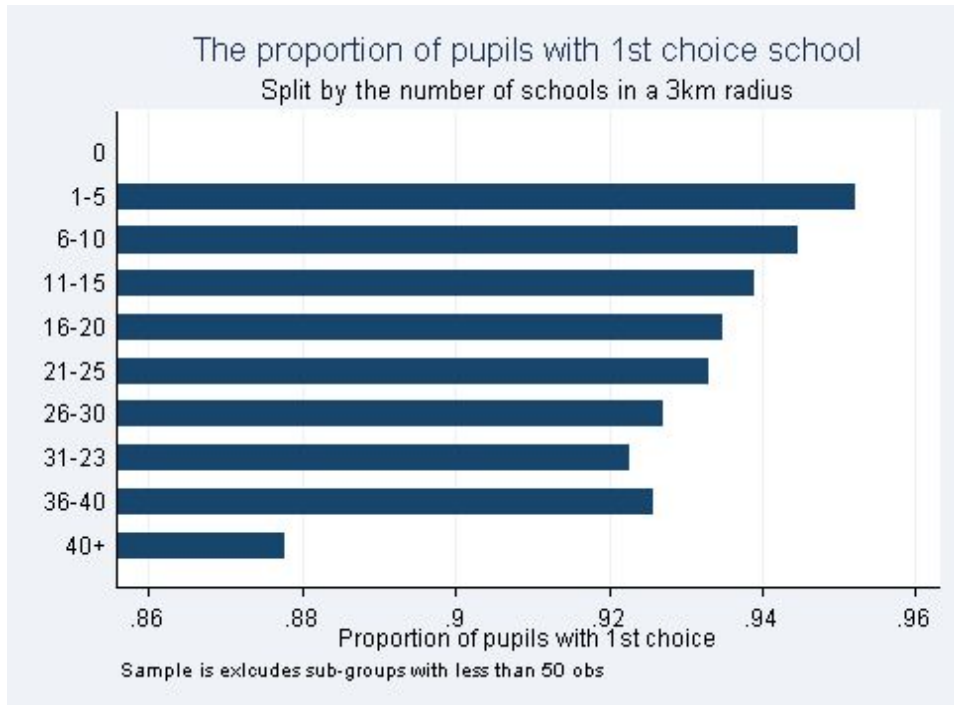


Table 1: Reasons for nominating the school named as 1st preference on the LA application form

Reason for school 'choice'	Number of parents that give reason	% of parents that give reason
School is near or nearest to home	6260	67.28
His/her friends go or were intending to go there	1837	22.43
His/her brother/sister went/go there	4320	46.93
Other relative/parent went/go there	1241	13.25
Wanted them to go to a different school to friend(s)	73	0.79
Wanted them to go to a different school to brothers/sisters	39	0.42
Wanted them to go to a different school to other relative/parents	31	0.25
How likely it was that he/she would get a place	556	6.38
School has good exam results/academic reputation	3814	43.55
General good impression of school	5483	62.87
School has strong anti-bullying policy	1105	12.52
School has small class sizes	1548	18.70
School caters for special needs	475	4.94
School offers specialised curriculum e.g. music, dance, activities	546	6.04
School has good facilities	3237	37.87
School offers childcare for parents who work or study	515	5.78
School is a feeder school	422	5.25
Religious grounds	978	10.24
Easy to get to on public transport	216	2.21
Ethnic mix of the school	470	3.91
School teaches in a language other than English	132	1.11
Wanted him/her to go to single-sex only school	1	0.01
Other reasons relating to the other children who go to the school	98	1.05
Did not like other/ local school	12	0.14
Reasons to do with nursery class/ pre-school	25	0.23
Connections (incl family) with school	45	0.51
Convenient location incl. close to childcare	123	1.42
Good school - good for specific reasons not elsewhere specified	4	0.02

Note: The table gives unweighted frequencies and percentages using survey weights. Parents were asked: "Which of these factors were important in choosing to put this school as first choice on the form?" Multiple answers could be given. If their child was already attending a nursery class at this school, parents were asked to give the reason they chose to send their child to that nursery class.

Table 2: Reasons for nominating the school named as 1st preference on the LA application form, grouped by type of reason

Reason for school 'choice', grouped	Number of parents that give reason	% of parents that give reason
Proximity/ease of travel	6331	67.95
Sibling Rule	4320	46.93
Other family/friends	2874	33.00
Academic standards	3814	43.55
General good impression	5489	62.90
School characteristics and facilities	4512	52.36
Strategic	927	10.97
Religion	978	10.24
School composition	558	4.84
Pre-school & childcare	653	7.30

Note: The table gives unweighted frequencies and percentages using survey weights. Parents were asked: "Which of these factors were important in choosing to put this school as first choice on the form?" Multiple reasons could be given. If their child was already attending a nursery class at this school, parents were asked to give the reason they chose to send their child to that nursery class. Details for the way reasons were grouped can be found in appendix table 1.

Table 3: Most important reasons for nominating the school named as 1st preference on the LA application form, grouped by type of reason

Reason for school 'choice', grouped	Number of parents that give reason	% of parents that give reason
Proximity/ease of travel	2,566	25.56
Sibling Rule	2,350	24.98
Other family/friends	466	5.12
Academic standards	1,521	16.62
General good impression	1,439	16.72
School characteristics and facilities	475	5.19
Strategic	62	0.73
Religion	315	3.27
School composition	44	0.4
Pre-school & childcare	97	1.04

Note: The table gives unweighted frequencies and percentages using survey weights. Following the question on the reasons for their choice of school, parents were asked: "And, which of these was the single most important reason (for putting this school as first choice)?" Details for the way reasons were grouped can be found in appendix table 1.

Table 4: Most important reason for school choice, by the highest educational or vocational qualification of the main respondent

Most important reason given	Highest educational or vocational qualification of the main respondent					
	None	'Other' academic qual, or vocational	GCSE grades D-G	GCSE grades A*-C	AS/A level or diploma in higher ed.	Degree +
Missing	0.88	0.05	0.16	0.33	0.39	0.41
Proximity/ease of travel	40.64	31.99	29.70	24.06	20.14	20.42
Sibling Rule	29.07	26.16	24.62	26.25	24.41	21.06
Other family/friends	7.00	4.75	7.91	5.59	4.34	3.08
Academic standards	7.80	13.29	12.21	16.84	20.89	20.27
General good impression	8.95	13.94	13.86	16.55	17.55	22.78
School characteristics and facilities	3.69	4.95	6.72	5.46	5.21	4.56
Strategic	0.15	0.32	0.60	0.65	0.84	1.37
Religion	1.58	3.81	2.77	2.81	4.24	4.32
School composition	0.11	0.35	0.46	0.36	0.38	0.59
Pre-school & childcare	0.12	0.39	0.99	1.09	1.60	1.16
Total	100	100	100	100	100	100

Note: The table gives percentages using survey weights. The table should be read down the columns, for example 40.64% of those with no educational qualification give 'proximity' as the most important reason for their choice of school.

Table 5: Most important reason for school choice, by the main respondent's socio-economic status (in quintiles)

Most important reason given	Socio-economic status (SES) of the main respondent				
	Lowest quintile	2nd quintile	3rd quintile	4th quintile	Highest quintile
Missing	0.5	0.39	0.27	0.29	0.39
Proximity/ease of travel	32.21	27.67	26.53	21.73	18.38
Sibling Rule	29.08	25.65	27.59	23.97	20.73
Other family/friends	6.8	6.05	4.8	5.11	2.92
Academic standards	9.95	15.43	16.34	19.08	22.1
General good impression	12.03	14.64	14.92	18.13	23.39
School characteristics and facilities	6.6	5.45	5.18	4.63	4.46
Strategic	0.31	0.18	0.53	0.9	1.57
Religion	1.4	3.1	2.86	4.57	4.12
School composition	0.38	0.43	0.24	0.44	0.39
Pre-school & childcare	0.75	1	0.74	1.16	1.54
Total	100	100	100	100	100

Note: The table gives percentages using survey weights. The table should be read down the columns, for example 32.21% of those with the lowest SES choose 'proximity' as the most important reason for their choice of school. The variable for SES was created using principal component analysis. Details of this procedure can be found in appendix 2. The lowest quintile contains the fifth of the sample with the lowest socio-economic status.

Table 6: Mean characteristics of all schools in the feasible choice set, split by parent characteristics

Mean school characteristics	Parental characteristics				
	Full sample	Low SES	High SES	No education	Degree +
Proportion of students eligible for FSM	0.16	0.22	0.11	0.23	0.12
Proportion of students with EAL	0.11	0.12	0.08	0.18	0.11
Proportion of students with some SEN	0.19	0.21	0.17	0.21	0.18
Proportion of students that are white	0.87	0.84	0.90	0.77	0.87
Proportion of students with level 5 in all KS2 subjects	0.19	0.17	0.23	0.16	0.22
KS2 mean score (averaged over 3 years)	27.79	27.34	28.28	27.25	28.22
Proportion of schools: community schools	0.56	0.58	0.55	0.55	0.54
Proportion of schools: voluntary aided schools	0.33	0.35	0.32	0.38	0.33
Proportion of schools: voluntary controlled schools	0.09	0.06	0.11	0.06	0.11
Proportion of schools: foundation schools	0.01	0.01	0.02	0.01	0.02
"Catchment area"	2064.04	1894.45	2251.61	1741.62	2360.38

Note: Weighted values are shown. Statistics are calculated from all schools in the feasible choice set. The feasible choice set is defined as all schools for which the pupil lives within the schools' catchment area, in the same LA and within 20km. Catchment areas are defined by the straight line distance in which 80% of pupils in the previous cohort lived. Those with 'low SES' are those parents who are in the lowest socio-economic quintile, 'high SES' in the highest socio-economic quintile. Socio-economic quintile was computed using principal component analysis; details can be found in appendix 2. The proportion of schools refers to the proportion of non fee paying schools in the pupils' feasible choice set.

Table 7: The rank of school chosen within the feasible choice set: ranked by KS2 mean

	The rank of chosen school, where schools are sorted by their KS2 mean					
	Those with 5 schools		Those with 8 schools		Those with 10 schools	
	Mean rank	N	Mean rank	N	Mean rank	N
Lowest SES quintile	3.45	208	5.70	70	6.36	25
2nd SES quintile	3.06	199	5.28	69	5.71	29
3rd SES quintile	3.11	211	4.38	65	5.70	10
4th SES quintile	2.74	222	3.86	66	4.59	17
Highest SES quintile	2.69	174	4.05	70	3.82	12

Note: Schools are ranked from highest to lowest, so a rank of 1 indicates the most highly scoring school in the feasible choice set. The feasible choice set is defined as the schools for which the pupil lives within the catchment area. Catchment areas are defined by the straight line distance in which 80% of pupils in the previous cohort lived. SES refers to the main respondent's socio-economic quintile, defined using principal component analysis (This process is defined in appendix 2).

Table 8: The rank of school chosen within the feasible choice set: ranked by the proportion of students with FSM

The rank of chosen school, where schools are sorted by their proportion of students with FSM						
	Those with 5 schools		Those with 8 schools		Those with 10 schools	
	Mean rank	N	Mean rank	N	Mean rank	N
Lowest SES quintile	3.51	208	5.26	70	8.12	25
2nd SES quintile	3.09	199	4.81	69	6.39	29
3rd SES quintile	3.08	211	4.03	65	6.80	10
4th SES quintile	2.50	222	4.08	66	4.41	17
Highest SES quintile	2.62	174	3.72	70	3.82	12

Note: Schools are ranked from lowest to highest, so a rank of 1 indicates the school with the lowest proportion of students with FSM in the feasible choice set. The feasible choice set is defined as the schools for which the pupil lives within the catchment area. Catchment areas are defined by the straight line distance in which 80% of pupils in the previous cohort lived. SES refers to the main respondent's socio-economic quintile, defined using principal component analysis (This process is defined in appendix 2).

Table 9: The rank of school chosen within the feasible choice set: ranked by the distance from the pupil's home

	The rank of chosen school, where schools are sorted by their distance to the pupil's home					
	Those with 5 schools		Those with 8 schools		Those with 10 schools	
	Mean rank	N	Mean rank	N	Mean rank	N
Lowest SES quintile	2.47	204	3.15	78	3.53	40
2nd SES quintile	2.25	215	3.33	95	4.05	40
3rd SES quintile	2.06	218	3.40	96	3.88	17
4th SES quintile	2.23	248	3.50	97	5.13	31
Highest SES quintile	2.10	218	3.08	110	4.25	21

Note: Schools are ranked from lowest to highest, so a rank of 1 indicates the closest school (calculated using straight line distances) in the feasible choice set. The feasible choice set is defined as the schools for which the pupil lives within the catchment area. Catchment areas are defined by the straight line distance in which 80% of pupils in the previous cohort lived. SES refers to the main respondent's socio-economic quintile, defined using principal component analysis (This process is defined in appendix 2).

Table 10: The proportion of pupils that get their first choice school (as nominated on their LA application form), by the rank of the school in terms of KS2 mean attainment.

	All students	Lowest SES quintile	Highest SES quintile
Rank of choice	KS2mean	KS2mean	KS2mean
1	0.91	0.8	0.91
2	0.93	0.93	0.95
3	0.93	0.93	0.93
4	0.95	0.94	0.94
5	0.97	1	1

Note: The table gives weighted percentages. Schools are ranked from highest to lowest, so a rank of 1 indicates the most highly attaining school in the feasible choice set.

Appendix 1: Grouping of survey responses

Group	N
<i>Response</i>	
Proximity/ease of travel	
<i>School is near or nearest to home</i>	6260
<i>Easy to get to on public transport</i>	216
Sibling rule	
<i>His/her brother/sister went/go there</i>	4320
Other family/friends	
<i>His/her friends go or were intending to go there</i>	1837
<i>Other relative/parent went/go there</i>	1241
<i>Wanted them to go to a different school to friend(s)</i>	73
<i>Wanted them to go to a different school to brothers/sisters</i>	39
<i>Wanted them to go to a different school to other relative/parents</i>	31
<i>Connections (including family) with school</i>	45
Academic standards	
<i>School has good exam results/academic reputation</i>	3814
Good impression of the school	
<i>General good impression of school</i>	5486
<i>Good school - good for specific reasons not elsewhere specified</i>	4
<i>Did not like other/ local school</i>	12
School characteristics/facilities	
<i>School has strong anti-bullying policy</i>	1105
<i>School has small class sizes</i>	1548
<i>School caters for special needs</i>	475
<i>School offers specialised curriculum e.g. music, dance, activities</i>	546
<i>School has good facilities</i>	3237
<i>Wanted him/her to go to single-sex only school</i>	1
<i>School teaches in a language other than English</i>	132
Strategic	
<i>How likely it was that he/she would get a place</i>	556
<i>School is a feeder school</i>	422
Religion	
<i>Religious grounds</i>	978
School composition	
<i>Ethnic mix of the school</i>	470
<i>Other reasons relating to the other children who go to the school</i>	98
Pre-school & childcare	
<i>School offers childcare for parents who work or study</i>	515
<i>Reasons to do with nursery class/ pre-school</i>	25
<i>Convenient location incl. close to childcare</i>	123

Appendix 2: Detail of socio-economic status derivation

Socio-economic status: Principle Component Analysis

We create a single measure of parents' socio-economic status (SES) for our analysis instead of including many separate but correlated variables, following the method used by the IFS in recent work. We use principal component analysis (PCA) to identify the component which explains most of the variance in SES. Based on this "1st component" (which explains 42% of the variance in SES) we split the sample into quintiles. Those in the lowest SES quintile have the lowest SES, and those in the highest SES quintile have the highest.

The variables we used in PCA are as follows:

- 1) Whether the main respondent reported financial difficulties. This is a binary variable taken from wave 3 of the survey.
- 2) The highest National Statistics Socio-Economic Status (NSSEC) of the household, taken from wave 3 of the survey.
- 3) Housing tenure, taken from wave 3 of the survey. Whether the household lives in privately rented accommodation, social housing, or a mortgaged/owned property are entered as binary variables.
- 4) Logged equivalised household income. We average measures of household income over all waves, and weight for the number of people and type of person in the household using the McClemens score.

Household members were given the following scores to weight by:

First adult	0.61
Spouse/partner	0.39
Other second adult	0.46
Third adult	0.42
Subsequent adults	0.36
Dependant aged 0-1	0.09
Dependant aged 2-4	0.18
Dependant aged 5-7	0.21
Dependant aged 8-10	0.23
Dependant aged 11-12	0.25
Dependant aged 13-15	0.27
Dependant aged 16+	0.36