

Selection versus comprehensives: which delivers the best educational outcomes?

The 'eleven-plus' system established by Rab Butler's 1944 Education Act is one of Britain's most controversial institutions. In 1965, Harold Wilson government's required local authorities to abolish the separation of children into grammars and secondary moderns – and the ensuing battles as some refused were to rage into the early 1980s.

Even in the 1990s, when few grammar schools remained (164 from a total of more than 3,000 secondary schools), New Labour agonised over their fate before finally letting local referenda decide. And just recently, Conservative MPs have clashed over whether new grammar schools should be built in response to population growth in the small number of areas that still have them.

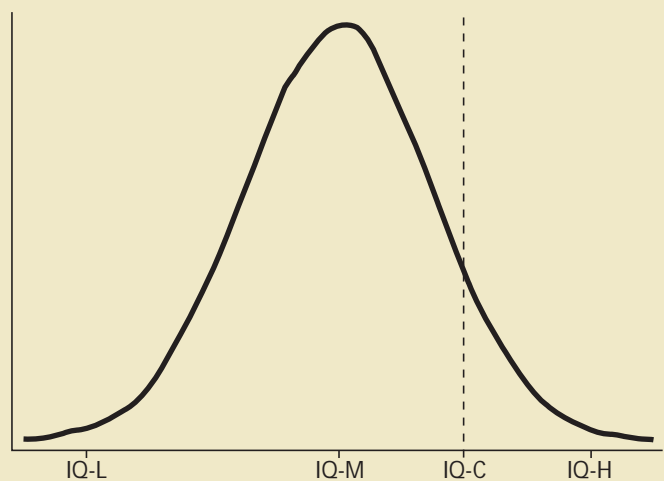
For all the noise made by these debates, the central question is always the same: should different types of school cater for different types of children or should children of all abilities be schooled together?

To illustrate, consider Figure 1, which depicts the familiar bell-shaped distribution of IQ. The concept of IQ is a controversial one, but we can presumably agree that at the age when children transfer to secondary school, there is a distribution of academic ability revealed, for example, in key stage 2 results or, where grammar schools still exist, in eleven-plus scores.

In Figure 1, IQ^L , IQ^M and IQ^H mark the IQ levels of low-, medium- and high-ability pupils; IQ^C is the IQ level that separates the 'bottom' 80% from the 'top' 20%. In a selective system, grammar school places typically go to the top 20% of pupils (those with IQ greater than IQ^C) with the rest assigned to secondary modern schools; in a comprehensive system, all children attend the same type of school.

In practice, there are more grammar school places in some selective areas than others, and private schools and residential segregation mean that comprehensive schools are never entirely comprehensive. Yet nothing is lost by focusing on these stylised selective and comprehensive worlds.

Figure 1



The question of whether all children should attend the same type of school is a complex one: the selective system may be better for some children, the comprehensive system better for others. One way of answering this question would be to see which system works best on average. In addition, we could see which system works best for particular types of pupil, such as those of very low or very high ability.

It is hard to construct credible comparisons across individuals, local authorities or countries that experience different school systems but are otherwise similar

Unfortunately, despite what many politicians would like to believe, we simply do not know which system works best for particular types of pupil or even on average. The problem is that we do not observe the counterfactual. We do not know what the 2007 figure for the fraction of pupils achieving five or more higher-grade GCSEs would be had the Wilson government not required local authorities to abolish the eleven-plus. And we do not know what this figure would be for Kent, the local authority with the highest number of grammar schools in England, had it gone comprehensive.

Should children of different ability attend different types of school or should all children be taught together? Damon Clark reveals the huge difficulties in answering this question with systematic evidence rather than arguments based on anecdote, prejudice or personal experience.

The same question confronts politicians attributing their success to the virtues of King George Grammar or their struggle against the odds laid by Newtown Secondary Modern: how do they know what would have happened had they attended a different school?

Researchers try to solve this problem by comparing individuals, local authorities or countries that experience different school systems but are otherwise similar. Yet credible comparisons are extremely hard to construct.

For example, we could compare exam performance in Britain (a largely comprehensive system, in which 58.5% of pupils achieved five or more higher-grade GCSEs in 2007) and Northern Ireland (a still selective system, in which the equivalent fraction was 71.7% in 2007) and conclude that Northern Ireland's superior performance demonstrates the superiority of selection. But Britain and Northern Ireland differ in important ways, and few would want to draw conclusions based on this comparison.

Across-authority comparisons are similarly problematic. During the recent Conservative party row, Graham Brady MP noted that the 2006 GCSE figure for selective Trafford was 70%, while it was only 59% for comprehensive Bury. Brady claimed this proved that selection 'works best for all children' since Bury has a 'similar socio-economic profile':

Yet when the very same pupils took their key stage 2 tests in 2001, *before they had even entered secondary school*, the proportions attaining level 4 in English were 36% in Trafford and 31% in Bury. Either Trafford is blessed with excellent primary schools or the socio-economic profiles of these places are not as similar as Brady claims. Compelling work by Alan Manning and Steve Pischke (2006) uses a similar argument to argue that across-authority comparisons are, in general, not valid.

Although across-authority comparisons are unlikely to be credible, one type of within-authority comparison may be. In particular, in a selective system, a comparison of outcomes among pupils with IQ scores just below and just above IQC will reveal the effect of attending grammar schools (as opposed to

secondary moderns) for borderline pupils with scores close to IQC. This is credible to the extent that these two sets of pupils are essentially the same, the only difference being that one achieved slightly better eleven-plus scores.

There are two points to make about this comparison. The first is that it is the only within-authority comparison that makes sense. Comparing outcomes among *all* pupils that attended secondary moderns (all those with IQ lower than IQC) and *all* pupils that attended grammars (all those with IQ greater than IQC) would no doubt reveal that grammar school pupils have better outcomes.

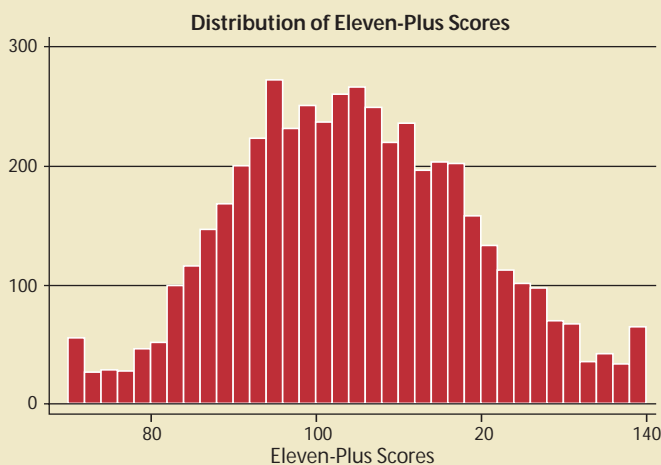
Within-authority comparisons are far less ambitious but can reveal something about the impact of going to a grammar school on borderline eleven-plus pupils

But we would expect higher-ability pupils to have better outcomes irrespective of the type of school attended. Even analysis that controls for a large number of pupil characteristics will be of limited use. Among pupils with similar characteristics, those that attended grammar schools are still those selected on the basis of their eleven-plus performance – and we would still expect them to have better outcomes irrespective of the type of school they attended.

The second point is that this within-authority comparison is far less ambitious than an across-authority comparison. A credible across-authority comparison could tell us about the effects of secondary modern (rather than comprehensive) schools on low-ability pupils, the effects of grammar (rather than comprehensive) schools on high-ability pupils and the effects of selective and comprehensive systems on average outcomes. The within-authority comparison tells us only about the effects of attending grammar (rather than secondary modern) schools on borderline pupils.

The trade-off here is between an interesting question that we cannot credibly answer and a less interesting question that we can hope to answer convincingly.

Figure 2a



Evidence from the East Ridings

The problem with the within-district comparison is that eleven-plus scores are rarely available. Fortunately, I have been able to obtain a dataset containing the scores of several cohorts of pupils attending schools in the East Ridings in the early 1970s. These data also contain basic demographic information, details of O-levels studied and scores on tests done by all East Ridings pupils in their fourth year of secondary school.

Figure 2a shows the distribution of these pupils' eleven-plus scores, which roughly follow the bell curve depicted in Figure 1. Figure 2b shows the relationship between these scores and the probability of attending a grammar school.

Unlike in Figure 1, there is no single threshold at which all pupils scoring higher attended a grammar school and all those scoring lower attended a secondary modern. That is because the East Ridings based school assignment on both the eleven-plus and the pupil ratings of primary school head teachers. There is still, however, a sharp change in the probability of attending grammar school over a narrow range of eleven-plus scores, and

Figure 2c

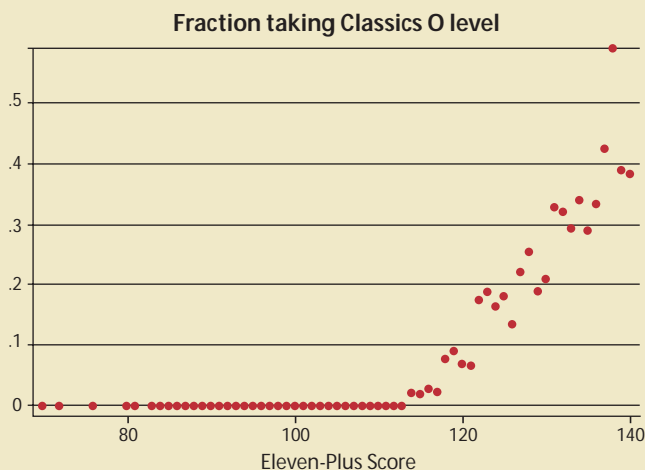
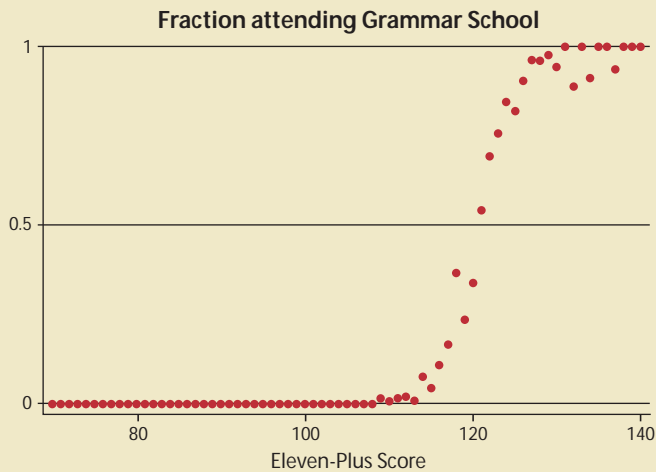


Figure 2b

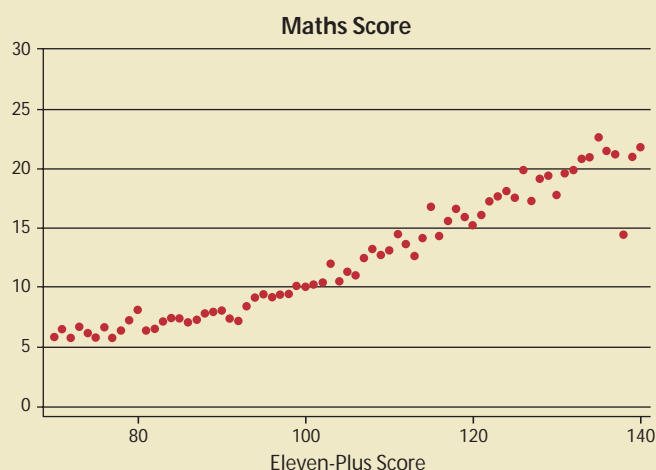


so a within-district approach can still be implemented, focusing on the change in outcomes over this borderline range.

Figure 2c shows that the probability of taking a classics O-level (Latin and/or Greek) increased sharply over this borderline range. This is not surprising since pupils at secondary moderns could not pursue these courses. I find that attending grammar school had similar effects on the probability of studying other advanced O-levels and increased the total number of O-levels that pupils sat. I also find that these effects were especially large for pupils of lower socio-economic status who, relative to pupils of higher socio-economic status, were less likely to take O-levels in secondary moderns.

Figure 2d looks at the scores obtained on the fourth year maths test. Although pupils with better eleven-plus scores did better on this test, maths test scores do not change sharply over the borderline eleven-plus range. This implies that grammar schools did not improve performance on this test, a conclusion confirmed by a more sophisticated statistical technique based on the same basic idea.

Figure 2d



I estimate that attending grammar school had small and statistically insignificant effects on maths scores and I find similarly small effects on scores in English and science. The conclusion is that while grammar schools affected the number and type of O-levels pupils sat, they did not change basic learning outcomes, at least for pupils with borderline eleven-plus scores.

Implications

What can this within-authority comparison tell us about the question with which we started out: should pupils of different ability attend different types of school or should all pupils be schooled together? The East Ridings results suggest that grammar schools provided opportunities denied to pupils in secondary moderns, but did not improve basic learning outcomes.

Evidence from the East Ridings suggests that grammar schools provided opportunities denied to pupils in secondary moderns, but did not improve basic learning outcomes

A strong interpretation of these results is that the selective versus comprehensive issue is not important: grammar abolitionists are right to claim the transition to comprehensive education destroyed nothing of value; grammar supporters are right to claim the comprehensive movement delivered nothing that could not have been achieved by widening secondary modern opportunities. The issue for historians and political scientists is whether these opportunities – the raising of the school leaving age, the merging of O-levels and CSEs into GCSEs and the expansion of further and higher education – could have been achieved without comprehensive schools.

On their own, the East Ridings results cannot support such a strong interpretation. They are based on a comparison of schools within one local authority and, because they apply to pupils with borderline eleven-plus scores, they do not tell us how grammar schools affect the most able pupils or how secondary moderns affect the least able. Research using data from other local authorities could help to assess whether these results generalise, although this within-authority approach will only ever identify effects for borderline pupils.

Evidence from other countries can help fill this gap, and a recent US study by Steve Levitt and colleagues (Cullen et al, 2006) is

particularly relevant. They looked at the effects of attending various types of schools in Chicago, a city that allows parents to choose schools but uses lotteries when schools are over-subscribed. Not surprisingly, the socio-economic profile of lottery winners and losers is the same: the winners simply got lucky and were able to attend 'better' schools, defined as those with pupils who have higher socio-economic status and are more able.

It is hard to argue with the cross-party 'standards not structures' consensus that leaves grammar schools alone and the eleven-plus issue behind

More surprisingly, but consistent with the East Ridings results, this study finds no significant differences in the educational outcomes of winners and losers. The results do not tell us which factors are most important for educational achievement – smaller classes, better teaching, effective management and so on – but they do tell us that these do not automatically gravitate to schools with pupils who are of high ability and high socio-economic status.

Like the East Ridings results, this type of study provides only indirect suggestive evidence on the impact of selective versus comprehensive systems. Nevertheless, without stronger evidence that school type matters, it is hard to argue with the cross-party 'standards not structures' consensus that leaves grammar schools alone and the eleven-plus issue behind.

Damon Clark is assistant professor of economics at the University of Florida. This research was supported by a National Academy of Education Spencer Postdoctoral Fellowship. The full version of the paper is available at: <http://bear.cba.ufl.edu/clarkd/> [check]

Further reading

Julie Berry Cullen, Brian Jacob and Steven Levitt (2006), 'The Effect of School Choice on Pupil Outcomes: Evidence from Randomized Lotteries', *Econometrica* 74(5):1191-230.

Alan Manning and Jörn-Steffen Pischke (2006), 'Comprehensive versus Selective Schooling in England and Wales: What Do We Know', Centre for the Economics of Education Discussion Paper No. 66 (<http://cee.lse.ac.uk/cee%20dps/ceedp66.pdf>).