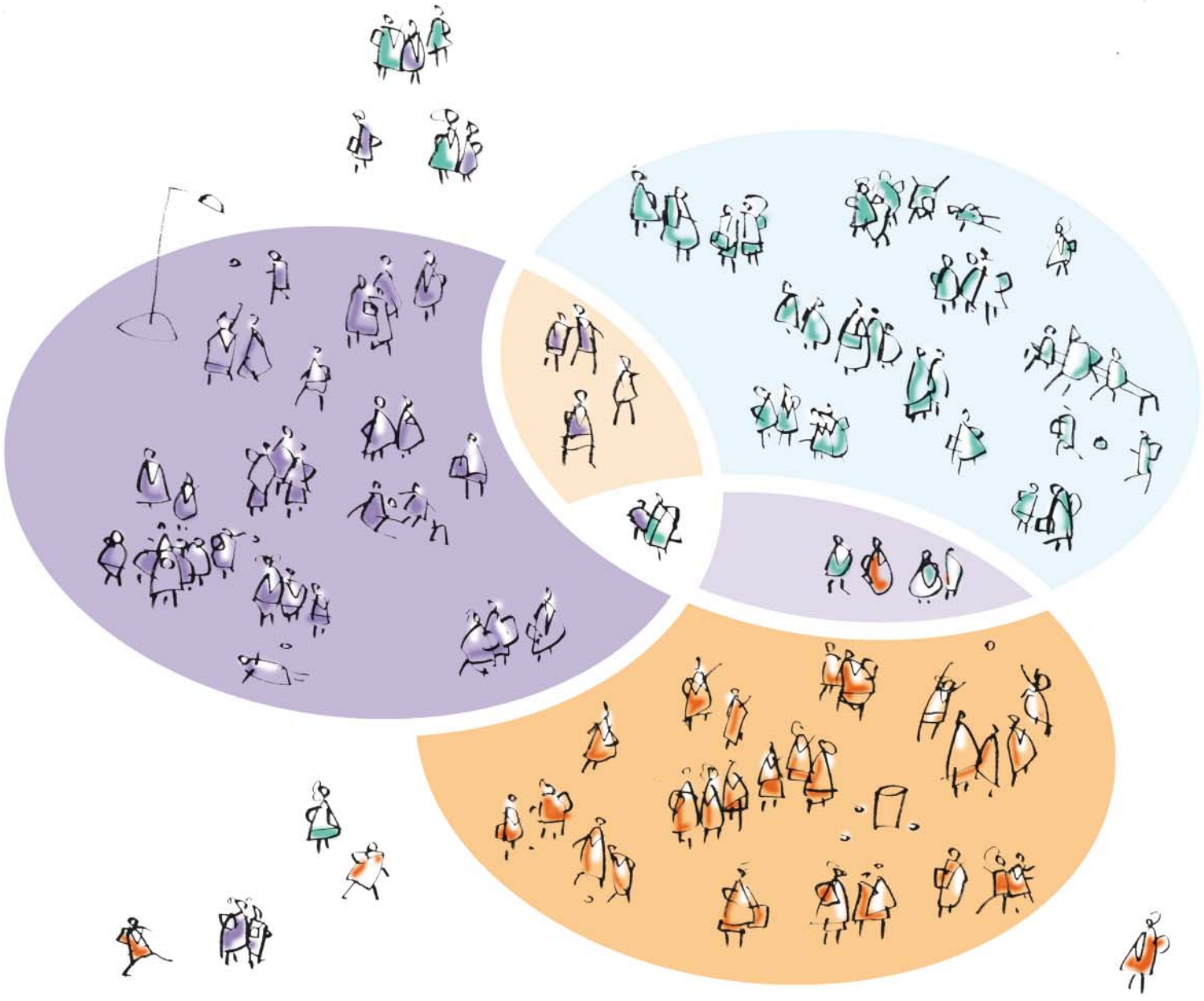
School segregation and its consequences



To what extent are high-achieving and low-achieving pupils in England separated into and educated in different secondary schools? Research by **Stephen Gibbons** and **Shqiponja Telhaj** looks at patterns of segregation by ability and their impact on educational outcomes.

Expansion of choice has become a central theme of recent educational policy debates in England and internationally. Some argue that freedom of choice ensures that pupils and schools are efficiently matched, and that 'quasi-market' discipline induced by open competition for pupils encourages schools to adopt more efficient teaching methods.

Others point to the possibly adverse consequences of a more 'segregated' school system, in which pupils are less likely to mix with children unlike themselves in terms of background and ability. According to these arguments, more choice is bad – either because segregation seems to imply inequality and is inherently socially undesirable; or because it is claimed that a segregated school system is educationally inefficient.

Setting aside broad and subjective arguments over the desirability of ethnic and social mixing, the most compelling cause for concern is that the separation of pupils into academically advantaged and disadvantaged groups may work to exacerbate inequalities in educational outcomes without producing any overall benefits.

This can occur if children are influenced by the achievements and behaviour of their schoolmates – so-called 'peer group' effects – or simply because disadvantaged pupils place greater pressure on teaching resources and so harm the chances of others in their classroom or school.

These issues have become highly relevant in the light of policies that seek to expand parental choice, and our research has sought some answers to the key questions: what is the extent of educational segregation? Are the patterns changing? What are the implications for individual pupils in terms of their achievements? And what contribution does this make to educational inequality?

Are secondary school pupils educationally segregated?

Most of the debate about school segregation (and hence much previous research) has been concerned with demographic and socio-economic characteristics. Relatively little attention has been paid to the important issue of segregation that is explicitly along lines of educational advantage and disadvantage – presumably the key concern to those worried about inequality in education. For parents too, the real consideration seems to be the stratification along lines of pupil 'ability' or capacity to achieve.

In the first part of our research, we look explicitly at the extent to which high-achieving and low-achieving pupils are separated into and educated in different secondary schools – and how this changed between 1996 and 2002. We do this by examining differences in the composition of secondary state schools in terms of the academic achievements of pupils at the time they start school.

The analysis is based on pupils' results in their maths, science and English key stage 2 tests at the age of 11, the end of primary school, coupled with information on which secondary schools they move on to. These data are collected for nearly all state school pupils, so we can study what is happening for almost all schools and almost the entire population of pupils in England.

> The average ability of children going into the best comprehensive schools is way above the average ability in the worst

What is the best way to analyse differences in the composition of schools? Previous research has typically used various segregation or inequality indices – single numbers that summarise the level of inequality at a particular point in time – but we adopt a more graphical approach.

Imagine ranking all pupils entering secondary schools in increasing order of their test scores at age 11. Pupils in the top 1% receive a score of 100, those in the bottom 1% receive a score of 1 and those in the middle a score of 50, and so on. For each secondary school, we can calculate the position in that ranking of the average pupil, a score that summarises the average intake ability in each school.

Then, with these average school scores, we can rank schools in the same way. The 1% of schools receiving the lowest-achieving average pupil get a score of 1 and the 1% with the highest-achieving average pupil gets a score of 100, and so on.

Plotting each school's average pupil ranking against its own ranking in the distribution of schools provides a fairly complete visual description of the way in which pupils with different prior achievements are segregated into different secondary schools. If there were very little segregation, then there would be very little

difference between the achievement of the average pupil as we move from the worst to the best schools, and the plot would tend towards the horizontal. As pupils become segregated along lines of ability, the plot steepens towards a 45-degree slope with the top 1% of pupils in the top 1% of schools and the bottom 1% of pupils in the bottom 1% of schools.

Figure 1 shows the picture for London for three years: 1996, 1999 and 2002. The top panel shows comprehensive schools only, while the lower panel shows all schools, including religious schools and grammar schools. For comparison, we also draw the 45-degree line that represents a hypothetical school system in which pupils are completely segregated according to their prior achievement.

It is clear that even for comprehensive schools, there is quite strong segregation by ability. The gap between the average pupil in the highest-ranking school and the average pupil in the lowest-ranking school spans almost one-third of the distribution of pupil achievement. In other words, the average pupil in the bottom school is in the bottom third of pupils ranked by test scores at age 11, while the average pupil in the top school is in the top third. In the bottom panel, which adds in other types of schools, the differences are even more pronounced.

What drives differences between school intakes?

Our analysis does not answer this question directly. But since comprehensive schools have no scope to choose pupils, these patterns are most likely to arise because these schools serve local neighbourhoods and different neighbourhoods contain pupils from very different socio-economic backgrounds. All the children in a rich neighbourhood go to school together, and all the children in a poor neighbourhood go to school together. Such differences arise not because of the freedom for parents and pupils to choose schools, but because of a lack of choice given where a pupil lives.

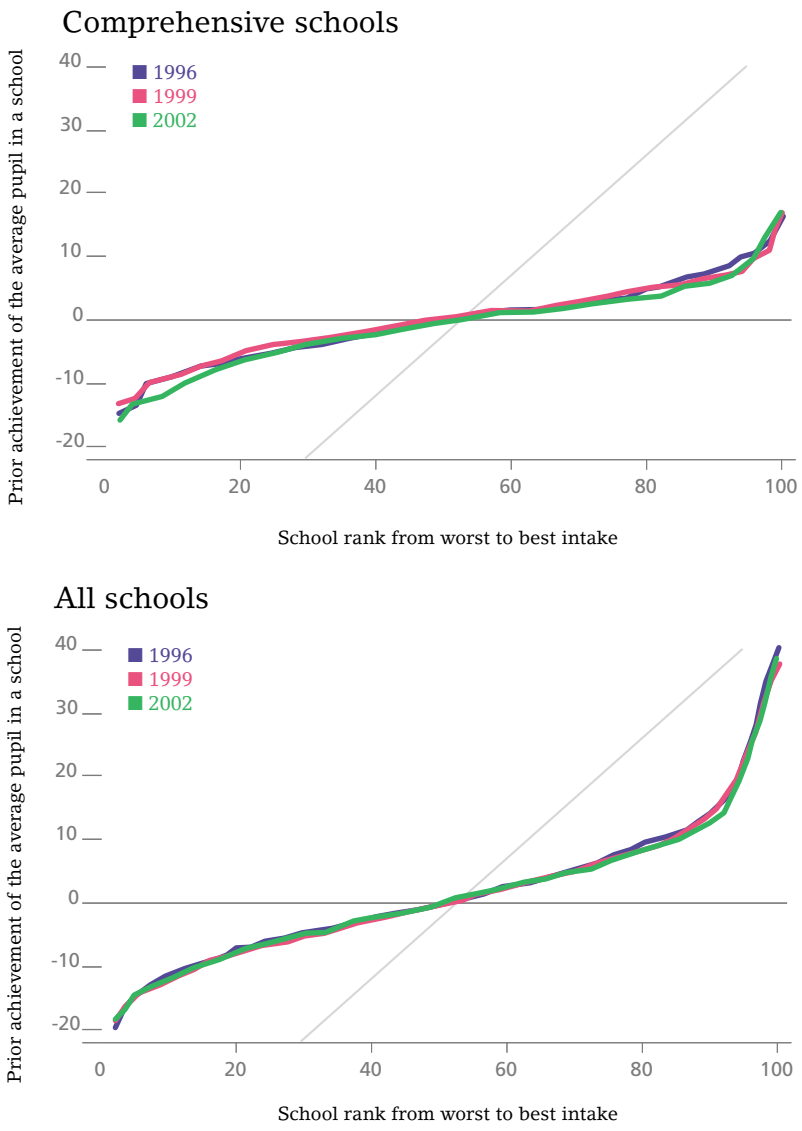
> Educational segregation is even greater when the analysis includes schools that can 'cream skim' pupils by ability or religion

In contrast, some segregation could also arise because the highest-ability children are free to choose the same schools as other higher-ability children wherever they live – the story of self-selection that underpins the critique that school choice generates inequalities. This consequence of school choice is illustrated by the bottom panel: educational segregation is even greater when we include schools that can 'cream skim' pupils by picking according to ability or have other attributes – such as religious ethos – that make them likely to attract or choose pupils of different types and abilities.

Whatever the causes of educational segregation, a striking feature of Figure 1 is that there has been almost no change in recent years. Comparing the lines for 1996 to 2002 shows that almost nothing has changed over these years in terms of the way that pupils of different abilities are sorted into different schools. The picture in other regions of England is invariably the same: there are wide inequalities in intake between schools, but there has been no systematic change over the period of our analysis.

Other approaches to the question produce similar answers: for example, there are no regions in which the proportion of schools accommodating pupils with abilities among the top 5% is less in 2002 than in 1996, or where the proportion of schools accommodating pupils from the bottom 5% has decreased. In fact, our findings suggest that the general trend is towards a more

Figure 1:
Segregation by achievement in secondary school intakes in London



even distribution of these groups across schools.

So overall, we do not find any dramatic or systematic changes in school composition in terms of the abilities of pupil intakes. This is an important result as it runs counter to the tales of increased stratification and segregation that are commonplace in academic, media and political circles. The idea that pupils of high- and low-ability have become increasingly segregated seems to be something of a myth, at least in recent years.

But there are large and stable differences in intake between schools of the same general type even if they have little autonomy in control of pupil admissions: the average ability of pupils going into the 'best' comprehensive schools is way above the average ability in the worst. It is surely this fundamental contrast – driven for the most part by geographical disparities in pupil background arising from residential segregation – that drives perceptions of inequity in school provision and of failings in the system.

Does segregation matter?

Whether the patterns of segregation that we find are cause for concern depends in part on whether such segregation is considered socially desirable, but also on whether peer group ability has any real impact on individual pupils. Anecdotally, schools often seem to be judged and chosen by parents on the basis of the kind of children they enrol, rather than the quality of their teaching or other facilities.

So do parents' apparent preferences mean that peer groups have a big impact on how well a child does at school and in later life? Certainly, pupils in schools with low-achieving peers are more likely to do badly later on, and pupils in schools surrounded by high-achievers are more likely to do well. But is this just because high-ability pupils tend to go to schools with other high-ability pupils and low-ability pupils go to schools with other low-ability pupils? Or does our peer group really matter for our own success?

Answers to these questions are important for a number of reasons. First, if peer groups matter, then a segregated school system means that children could be disadvantaged by the school they attend, even if teaching standards are as high there as anywhere else. This could lead to persistence or growth in inequality as the lowest-achievers get the worst deal and high-achievers the best deal in terms of peer group quality. Whether, on balance, this inequality generates benefits or costs for society depends on whether the winners gain more than the losers – a question underlying the familiar debate about the benefits of streaming versus mixing in schools.

Aside from these issues, it is worth knowing if individual pupils respond to their peers, because it can mean that educational interventions that appear beneficial to one pupil in isolation may be even more effective when rolled out to the whole population. This 'social multiplier' effect arises because an intervention, such as a new teaching method, benefits a pupil directly but also indirectly via its impact on his or her schoolmates.

Our evidence on these questions is based on what happens to educational trajectories when pupils move from primary to secondary school and meet new schoolmates. We use this change in peer group quality to examine whether the differences between school intake illustrated in Figure 1 have any influence on a pupil's subsequent progress in tests up to the age of 14.

We find that pupils do make better progress in maths and English in the early stages of secondary school if their new schoolmates have a good record of prior achievement. And it really is prior achievement that seems to matter: other factors, such as ethnic mix, age composition and low-income schoolmates, have no direct effects on a child's progress.

This is encouraging because pupils' prior attainments are surely more amenable to early interventions than socio-economic and demographic characteristics. But it also means that the patterns of segregation in secondary schools could have real consequences in terms of educational inequality.

Even so, in line with most previous research, we find that any contribution that peer groups make to a child's academic progress is quite small: a move from the worst to the best comprehensive school (in terms of the intake ranking in Figure 1) would make only a slight difference to how well a child progressed in the first few years of secondary school. It seems unlikely that the balance of educational success or failure will be tipped according to whether a child attends a school alongside high- or low-ability children.

This claim might seem puzzling given that parents seem to make great efforts to find schools with good peer groups. But better peer groups may provide other benefits – physical safety, emotional security, familiarity, lifetime friendship networks or simply exclusivity – which makes schools with good peer groups very desirable, even if they offer only slight academic advantages. Perhaps it is here that individuals really win or lose out through both socio-economic and achievement-based school segregation.

Patterns of segregation in secondary schools could have real consequences in terms of educational inequality

This article summarises 'Peer Effects and Pupil Attainment: Evidence from Secondary School Transition' by Stephen Gibbons and Shqiponja Telhaj, Centre for the Economics of Education (CEE) Discussion Paper No. 63 (http://cee.lse.ac.uk/cee%20dps/ceedp63.pdf) and 'Are Schools Drifting Apart? Intake Stratification in English Secondary Schools' by Stephen Gibbons and Shqiponja Telhaj, CEE Discussion Paper No. 64 (http://cee.lse.ac.uk/cee%20dps/ceedp64.pdf).

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