**Distance, School allocation and Educational Inequality[[1]](#footnote-1)**

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Introduction

This paper examines the role which distance and school allocation, in a variety of forms, can play in the reproduction, intensification or reduction of educational inequality in different school systems. The empirical focus of the paper is on the role of distance in reproducing educational inequality in London. But first, I want to try to outline a conceptual framework for examination of the importance of space and distance which looks at characteristics of schools, pupils and pupil allocational systems and how they combine in different situations.

The outline of a typology

The relationship between space, distance, education and inequality is, at root, very simple and rests on the fact that both schools and pupils are distributed in space with a set of specific characteristics. At the school level, there may be differences in, for example, curriculum, funding, building quality, school ethos and teacher experience and quality – in other words differences in the structure and quality of schooling provision. At the pupil level, there are differences in social class, ethnicity, family income or other direct or indirect attributes which are often linked to educational attainment.

The geographical distribution of pupils in terms of these attributes is not even nationally, regionally or on an intra-urban basis. On the contrary, it is highly uneven for the crucial reason that pupils and their parents are unevenly distributed residentially. As is well known different groups live in different areas with very different housing market characteristics. There is, in other words, a social geography of class, income and ethnicity at a variety of different spatial scales. This manifests itself in a variety of ways. There are some regions, areas or neighbourhoods with high concentrations of the affluent upper middle classes and low concentrations of the lower social classes or the less well off, and vice versa. The same applies in terms of the geography of pupil ethnicity (Hamnett, 2012) There is thus a distinct geography of pupils in terms of social attributes as well as a geography of school attributes.

In a hypothetical world, if the distribution of both schools and pupils was perfectly even, with all schools of equal quality in terms of funding, space, teacher-pupil ratios, etc, and pupils were evenly distributed in terms of social class and ethnicity, it is possible that all schools would have an identical mix of pupils, differentiated only in terms of the distance they lived from the school attended, and it could be r assumed that all schools would have an equal standard of teaching and attainment. In this situation location and distance to school would be irrelevant to education outcomes although pupils from different social class and ethnic backgrounds would still have very different educational outcomes relating to economic, family and cultural backgrounds. But in reality, both school quality and pupil characteristics differ from one area to another. The important question is how these two distributions interact, and the variety of effects they have on one another and their implications.

At this stage, it is important to introduce the crucial issue of how pupils are allocated to schools as this plays a key role in linking the universes of schools and pupils. First, it is important to make the important distinction between private and state schools. In a situation where private or faith based schools exist, and operate outside the state system, there is scope for a variable degree of social selectivity and segregation, depending on the size of these sectors, on the basis of ability to pay or other faith based criteria. (The importance of these sectors varies considerably from one country to another. In some countries, such as Germany or Scandinavia, private schools play a minimal role in the educational system which is almost entirely state dominated, while in others, such as Spain have a large private school sector. While the British private school system is well known internationally, it only accounts for some 7% of all pupils (primary and secondary) in England (DoE, 2011). The same is true of faith schools. These are important in the Netherlands for historical reasons and in Britain they account for just over a third of all primary schools and just under 20% of secondary schools).

It is possible to conceive of five major allocational principles. The first is that of total freedom of parental choice of school whereby parents could send their children to any school of their choice, near or far from their home, without constraint of supply or pupil places. The second is one of no parental choice where all pupils are allocated to a school allocated by the school district or local educational authority. This can be sub-divided into two distinct sub-types. The first is where pupils are allocated to their nearest school 2A, with some kind of capacity constraint, for example that all schools should have equal pupil numbers, and the second 2B. is where pupils could be allocated to a school of the districts choice, possibly with the aim of equalising the social composition of pupils between schools (bussing or banding for example).The third mode of allocation is that of a random allocation to schools by lottery or other means. The fourth is selection based on some measure of ability or aptitude. This was seen in the British secondary school system until the 1970’s where all pupils took an exam at the age of 11 (the 11+) the results of which determined whether they would go to a selective grammar school or to the residual secondary modern system which took 70-80% of pupils. This was replaced by the current comprehensive system from the 1970s onwards on grounds that the selective system effectively entrenched educational inequality from the age of 11.

Finally, there is that of de facto or de jure racial or faith based school segregation such as operated in the southern states of the USA prior to the 1954 landmark Brown-vs-School Board of Education decision by the US Supreme Court which prohibited separate facilities for different races. A similar system operated in South Africa under Apartheid and there was, and still some religious segregation in schooling in Northern Ireland. Our focus in on intersection of pupil characteristics and schools particularly on the role of allocation methods in mediating links between pupils and schools. We are particularly interested in situations in large urban areas where there are marked differences in the social class and ethnic composition of residential areas and how the allocational systems can serve to reinforce or weaken existing patterns of segregation. Our specific focus is on allocational type 2A in East London. First, however, we look at the nature of limited parental choice in England and Wales

England and Wales: Limited parental ‘choice’: preferences and allocation by distance

In England and Wales, where traditionally, most state schools have been run by local educational authorities (LEA’s) who channel state funding to schools and allocate places, central government has attempted to increase parental choice (1988 Education Act) by allowing parents to apply for places at schools outside the LEA boundary. Where this has resulted in the demand for popular schools outstripping demand – which has been very marked in some parts of London, it has then required design measures both to stop middle-class parents ‘gaming the system’ and simultaneously to bring supply and demand into equilibrium. In London therefore, where there are many LEAs in a relatively constrained area which makes it possible for pupils to travel easily ‘out of area’, the London LEAs have agreed that there should be a pan London application system where parents can express preferences for up to six schools to which they are then allocated according to strict criteria.

While this system is promoted in terms of increasing parental choice, the reality is rather different (Butler and Hamnett, 2010) in that there is generally a shortage of places relative to demand at the most popular schools, which are often the highest attaining ones, where the ratio of preferences to places can exceed 10:1 which is paralleled by a surplus of places at the least popular. Consequently, LEA’s have to ration places at the most popular schools. This is commonly on the basis of ‘distance to school’ (with other criteria such as special needs and siblings at school playing a secondary role). What this means in practice is that those parents who live closest to the most popular schools stand the best chance of getting in as long as they rank them as their top preferences.

This system has a number of implications. First, given the long standing link between social class and educational attainment, the highest attaining, and generally the most popular, schools tend to be in more middle-class residential areas of a given local authority area whereas the least popular schools tend to be in poorer and more deprived areas. Consequently, there is a tendency for more expensive middle-class residential areas around popular schools to retain and enhance thei desirability.This can lead to parents moving into the school catchment area to be sure of gaining a place, thus tending to push up house prices or rents (Cheshire, 200x). As a result, the catchment area of such schools might tend to shrink over time as they become ever more socially and geographically exclusive. Conversely, the less popular schools struggle to fill places. But, given that LEA’s have a fixed number of school places and high demand, they have to balance number of applicants to places by allocating places at the less popular schools to pupils who were unsuccessful at other schools. Such unpopular schools thus tend to act as a necessary balancing element in the allocation system.

Clearly, not all parents necessarily opt for the most popular schools as their top preferences. Some parents may choose a less popular school either because they are unfamiliar with the system, aren’t too bothered about getting their child into a popular school, or because they want a local school for convenience or social mix, or may not be able to manage the financial and transport requirements of getting their child to a school far from their home. At the same time, for parents who do want their child to go to a more popular school, and are aware of the structure and operation of the preference system, this can pose a number of strategic dilemmas which are reinforced by the existence of a UK government school rating system which categorises schools as ‘outstanding’, good, satisfactory, or ‘inadequate’. These ratings, which are based on government inspections, are well-publicised and inform parental preferences. A parent who expresses a preference for the most popular schools in an LEA runs a risk of not getting any of their preferences if they do not live close enough to any of them. Thus, they may decide to put down a mix of preferences including some lower preference but local schools for which they are probably more eligible to try to ensure a place. In London as a whole, 66% of parents got a place at their highest preference school in 2010, but in boroughs where completion is fierce this can fall to below 60% and these figures are averages and parents who live far from a preferred school may not get a place at all. Other parents may decide to apply for a faith school, usually Church of England or Catholic as such schools often have a lower proportion of pupils on free school meals and higher attainment figures and allocations to these schools are handled separately (Butler and Hamnett, 2012). The key point however in all this, is that catchment and distance-based systems of allocation tend to reproduce the social characteristics of local residential areas in the schools that serve them. This can be very beneficial for pupils in middle-class residential areas close to popular schools but far less beneficial for pupils in more deprived areas. In the next section, we look at the way this allocational system operates in some boroughs of East London.

The Structure, operation and outcomes of school allocation by distance in East London.

East London consists of 7 boroughs, running east and north from the city of London. They include Tower Hamlets, Newham, Hackey, Waltham Forest, Redbridge, Barking and Dagenham, Havering. The boroughs contain a high proportion of ethnic minorities, with TH and Newham having two of the highest percentages in London (c 80 percent). Conversely, suburban Havering is the whitest borough in London (see figure 1).

**Figure 1. Map of East London boroughs**



All the boroughs display marked differences in educational attainment between schools measured as the % of pupils gaining 5+ GCSEs, grades A\*-C at age 15. They range from highs of almost 100% in some of the elite schools in Redbridge to lows of 20% in some boroughs (see figure 2. Attainment).

### Popularity and School Attainment

The relationship between popularity measured by the A/P ratio and school attainment measured by the percentage of grade A\*-C’s at GCSE varies significantly from borough to borough. The highest correlation, in Barking and Dagenham, was 0.88, followed by Redbridge at 0.52, and Havering 0.474, while in Newham the correlation was only 0.15. The correlations were higher when faith schools were excluded. We interpret the range of correlations to be indicative of a wide variety of factors other than attainment influencing preference, although in most boroughs the most popular schools generally tended to be amongst the highest attaining and vice versa with the lowest attaining schools tending to be the least popular.

Given the differences in school attainment it is not surprising that there are marked differences in school popularity, though this cannot be simply reduced to attainment differences. There are also major issues with school ‘ethos’, behaviour, parental perceptions of reputation and the like. There is a simple way to measure differences in school popularity look at published data on number of school places and number of applications and calculate an applications to places ratio for each school. This method is not without flaws, and it does not take into account the differences in applicant numbers for boys and girls only schools which, in general, could be assumed to be half that of mixed schools.

Table 1 shows that each borough has a distinct hierarchy of schools in terms of A/P ratios, and hence in terms of popularity. There are usually 2-3 schools at the top with ratios of 4 or over, though Redbridge has four schools with ratios of over 6, including the two selective grammar schools, and Hackney has 3 schools (all Academies) with over 6. In Havering, the top ranked school, Coopers and Coborn, is a high prestige VAS school, as is Highams Park, the top ranked school in Waltham Forest. At the other end of the rankings there are a handful of schools at the bottom with ratios of 2 or under. The schools with very low A/P ratios tend to function as ‘schools of the last resort’ in terms of both popularity and allocation, with local authorities offering places when all the more popular schools have been filled up. They serve to balance the limited supply of places and the excess demand for the more popular schools.

Distance, Siblings and Outcomes

Given these marked differences it is important to look at how boroughs actually allocate places to applicants. In every borough we looked at in East London, there was a similar set of ranked criteria. At the top is usually ‘children in care’, or children with special educational needs. This is followed by allocation on the basis of the sibling rule (brothers or sisters already in the school). Finally, the rest of the places are generally allocated on the basis of distance between home and school measured using a GIS tool. This might seem to suggest that distance to school is the least important criterion but in fact the percentage of children ‘in care’ is very small, and along with SEN children they tend to account for less than 10% of places. Siblings are more important but as sibling places are allocated to pupils with brothers or sisters already at the school (who met the then distance criteria), this can be simply seen as inscribed distance.

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| Table 1. Application to Places Ratios, by Borough and ranked School, East London, 2007-8 |
| **Redbridge** |  | **Havering** |  |
| Seven Kings | 8.7 | Coopers&Coborn (VA) | 4.5 |
| Valentines | 7.7 | Hall Mead | 4.5 |
| Ilford County (G) | 7.1 | Abbs Cross (F) | 4.2 |
| Woodford County (G) | 6.8 | Marshall's Park | 3.7 |
| Beal | 5.8 | Gaynes | 3.3 |
| Ilford Ursuline (RC) | 4.5 | Redden Court | 3.1 |
| Chadwell Heath | 4.5 | Sanders Draper | 2.9 |
| Oaks Park | 3.7 | Emerson Park | 2.8 |
| Canon Palmer (RC) | 3.6 | St Edward's (CoE) | 2.3 |
| Wanstead | 3.5 | Sacred Heart (RC) | 2.3 |
| Caterham | 3.1 | Albany | 2.2 |
| Mayfield | 2.6 | Frances Bardsely (F) | 2.0 |
| Trinity (RC) | 2.6 | Campion (RC) | 1.9 |
| Woodbridge | 2.5 | Royal Liberty | 1.9 |
| Loxford | 2.4 | Brittons | 1.8 |
| King Solomon (Jewish) | 1.6 | Chafford | 1.7 |
| Hainault Forest | 1.4 | King's Wood | 1.4 |
|  |  | Bower Park | 1.2 |
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The question then is, what are the implications of this form of allocation in terms of outcomes for pupils. Table 2 shows the percentage of places at community or comprehensive schools in each borough allocated on the basis of catchment areas, and distance, and the places allocated by the local authority. In Redbridge, between 95-98% of places at community comprehensive schools were offered on the basis of catchment, distance or siblings. There was an inverse relationship between school popularity and percentage of places offered to out-of-catchment applicants. Seven Kings, Beal and Valentines, the most popular non-selective schools, only offered 4%, 7% and 1% of places respectively to non-sibling out of catchment area applicants which highlights the key role of catchment areas for the popular schools. At the other end, Hainault Forest offered 38% of places to out-of-catchment applicants. This is reflected in appeal statistics for the borough. In 2006, the school with by far the highest number of appeals against failure to gain a place (70) was the most popular Seven Kings, of which only two were successful. The second highest number of appeals (23) was Valentines, the second most popular school, of which just 3 were successful. Less popular schools had many fewer appeals.

It was a similar story in Havering where between 80-100% of places at all schools bar the lowest ranked school in terms of popularity were offered on the basis of distance and siblings. In Barking, the percentage of places offered on the basis of distance at the five popular schools is over 88%, while for the two least popular schools it drops to 44% and 27% respectively while the percentage of places at these schools allocated by the local authority to balance the number of applicants and places was 51% and 67% respectively. What this indicates is that many of the pupils at these two schools are not there out of choice but because the places at more popular schools were already filled on the distance criteria. The same is true for less popular schools in other boroughs. These are the schools of the last resort. In Waltham Forest the percentage of places allocated on the basis of distance, ranges from 81% to 65% for the more popular schools but falls to zero for the four least popular schools. The lack of a distance criterion for these schools is indicative of the low demand for places. While the general argument regarding the link between popularity and the importance of catchment areas may seem circular in that pupils who live outside the catchment area are unlikely to gain a place at a popular school, this reflects the circularity of the allocational process which functions to ration places at the most popular schools on the basis of distance to school.

Table 2. The percentage of places awarded on siblings, catchment and distance to school, 2008

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| **Havering** |  |  |  | **Waltham Forest** |  |
|  | APR | %Distan | %D+Sib |  | Siblings% | % Distance |
| Coopers&Coborn (VAS) | 6.0 | 56.1 | 98.3 | Walthamstow Girls | 20.0 | 80.0 |
| Abbs Cross (F) | 5.0 | 51.2 | 84.5 | Frederick Bremer | 20.6 | 77.2 |
| Hall Mead | 5.0 | 64.1 | 96.9 | Leytonstone | 25.6 | 73.9 |
| Marshall's Park | 4.3 | 65.0 | 94.3 | Walthamstow Academy | 26.7 | 72.2 |
| Gaynes | 3.3 | 77.1 | 100.0 | Connaught Girls | 28.3 | 70.0 |
| Redden Court | 3.2 | 58.4 | 94.4 | Heathcote | 26.1 | 69.4 |
| Emerson Park | 3.0 | 69.8 | 98.4 | Willowfield | 30.0 | 68.3 |
| Sanders Draper | 2.9 | 69.5 | 98.9 | George Mitchell | 33.3 | 65.8 |
| Frances Bardsely (F) | 2.2 | 98.6 | 98.6 | Kelmscott | 37.2 | 59.4 |
| Albany | 2.2 | 66.1 | 97.8 | Chingford Foundation | 39.6 | 57.9 |
| Royal Liberty | 1.7 | 70.0 | 87.5 | Highams Park | 37.7 | 57.7 |
| Brittons | 1.6 | 69.8 | 98.2 | Norlington | 18.3 | 0.0 |
| Chafford | 1.6 | 70.3 | 96.9 | Rush Croft | 20.0 | 0.0 |
| Bower Park | 1.4 | 59.4 | 80.0 | The Lammas | 14.4 | 0.0 |
| King's Wood | 1.3 | 25.1 | 40.9 | Tom Hood | 18.9 | 0.0 |
| St Edward's (VAS) | 2.9 |  |  |  |  |  |
| Sacred Heart (VAS) | 2.6 |  |  |  |  |  |
| Campion (VAS) | 2.1 |  |  |  |  |  |

Distance Cut-offs and Maximum Distances to Schools

Another way of looking at this is in terms of the maximum distances of pupils from school – the data for which is published by several boroughs. In general, as we would expect, the maximum distance to school (MDS) varies with school popularity, with the most popular schools having the shortest distances and vice versa. This pattern is shown in all boroughs to varying degrees. In Barking, MDS varies from between 1.76 and 2.07 miles for the three most popular schools to between 11 and 28 miles for the less popular. In Newham, the MDS for the more popular schools ranges from 0.43 miles for the most popular to 2.78 miles, while there was no cut off for the less popular. In Waltham Forest, the MDS for the most popular schools was around 0.7 miles to over 3 miles for the least popular. In Hackney, the MDS for the three popular Academies was between 0.47 and 0.74 miles while the least popular schools had no limits (table 2). The impact of the cut off is shown in figures of Hackney catchment areas. Figures hackney catchment areas.

In Tower Hamlets the 4 least popular schools had no distance cut-off for places, indicating that they take children from all over the borough and beyond. Thus the general principle of the most popular schools having the tightest catchments holds even in such an ethnically mixed borough where issues of school ethnic segregation are important.

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| Table 3. Ratio of Applications to Places and Maximum Distance Cut off to School, 2007 |
| **Newham** |  |  |  | **Waltham Forest** |  |  |
|  | APR | Distance |  |  | APR  | Distance |
| Stratford | 5.75 | 0.434 |  | Highams Park (VA) | 4.8 | 0.700 |
| Forest Gate | 4.05 | 0.789 |  | The Lammas | 4.8 |  |
| Brampton | 3.52 | 2.769 |  | Willowfield | 3.8 | 2.979 |
| Lister | 3.52 | 1.874 |  | Walthamstow S for G | 3.8 | 0.710 |
| Sarah Bonnell | 3.41 | 1.195 |  | Chingford Foundation | 3.7 | 1.420 |
| Langdon | 3.38 | 1.567 |  | Leytonstone | 3.6 | 1.602 |
| Plashet | 3.29 | 0.894 |  | Kelmscott | 3.6 | 0.746 |
| Cumberland | 3.23 | 1.688 |  | Walthamstow Academy | 3.5 | 2.275 |
| Little Ilford | 2.90 | 0.888 |  | Connaught S for G | 3.5 | 0.651 |
| Kingsford | 2.51 | none |  | Heathcote S and T | 3.5 | 1.978 |
| The Royal Docks | 2.32 | none |  | Rush Croft Sports C | 3.4 | none |
| Eastlea | 1.95 | none |  | George Mitchell | 3.3 | 3.048 |
| Rokeby | 1.83 | none |  | Frederick Bremer | 3.3 | 3.356 |
| St Angela's (RC) | 3.53 | n/a |  | Holy Family Tech  | 2.7 | none |
| St Bonaventure's (RC) | 3.26 | n/a |  | Tom Hood | 1.9 | none |

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| **Hackney** |  |  |  | **Barking**  |  |  |
|  | A/P Ratio | Max Dist |  |  | A/P Ratio | Max Dist |
| Mossbourne Community Academy | 7.6 | 0.466 |  | Barking Abbey  | 4.8 | 2.069 |
| The Petchey Academy | 7.1 | 0.739 |  | Robert Clack  | 4.8 | 1.926 |
| The Bridge Academy | 6.2 | 0.692 |  | Jo Richardson  | 4.6 | 1.762 |
| Stoke Newington School | 3.6 | 0.751 |  | Eastbury  | 2.3 | 5.012 |
| Our Lady's Covent High School | 2.6 | n/a |  | Sydney Russell  | 2.1 | 27.88 |
| Cardinal Pole Catholic School | 2.5 | n/a |  | Warren  | 2 | 12.12 |
| Hackney Free CoE School | 2.3 | n/a |  | Eastbrook  | 1.6 | 22.26 |
| Clapton Girls Technology College | 2.1 | 1.072 |  | Dagenham Park | 1.2 | 11.54 |
| Haggerston School for Girls | 1.6 | no limit |  |  |  |  |
| Yesoday Hatorah Jewish School | 0.5 | no limit |  |  |  |  |

### Conclusions. School popularity, allocation and attainment: is it creating a 'chooser:loser' model of school performance?

The conclusions of this analysis are quite simple, but also crucial. All the East London boroughs we examined (for detail see Hamnett and Butler 2011) have a clear hierarchy of schools in terms of popularity. Given that the number of applicants at the most popular schools exceeds places by a considerable margin, they all operate what is effectively a system of rationing places using the distance to school criteria and the quasi distance-based ‘sibling rule’. The findings indicate that the most important single influence in all boroughs, irrespective of their other differences (social, ethnic or educational), on who gets places in high demand schools is place of residence. This in turn feeds through into the housing market pushing up house prices and rental levels in the streets around such schools. As a consequence, the operation of distance-based rationing of the supply of school places in the face of inelastic demand for such places serves to reinforce and reflect existing patterns of residential social segregation and - ironically – to undermine indirectly the principles underlying the policy of greater school choice (Butler and Hamnett, 2010). While there are clear compositional effects on attainment stemming from the differential social characteristics of catchment areas which are then concentrated by the operation of such tight distance to school allocation mechanisms, there are also contextual effects which mean pupils with given social characteristics attending schools with high levels of attainment tend to do better than they would if they attended schools with lower attainment levels and vice versa (Hamnett et al, 2007). In most East London boroughs, as we showed earlier, the most popular schools tend to have higher rates of GCSE success, and vice versa, although the relationship is far from perfect. Thus, pupils who fail to get places at more popular schools are more likely to attend schools with lower attainment. The use of distance to school based allocation policies appear to reinforce the effects of existing concentrations of residence based social (dis-)advantage in terms of the role played by social class and other characteristics on attainment.

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1. Paper presented at the RC21 Conference “Resourceful cities” Berlin 29/8 1/9/2013. [↑](#footnote-ref-1)