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Tackling low educational achievement

Robert Cassen and Geeta Kingdon

This report examines the factors underlying low achievement in British education.

It is important to find out why tens of thousands of young people leave school with no or very few qualifications. Low achievement at age 16 is associated with disadvantage and also a variety of outcomes by gender and ethnic group. Existing policies and practices within the educational system do not always help. Boys outnumber girls as low achievers by 20 per cent and white British boys comprise nearly half of all low achievers, while there are also achievement problems among some minority ethnic groups. The report addresses the ongoing debate about education policies in relation to reducing low achievement.

The study uses the National Pupil Database and related data to examine four different measures of low achievement, and a profile of low achievement is offered. The report will be of interest to all those concerned with educational outcomes, including policymakers, education professionals, unions and the media.



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Communications, Joseph Rowntree Foundation,
The Homestead, 40 Water End, York YO30 6WP.
Tel: 01904 615905. Email: info@jrf.org.uk

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Joseph Rowntree Foundation
The Homestead
40 Water End
York YO30 6WP
Website: www.jrf.org.uk

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None of the above bears any responsibility for this report, which is solely that of the authors: Robert Cassen, Centre for Analysis of Social Exclusion, London School of Economics, and Geeta Kingdon, Department of Economics, Oxford University. Robert Cassen has had the main responsibility for the background research and the preparation of this report; Geeta Kingdon has conducted the underlying statistical work, a full account of which is available in a separate paper cited in the text.

Executive summary

Tens of thousands of students leave school every year at 16 with no or very limited qualifications. In this study, we have attempted to understand better the large number of factors associated with low achievement. The project uses data from the Pupil Level Annual School Census and the National Pupil Database, covering all students at school leaving age in state secondary schools and giving their previous records going back to primary school.

The great majority of low achievers – more than three-quarters – are white and British, and boys outnumber girls. They come mostly from disadvantaged backgrounds. But many students from the same backgrounds succeed. The girls come from the same families and mostly go to the same schools, but do much better.

Low achievers are commonly to be found in poor urban areas. But there is very considerable variation among schools and local authorities. Some schools with high proportions of disadvantaged pupils do much better than others. And there is a considerable range of performance among different ethnic groups. As with so many other social issues, low achievement in school is complex and multifaceted. But some clear main factors emerge from our study.

We look at low achievement in a way which is somewhat different from the most commonly used method. We employ four different measures: students who achieve no passes at all in their GCSE/GNVQ exams at Key Stage 4; those who obtain nothing better than a D in any exam; those who do not achieve a pass in at least one of English or Mathematics; and those not achieving at least five passes at any grade including English and Maths. Those with no passes better than a D number about a quarter of all school leavers in the state system. We also find that the influence of various factors does differ somewhat according to the measure of low achievement used. We have chosen these measures to reflect the fact that these students are likely to be badly placed in the job market, and in general inadequately prepared for participation in society. Many of them are at risk of ending up unemployed or even falling into low-level criminal activity.

Our profile of low achievers is presented in tables, figures and maps, by gender and ethnicity, and by local authority and other categories. We also show how the descriptive statistics of low achievement are modified by analysis that allows for other factors. While the core of the project has been our statistical work, we have also visited schools and colleges during 2005–06, interviewed educationalists and officials of local authorities, attended various education conferences, and done substantial desk research. In this report we set our findings in the context of those of

other researchers, and of public documents from the DfES, Ofsted and many other bodies.

Key findings of our study are:

- Nearly half of all low achievers are White British males. White British students on average – boys and girls – are more likely than other ethnic groups to persist in low achievement. If they start in the lowest categories of achievement in primary school, they are more likely than other ethnic groups to remain there at the end of secondary school.
- Boys outnumber girls as low achievers by three to two. But the gender gap is larger for some ethnic groups – Bangladeshi, Pakistani and Black African – among those not achieving any passes above D. Eligibility for free school meals, the main measure of disadvantage in our data, does not affect boys and girls differently, other things being equal.
- Chinese and Indian pupils, as is well known, are the most successful in avoiding low achievement; Afro-Caribbean pupils are the least successful on average, though their results have been improving, and when compared with White British pupils of similar economic backgrounds, they do no worse.
- Eligibility for free school meals is strongly associated with low achievement, but significantly more so for White British pupils than for other ethnic groups. Other indicators of disadvantage, such as the neighbourhood unemployment rate, the percentage of single-parent households and the proportion of parents with low educational qualifications, all measured in the immediate area round the student's home, are also statistically associated with low achievement.
- Children with special educational needs understandably comprise a considerable proportion of low achievers; but studies other than our own show that more could be done to assist them through their schooling; the same is true of looked-after children.
- Poor reading and writing scores at primary school are strongly and significantly associated with later low achievement, but not speaking English at home is only a short-lived handicap for most students. African and Asian children commonly recover from it by secondary school.
- Schools do make a difference to outcomes. While students' social and economic circumstances are the most important factors explaining their educational results,

we find that about 14 per cent of the incidence of low achievement is attributable to school quality.

- Good schools – those that are particularly effective in helping students to avoid low achievement – are not uniformly distributed across local authorities; they are concentrated in some local authorities more than others. There is considerable variability in school quality between local authorities.
- We are only able to account for a share of what it is about schools that makes for reductions in low achievement; the rest is due to things we are unable to measure in our data. These could be factors such as school ethos and leadership, or the effectiveness of teaching. But expenditure on students and, to a lesser extent, the number of teachers per pupil do play a positive part. Resources matter particularly for low-achieving students. We also find some government programmes, such as Excellence in Cities and specialist schools, have helped to reduce low achievement.

The *policy implications* of our study are based on the findings of our own and others' research, and on what a variety of studies and reports have to say about relevant policies. Our assessment is that progress is being made: many government policies and initiatives are well founded and are having positive effects. But some are not being implemented as they should be, in particular those designed to help children with special educational needs and looked-after children; some are actually contributing to low achievement. A number of policies are overdue for reconsideration.

- Pre-school education, parenting help, income support and everything which improves the home learning environment have major parts to play in reducing later low achievement. All these measures are essential components of what needs doing. It is by no means up to primary and secondary schools alone.
- Our findings point to poor literacy results in primary school as a strong risk factor for later low achievement. Other, official data indicate that the National Literacy Strategy had positive initial effects, but the results have plateaued. The Strategy is failing to reach a significant share of pupils. Some studies suggest that in its current mode the Strategy does not follow the evidence of research and that there is a case for changing it. At the same time children with particular reading difficulties need to be better identified; and the additional help they require is often unavailable and should be provided more readily.

- While much of low achievement is due to social and economic disadvantage (which itself needs remediation) and to poor early results in literacy, our study also shows that many children make a satisfactory start in primary school and fall behind later. While some of this is also due to their circumstances, there is much to be improved in the secondary school system that would benefit low achievers.
- Our evidence as well as that of the DfES and of other researchers is that disadvantaged students and minority ethnic students are likely to attend worse-performing schools. This can affect their performance adversely; it does so particularly for students with special educational needs. Anything which gives schools greater opportunities to select their pupils works to the detriment of the disadvantaged; measures which assist fair selection will help them.
- National school league tables based on the target of five A*–C passes at GCSE have adverse effects for low achievers. If targets are to continue, they need to be broadened.
- Expert opinion expresses a degree of concern about aspects of government plans for the further development of practical and vocational education, which could play a part in contributing to greater engagement by students.
- The study finds that resources can make a difference to student outcomes. It is unfortunate that while local authorities receive funding in part according to the extent of disadvantage in their schools, they have not been able to pass on the funds to schools on that basis. Steps are in train to address this. There are very large differences between schools and local authorities in the amount spent on each pupil. Schools should receive the funding they need; but it is likely to be necessary to direct funding in particular ways to help disadvantaged pupils.
- Resources are not all. Various government programmes to help low achievers have been evaluated in the literature and found to be successful, but deserve to be more widely followed. Charitable programmes have also proved to be effective in helping teenagers who are not doing well in school. The same is true of a number of other activities detailed in this report to improve poorly performing schools and help low-achieving students – many have shown positive results at relatively low cost and could profitably be extended.

The report concludes that there is an agenda which will reduce low achievement. It means reaching more fully those who most need help – children in public care and those with special educational needs – and those much larger numbers who are not in a desperate plight but still need considerably greater focus by the

education system. The agenda lies in pre-school, primary schools and secondary schools. Early-years provision has to do better in reaching the most disadvantaged, particularly to help improve parenting and early learning. In schools there is a need for some reallocation and enhancement of expenditure; reform of features of the school system which actually contribute to low achievement; and addressing the other policy priorities the report lists. All these could considerably reduce the numbers of young people who currently leave school with difficult prospects. Giving far greater priority to reducing low achievement by these means would represent money and effort well spent, for the individuals concerned and for society at large.

Introduction

School results announced in the summer of 2006 were met with a mixed reception in the press. Commentators noted the increase in the proportion of students getting five 'good' GCSEs, but several also deplored the fall-off in the study of modern languages, and the Director-General of the CBI complained that not enough students were reaching minimum standards in English and Maths. The CBI's report said that a third of employers were having to train staff in literacy and numeracy (CBI press release, 23 August 2006). There was also comment on primary school results, with the proportion of children reaching Level 4 in reading having actually gone down by a percentage point (*The Times*, 23 August 2006). As so often, all seemed not too far from well at the top, but stubborn problems remained at the bottom.

For most of our history education has paid little attention to the needs of disadvantaged children. To a considerable extent, and for all that has been achieved in recent years, it is still failing large numbers of them. England ranks internationally among the countries with relatively high average educational achievement but also high inequality in achievement. We have one of the highest associations of social class with educational performance in the OECD (OECD, 2002; Hansen and Vignoles, 2005). We also have a relatively high degree of social segregation in schools compared to other countries (Jenkins *et al.*, 2006). Only about a fifth of the lowest achievers go on to a further education college and acquire any other sort of education or training (McIntosh, 2004). Consequently many of them have few prospects in the jobs market. Not surprisingly, they may end up unemployed and vulnerable, and a proportion will become single parents or involved in drugs and crime. For many of them, being full members of society will be difficult. Young offenders and the prison population generally are disproportionately those who were excluded from school or had poor educational results. Low achievement is a misfortune for the individuals concerned, and a considerable social problem. The costs to society of not addressing the issues discussed here are high.

Low achievement¹ is strongly – but not universally – associated with disadvantage. It works in various ways, some of them connected with poverty itself – its attendant stresses, poor housing, even poor nutrition and health – and social class. A key factor is the 'home learning environment': the amount parents read to their children, the number of books in the home, the degree to which parents support their children's education in and out of school (Sylva *et al.*, 2004). In the study cited, the home learning environment was only moderately associated with factors such as social class and parental education levels, and what parents did with their children had a more important impact than their own background or circumstances. Even more strongly: 'In the primary age range the impact caused by different levels of

parental involvement is much bigger than differences associated with variations in the quality of schools. The scale of the impact is evident across all social classes and all ethnic groups' (Desforges and Abouchar, 2003).² The critical impact of parenting is noted in a number of studies, especially in helping children to overcome early disadvantage.³

The effect of social class emerges clearly in other research. Educational performance has been strongly linked with cognitive factors measured in children as early as age three; cognitive deficits have been found to be much more common among children of 'manual' parents than among children of 'professional' parents (Feinstein, 2003; see also Melhuish *et al.*, 2001). Language development is a further factor: a young child in a professional-class home will hear every day more than three times the number of words heard by a child in a home where the parents are of low socio-economic status; parents in such homes also tend to interact verbally with their children less than professional parents. Slow language development can impair later comprehension and learning, even the acquisition of numeracy (Clegg and Ginsborg, 2006).

As the present report was being completed, UNICEF published a study of child well-being in rich countries (UNICEF, 2007). It attracted considerable attention because the UK came 21st out of 21 countries. It was based on data that do not reflect some recent improvements. But several of the factors which brought the UK down are about behaviour during adolescence, which in turn often reflects parenting and other home background factors in earlier life.⁴ Together with such studies as the IPPR's *Freedom's Orphans*, also much publicised, a picture is painted of how early disadvantage turns into teenage trouble. As the authors of the latter study note, 'a disproportionate number of those committing antisocial acts, becoming teenage parents and consuming drugs and alcohol hail from lower socio-economic groups' (Margo and Dixon, 2006). Disaffection and disruption in schools are commonly attributed to the fact – among others – that many young people lead these troubled lives.

Sixty-eight per cent of the children of 'professional' parents got five or more A*–C grades at GCSE in 2003, the latest year for which we could find figures, compared with 35 per cent of children with parents in 'routine' occupations (DfES, 2006c; see also DfES, 2006b). Of course many of the better-off children were also going to better-performing schools. The gap between the two groups *rose* between 1992 and 1998; the 2003 results represented an improvement.

Income itself can help with early achievement.⁵ Several of the above factors are in turn related to parents' own education: in fact low educational achievement has been

identified as one of the main means by which social exclusion is passed from one generation to another (Hobcraft, 2000, 2002, 2003). Tackling low achievement will have lasting effects; failure to do so will impair any government's hopes of reducing fundamental social inequalities.

Perhaps the most important of government efforts to address pre-school experience is Sure Start, which began in 1998. It brings a variety of services to families in disadvantaged areas. Early evaluations show modest positive results (contrary to some press reports⁶), though not reaching the most disadvantaged. A particular issue is whether Sure Start local programmes or Children's Centres are providing the kind of intensive child development that shows results in effective early learning programmes, as opposed to childcare concentrating on health and preparing and releasing mothers for employment. The evaluations which will assess contributions of this kind lie in the future, as does the full implementation of staffing and provision under the programme of Children's Centres (NAO, 2006b).

At least it could be said last year that 'the programme is exceeding its target to reach 650,000 children by the end of March 2006' (NAO, 2006b). In January 2006, the total number of three year olds benefiting from some free early education in maintained schools, the private or voluntary sector or independent schools was 541,700 or 96 per cent of the three-year-old population (DfES, 2006a). This includes everything from reception classes for children in schools to nurseries and childminders. It is difficult to assess from this how much intensive child development is going on – some of the numbers are on the basis of 'at least one session a week'. A large range of other measures provided through social services under the Every Child Matters agenda are also aimed in part at improving the home environment and parenting (DfES, 2004b).

Many of these background, household factors do not appear in our study, as they are not directly represented in our data. Nevertheless they provide important clues to where action is needed. Our findings and those in other research on differences in performance between ethnic groups indicate the importance of values and aspirations, and point clearly to the significance of home background. Children may also be born with conditions that affect their outcomes, from disabilities that affect their learning capacity – reading, speech, writing – to autistic spectrum and other behavioural disorders. They may have terrible home lives. Low achievement can never disappear. But it could be reduced to lower levels than those we see today.

Our report begins with the profile and background of low achievement in Chapter 1, continues with an assessment of the drawbacks for low achievers in the current school system (Chapter 2), and concludes in Chapter 3 with some policy implications

of the research, in the context of a large range of documentation of the numerous issues that have to be considered. In the Appendix we give some account of the statistical analysis carried out for this study, but at various points in the report the reader is referred to our full analytical paper, which has a wealth of further detail (Kingdon and Cassen, 2007). Most of the tables for the text of the present report are in the Appendix.

1 The profile and background of low achievement

The Pupil Level Annual School Census (PLASC) – our basic data set – covered 577,201 students in state secondary schools reaching the age of 16 in 2003. As summarised in Table 1, 5.5 per cent of them, or about 32,000, received no passes at GCSE/GNVQ; about 144,000, or 25 per cent (including those with no passes), scored no passes above the D grade. We call them the ‘No passes’ and ‘No passes > D’ groups respectively. Both groups were roughly 60 per cent boys and 40 per cent girls (Tables A2 and A3). A little under a third were on free school meals (FSM) – the main indicator of disadvantage in our data – which means two-thirds of these low achievers were not receiving FSM. (Children qualify for FSM if their parents are on income support.) Fourteen per cent of the ‘No passes’ group and 10 per cent of ‘No passes > D’ did not speak English as their first language at home. Nearly 60 per cent of the ‘No passes’ group and over 40 per cent of ‘No passes > D’ had some kind of special educational need (SEN) (Table A4).

The other two measures of low achievement we use are ‘not getting a pass in at least one of English and Mathematics’ (‘No passes E or M’) – these number 8.6 per cent of the pupils in our data, or nearly 50,000; and ‘not getting at least five passes of any grade including English and Maths’ (‘Not 5 passes E & M’) who are 13.4 per cent of our pupils, or over 77,000. All our measures are chosen to reflect in different ways the likely poor prospects such school leavers face when they enter the job market. Table 1 summarises the low-achievement scores by our measures in round figures.

Table 1 Four measures of low achievement

	No passes	No passes > D	No passes E or M	Not 5 passes E & M	All KS4 students
%	5.5	25.0	8.6	13.4	
Numbers	32,000	144,000	50,000	77,000	577,000

These are the key measures in our study: they show the numbers or proportions of all students in the state sector receiving no passes at GCSE (‘No passes’); those not obtaining at least one pass above grade D in any exam (‘No passes > D’); those not achieving a pass at any grade in at least one of English and Maths (‘No passes E or M’), and those not obtaining at least 5 passes – at any grade – including English and Maths (‘Not 5 passes E & M’). The groups overlap: those with ‘No passes’ clearly belong to all the other three groups, and those with ‘No passes E or M’ or ‘Not 5 passes E & M’ may figure among those with ‘No passes > D’.

Source: PLASC data for 2003.

By 2006 these figures had not changed a great deal. There was an improvement in the proportion of 'No passes' – it was down to 4.7 per cent, just below 28,000 students; for 'No passes > D' it was marginally down, to 24.6 per cent, though the numbers were up, to 147,000; 'Not 5 passes E & M' was also down slightly, to 12.2 per cent, just under 73,000 students; only 'No passes E or M' had risen slightly, to 9.3 per cent, or nearly 56,000 students.¹

The remainder of this section covers gender, ethnicity, free school meals, special educational needs, looked-after children, literacy, and a brief account of the geography of low achievement.

Gender

Disadvantage of various kinds lies behind much of low achievement. But different groups in the population respond differently to their circumstances. There is very obviously a 'boy thing'. Girls outperform boys not just in England but also in most other countries, as seen from the OECD's studies and others.² And Machin and McNally (2005) show that the gender gap has become worse over time in the UK even though overall achievement for both boys and girls has improved. The gender aspect shows that disadvantage is not a consistent factor in low achievement: the girls come from the same families and mostly go to the same schools,³ but do much better.

While 5.5 per cent of our 2003 16 year olds have no passes, that breaks down into 6.5 per cent boys and 4.5 per cent girls – 46 per cent more boys than girls. About 60 per cent of the 'No passes > D' low achievers are boys. And, interestingly, the gap widens between primary and secondary school. The DfES, using a different measure of low attainment (scoring in the bottom 25 per cent of Key Stage results), found the low attainment ratio to be 45:55 girls to boys at Key Stage 2, and 40:60 at KS4, i.e. it rises from 22 per cent to 50 per cent more boys than girls (DfES, 2005a). There are roughly three male low achievers for every two female low achievers by each of our measures, except that it is a little smaller for 'No passes E or M', 2.6 to 2 (see Tables A2 and A3, and the totals in Tables A7 and A8).

These are 'raw' averages. We are also able to allow for various factors that are associated with low achievement – there is a description on the first page of the Appendix of how this is done. This analysis is mainly for the 'No passes > D' group, and those who do not get five passes including English and Maths, or 'Not 5 passes E & M'.

Even after allowing for everything else we can that is associated with low achievement in the data, boys are still about six percentage points more likely than girls to score 'No passes > D'; their risk of being in the 'Not 5 passes E & M' group is, however, rather smaller, though still above that of girls. This is not because of girls doing worse at Maths: there are somewhat fewer girls than boys who fail to get a pass in Maths. Rather it seems that boys' disadvantage relative to girls on this score comes not from failure to pass an adequate number of GCSEs, but from gaining poorer grades than girls in the GCSEs they do pass. (One reason for this is that there does appear to be a measure of 'girl friendliness' in GCSE examinations. Machin and McNally [2005] found that the change in the gender gap at age 16 coincided exactly with the introduction of coursework into the examinations; they cite several studies showing that coursework favours girls.)

Are the effects of economic disadvantage and ethnicity similar for both genders? We find that the role of free school meals is not significantly different for girls and boys once other factors are controlled for. But gender and ethnicity interact powerfully. The gender gap in the probability of low achievement is significantly larger for most Asian and black ethnic groups than for the white group, other things being equal. Among White British, boys are 8.5 percentage points more likely than girls to be in the 'No pass > D' group; but this gender gap for Bangladeshi, Pakistani and African groups is substantially bigger.⁴ However, that does not carry through to the 'Not 5 passes E & M' measure of low achievement. Here, except for Pakistani and Caribbean children, the gender gap is no larger for ethnic minorities than for whites. Thus while minority ethnicity girls are very substantially better than minority ethnicity boys at avoiding 'No passes > D', they are only a little better at avoiding 'Not 5 passes E & M'.

One further question is the age at which the gender gap appears. There is clearly a gap in reading and writing at Key Stage 2 but, as in other studies such as Machin and McNally (2005), we find that the main gap appears between the ages of 14 and 16. We explore this issue in our analytical paper (Kingdon and Cassen, 2007). Using a different measure of low achievement, 'being in the bottom 17 per cent of pupils by total marks', we find that there is no gender gap in the incidence of low achievement at age 11 or 14, but there is a significant gap by age 16. This has an implication for policy, namely that boys' issues need to be addressed particularly between Key Stages 3 and 4, as well as earlier.

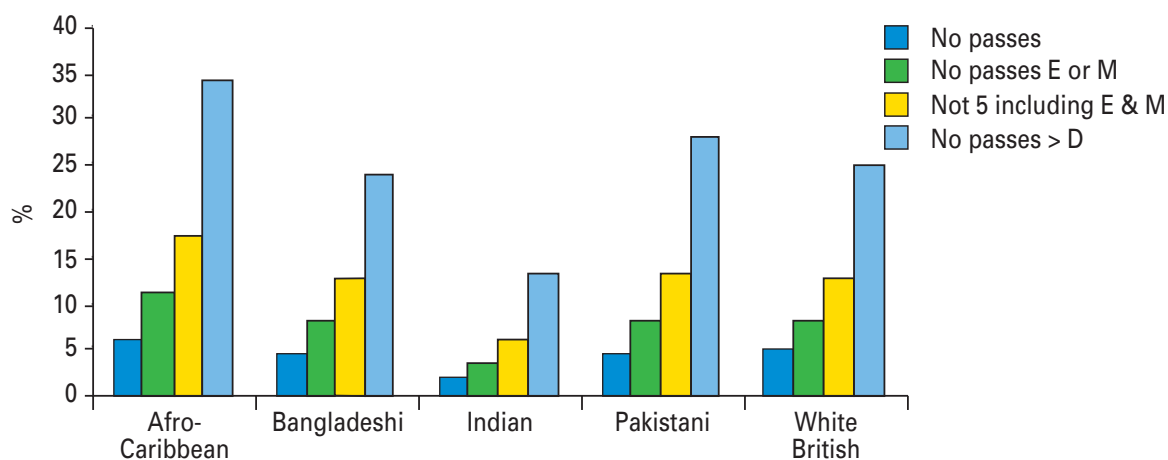
There is an obvious question to answer – why do boys do worse than girls? We will return to that after considering some of the other dimensions of low achievement.

Ethnicity

We need to take a closer look at questions raised by ethnicity. White British pupils are 80 per cent of all the pupils in our data, so obviously any problems they exhibit will be a large share of the total. In fact they constitute the bulk of low achievers. Although they are close to the average performance for England as measured by ‘No passes’ or ‘No passes > D’, they should be doing better given that their average social and economic status is higher.⁵ From the other main ethnic groups, only 1 or 2 per cent each of low achievers were Indian, Pakistani, African and Afro-Caribbean, with the remainder belonging to ‘other races’. The best performing ethnic group by most measures is Chinese, but their numbers are small (see Tables A2 and A3).⁶

Figure 1 shows the percentage distribution of low achievers for the main ethnic groups by our four measures. The reader should bear in mind that the White British group, as just noted, is very much bigger than all the others put together.

Figure 1 Distribution of low achievement



Source: Tables A5–A8.

The particular problems seen through the lens of ethnicity only appear when you consider finer breakdowns and allow for other factors. As is often found, the greatest incidence of low achievement of the main groups *on average* is that of Afro-Caribbean pupils, by each of our measures, as Figure 1 illustrates. The problem lies especially with Afro-Caribbean boys, though as with every ethnic group outcomes vary widely; and, as we will see, when we control for socio-economic background White British boys fare even worse.

Table A5 shows that some 8.5 per cent of Caribbean boys got no GCSEs in 2003, compared with the national average for boys of 6.5 per cent; the figure for White British boys was 6.3 per cent. The boy–girl difference was also exceptionally large for the Caribbean group. Table A6 shows the proportions for ‘No passes > D’ – while the numbers and percentages are considerably greater, the relative positions of the various ethnic groups are much the same. Tables A7 and A8 show the proportions by our two other measures. It should be emphasised that these are raw averages; they do not allow for other factors such as socio-economic differences between ethnic groups; and they do not reflect progress over time. (We barely discuss African students in this report, as they have been the subject of relatively little research. But they are reported in several of our tables, if not in the text. It should be noted that here too finer breakdowns make a difference: for example, in the most recent data Nigerians, Ghanaians and Somalis are reported separately. Nigerians have the highest achievement levels of the three, Somalis do the least well: DfES, 2006k; see also Demie *et al.*, 2006.)

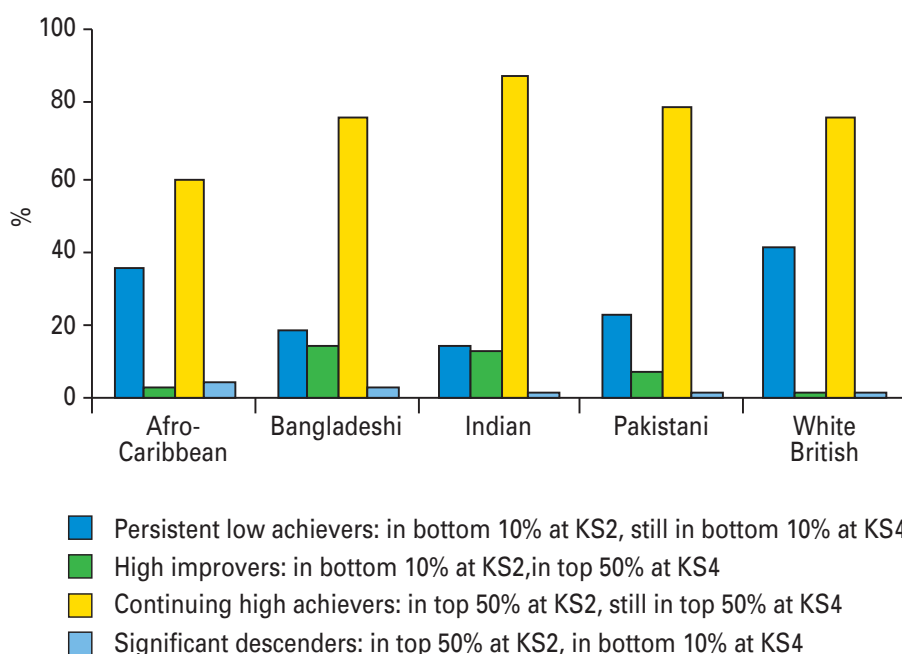
A telling way to look at outcomes is in the progress from KS2 to KS4. Table A10 and Figure 2 show the proportions of students getting various results at KS4 relative to their performance at KS2. First, mobility out of low achievement varies greatly by ethnic group. The first column in Table A10 shows the proportion of low achievers whose total mark in English, Maths and Science taken together was in the bottom 10 per cent at KS2 and who are still in the bottom 10 per cent of the total point score at KS4 – ‘Persistent low achievers’ in Figure 2. The White British group have the highest risk, among all races, of remaining in the lowest 10 per cent of achievement if they start there – higher than the Caribbean group (40.6 per cent as against 34.7 per cent). They also have lower scores as ‘Continuing high achievers’ than Bangladeshis, Indians or Pakistanis.

However, the descent *into* lesser achievement is indeed greatest for the Caribbean group; only 59.4 per cent of those who start in the top half of performance at KS2 remain there at KS4; they are the least successful of what are called ‘Continuing high achievers’ in the figure. The rest fall into lower-achievement categories: 12.5 per cent of them fall from the top half to below the 25 per cent mark (Table A10); 4.2 per cent fall to below the 10 per cent mark, ‘Significant descenders’ in Figure 2.

It is apparent that something has been arresting the progress of Caribbean students, boys in particular – even if they start out well they may come to grief later. It is widely thought to be an anti-education culture among some boys – though it has also been attributed to low teacher expectations, and to perceptions of a lack of return to educational qualifications in an unfair job market. However, Trevor Phillips, Chairman of the Committee for Racial Equality, has been at particular pains to divorce poor

performance by Afro-Caribbean boys from alleged racist attitudes of teachers in schools.⁷ As he notes, if racism were the cause, it would be hard to account for the performance of Afro-Caribbean girls, and non-white groups generally. This issue is not yet resolved – Tikly *et al.* (2006) find that the great majority of Afro-Caribbean pupils report low teacher expectations, even if those expectations are more related to behaviour than to ability.⁸ None of these factors should be exaggerated: excellent and improving results are now being achieved by Caribbean boys in many areas and many schools – their performance in some recent years has improved faster than the average for all ethnic groups.⁹

Figure 2 Progress from Key Stage 2 to Key Stage 4



Source: Table A10.

Indian students have the greatest probability of escape from low achievement at age 11. By age 16, 86 per cent of all Indian children who at age 11 were in the bottom 10 per cent of achievement had climbed out of it, 13 per cent into the highest achievement category (the top half), compared with only 2.3 per cent of White British. They also held on to their high achievement position most tenaciously of all the ethnic groups considered: among Indian children, 87.4 per cent of high achievers at age 11 remained high achievers at age 16. The corresponding figures for Pakistanis and Africans is nearly 80 per cent; for White British 75.7 per cent.

These are raw figures. What happens when allowance is made for past achievement and other factors such as eligibility for free school meals (FSM), special educational needs (SEN) and neighbourhood characteristics?

We find Caribbean students do no worse than white pupils *once allowance is made for other factors* such as neighbourhood disadvantage and FSM; as the final 'ME' column of Table A12 shows, they have in fact a smaller risk of low achievement, other things being equal. Similarly the raw advantage of Africans and Bangladeshis over White British was equal to 4.8 and 3.0 percentage points respectively in terms of avoiding low achievement. But when FSM and SEN status and neighbourhood or other characteristics are controlled, the advantage of Bangladeshis and Africans over White British students *increases*, to 8.3 and 8.5 points respectively (Table A12, second 'ME' column). Bangladeshis and Africans have higher FSM rates and live in more deprived communities. When we take into account statistically their greater socio-economic deprivation, their true performance advantage over White British of similar economic status becomes visible.

A somewhat similar analysis can be made by ethnicity and social class. We do not have social class in our PLASC data, though, as mentioned below, there is some relationship between FSM and social class. Rotheron (forthcoming 2007), using data from the Youth Cohort Study, finds the social class breakdown of the main ethnic groups quite dissimilar. Pakistanis and Bangladeshis have the lowest proportions of professional parents, followed by black groups. White students have the lowest proportion of manual-class parents, and 'dominate' the higher social classes. One thing is consistent – within each ethnic group, the lower the social class, the lower the proportion of students gaining five A*–C grades. But Indian students perform better than others in every social class; and after allowing for social class, Rotheron finds there are still large unexplained differences in educational outcomes. This is particularly true for Afro-Caribbean students, the bulk of whose results compared with white students, she concludes, are not accounted for by social class.

A key part of the ethnic picture is the role of the English language. We find, as does other research (e.g. Wilson *et al.*, 2005; see also DfES, 2003), that there is an initial handicap for Asian and African children relative to White British children in primary school, but this progressively disappears. The early disadvantage is reduced by Key Stage 3 and becomes an 'advantage' statistically by KS4: that is, because it is associated with better-performing ethnic groups, it is also associated with better outcomes. Many children of Asian and African origin do not speak English at home and therefore do not do so well in English at primary school; but if their homes are supportive of their education, as is commonly the case, the handicap does not last.

Modood (2005) stresses the importance of 'Asian values' which emphasise education and encourage social mobility, while Winder (2004) points to the 'immigrant paradigm' which suggests that immigrants devote themselves more to the acquisition of knowledge and human capital than does the native population as they lack financial capital. Wilson *et al.* (2005) argue that the fact that much improvement in ethnic achievement occurs in the run-up to the 'high-stakes' KS4 exams lends support to the explanation that Asians may be more aspirational and seeking to get on in the professions.

It should be noted, though, that not speaking English at home is more of a disadvantage in 'selective' local authorities (LAs) which still have grammar schools. Research shows that children with this handicap are less likely to be selected by grammar schools at age 11, and those who go to secondary moderns or comprehensives in these LAs do less well as a result (Atkinson *et al.*, 2006).

A further possibility has to do with taking GNVQs as opposed to GCSEs. Table A13 shows that the percentage of students with 'No passes > D' is 27 per cent for GCSE-only takers but only 20 per cent for those who take one or more GNVQs. The same table shows that minority ethnic pupils are indeed more likely to take GNVQs than White British pupils. While 21 per cent of White British students took one or more GNVQs, the corresponding figure for Indians was 26 per cent, Pakistanis 30 per cent, Bangladeshis 32 per cent, Africans 24 per cent and Caribbeans 25 per cent. It is not easy to interpret this finding, which may reflect nothing more than the aptitudes and preferences of the groups concerned.¹⁰ (GNVQs are now being replaced by vocational GCSE and BTEC qualifications.)

One further point of interest is that, in our data, a student's achievement is positively and significantly related to the mean achievement of people of their own ethnic group in the neighbourhood (or LA) and unrelated to the average achievement of *all* KS4 takers in the same places. This could have a variety of meanings: one is that the local ethnic group is relatively unaffected by such things as the cultural values of other cultures expressed through the media and influencing their aspirations – your ethnic self-identity is resistant to the majority culture, or your own ethnic group is what you compare yourself with. (It may, though, reflect ethnic segregation in schools, to which we refer below.)

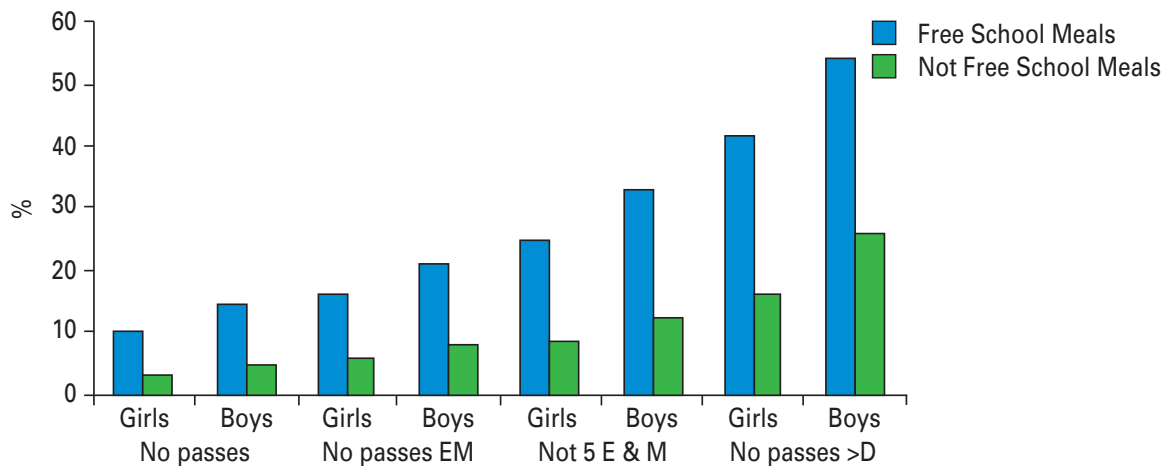
We have also looked at whether peer groups affect people with different ethnic backgrounds differently but, with minor exceptions, they do not seem to. We examined whether the extent of ethnic advantage changes in either the 20 per cent of schools with the greatest proportion of FSM pupils, or the 20 per cent with the most pupils scoring 'No passes > D'. Our only noticeable finding echoes that of other

aspects of disadvantage in our study, that Indian students weather ‘adverse’ peer groups better than White British (Kingdon and Cassen, 2007). Gibbons and Telhaj (2006) similarly find somewhat modest effects of peer groups in the transition from Key Stage 2 to Key Stage 3.

Free school meals

Eligibility for free school meals is an imperfect measure of disadvantage, but it is the main one in our data. Children who do take them will come from disadvantaged families, but many who do not take them, for one reason or another, may also be disadvantaged. For all that, it works much as might be expected as an indicator. Table A9 shows that over 12 per cent of FSM students (14 per cent of boys and 10 per cent of girls with FSM) get no passes at GCSE, and nearly 47 per cent get nothing above D. For ‘No passes > D’ the figures are almost 54 per cent of FSM boys and 41 per cent of FSM girls. Figure 3 shows this distribution by FSM and gender.

Figure 3 Low achievement by FSM status



Source: Table A9.

Only 14 per cent of all students are FSM, and there are more low achievers in total who are not FSM than who are – non-FSM low achievers are a smaller percentage of a much larger group: non-FSM students are 86 per cent of all students. It is clear though that the *prevalence* of low achievement is greater among FSM students – Table A9 shows it is two to three times as high as for non-FSM students, depending on the measure of low achievement. This is a universal finding in all research.

From our progress tables it is also clear that disadvantage – as measured by free school meal eligibility – is an important risk factor for persistence in low achievement and for sliding into low achievement over time. For instance, 48 per cent of FSM low achievers at KS2 (in the lowest 10 per cent of achievement by total mark) remain in the lowest 10 per cent at KS4, but only 34 per cent of non-FSM children remain in the same low-achievement category five years later. Similarly, while nearly 78 per cent of non-FSM high achievers (i.e. in the top 50 per cent) at KS2 remain in the highest achievement category five years later, the corresponding figure for FSM high achievers at KS2 was 52 per cent: that is, a much higher proportion of FSM than non-FSM high achievers slid into lower-achievement categories over the five years between the end of primary and the end of secondary schooling (see Table A15). (We found the same to be true for slipping out of high achievement between KS3 and KS4 – it is far more common for FSM than for non-FSM students.)

Further features appear when we look at progress by ethnicity, gender and FSM status together. Once again the differences between boys and girls are notable. Among FSM pupils, 16 per cent of Bangladeshi girls who start in the lowest 10 per cent at KS2 make it into the top 50 per cent at KS4; the figure for Bangladeshi boys is almost 8 per cent. Similarly, better performance for girls over boys is common to FSM children of most ethnic groups. And Caribbean FSM boys still contrast with White British boys: while 43 per cent of the former are still in the bottom 10 per cent at KS4 if they start there at KS2, 62 per cent of White British FSM boys are still in the bottom 10 per cent if they start there (see Table A11). It is a mark of the difficulty Caribbean boys face, however, that FSM Caribbean girls do better than non-FSM Caribbean boys.¹¹

Altogether FSM students are 5.6 percentage points more likely to be low achievers than non-FSM students, controlling for all factors about students including their past achievement (last 'ME' column of Table A12). FSM also changes with age. It is very high, over 20 per cent, in the early primary years; it is over 16 per cent at age 11, and falls to just under 13 per cent at age 15 (DfES, 2006l, Table 4). But a higher proportion of FSM students are low achievers at the end of secondary school than at the end of primary (DfES, 2005a, p. 33).

An important question is whether the effect of economic disadvantage is similar for all ethnic groups. Table A16 presents the percentage of students with 'No passes > D' by FSM status. It shows that some 35 per cent of FSM students but only 15 per cent of non-FSM students were low achievers, thus the overall FSM/non-FSM difference in the incidence of low achievement was over 20 percentage points. This is of course driven by the majority group, the White British, for whom the FSM/non-

FSM difference is an even larger one of 25 percentage points. The corresponding difference is very considerably smaller for other ethnic groups. For instance, the FSM/non-FSM difference in the incidence of low achievement is only 1.8 points for Bangladeshis, 8 points for Afro-Caribbeans, non-existent for Chinese and 7.1 points for Black Africans.

Again, these are raw figures. When we allow for socio-economic background and prior achievement at age 11, the picture changes (see Table A14). For White British students, the FSM/non-FSM gap by the 'No passes > D' measure falls from a raw gap of 25.1 points to a standardised gap of 6.8 points. For Black Caribbeans, it falls from 8.0 points to 2.6 points. This means that among White British pupils, other things being equal, FSM increases the probability of getting 'No passes > D' by 6.8 percentage points compared with non-FSM students. But among Black Caribbean pupils, FSM increases the probability by only 2.6 points. Among Bangladeshis it is just 1.3 points. FSM is in fact a smaller 'risk factor' for pupils of all main ethnic groups compared to White British. Disadvantaged minority ethnic students seem to be less susceptible to low achievement than disadvantaged White British students, at least when disadvantage is measured by FSM.

We have already observed, as do all researchers, that FSM is an imperfect measure of disadvantage. There may in fact be differences between White British and other ethnic groups in the meaning of FSM. Since, as already noted, the family incomes of non-FSM pupils of other ethnic groups are lower than those of White British non-FSM, then the measured effect of FSM will be lower for the former.¹² There is some information on the relationship between FSM and social class in DfES (2006c): 25 per cent of FSM pupils in 2003 had parents in 'routine' occupations, and a further 33 per cent had both parents unemployed.

We have already noted above some of the interactions of FSM with ethnicity and gender. The census area data on other kinds of disadvantage that we are able to relate to the individual pupils in our data are also associated with low achievement: the unemployment rate, the percentage of single-parent households and the percentage of parents with low educational qualifications, as measured in the pupil's immediate area, are all statistically significant factors in low achievement – and they do add substantially to the explanatory power of our estimates: when they are brought in, the statistical effect of FSM is reduced, indicating it is correlated with these area factors (Table A12). More about these measures of disadvantage emerge when we look at schools and local authorities below. But first we have to cover other kinds of disadvantage.

Special educational needs

Sixty per cent of our pupils who get no passes at all have special educational needs. For those with 'No passes > D' the figure is 43 per cent; it is over 50 per cent of low achievers by our two other measures, 'No passes E or M' and 'Not 5 passes E & M'. We look further at the statistical significance of this factor in Chapter 2 below.

Children with special needs present some of the greatest challenges to the educational system. They frequently require expensive support, which is not always forthcoming, and there has been considerable debate about the extent to which they can and should be taught in mainstream schools.¹³

Our 2003 data do not distinguish between the different types of SEN, but they do tell us whether a child is 'statemented' or not. The giving of a statement of SEN is an official recognition by the LA of a pupil's needing extra support. There are many without statements whose needs are also great but not recognised formally by the LA. Schools can identify special needs pupils under 'School Action' or 'School Action Plus' (see box).

The DfES has published a breakdown of the type of special educational need recorded for children who have statements or are on School Action Plus. This covers 227,490 students, just over half of the total of 506,610 SEN students in all year groups, and 6.8 per cent of secondary school students. Breakdowns of the type of special educational needs of students on School Action were not released.¹⁴

Special educational needs

The recognition of special educational needs (SEN) is governed by a Code of Practice which works on a 'step by step' basis. Parents can apply for a statement from their LA, which may or may not be granted. A statement confers an entitlement to specific support. If a school identifies a non-statemented child as having SEN, it recognises the fact by 'School Action' or 'School Action Plus', the difference between the two being in the degree of difficulty experienced by a child and the persistence of the difficulty, and also in the support extended. In every case the child's progress is expected to be monitored; statements in particular are reviewed annually. The Code is quite detailed, and can be found on www.teachernet.gov.uk.

Continued

Special educational needs (SEN) come in different forms. The most likely to damage outcomes are:

- specific, moderate and severe learning difficulty (SpLD, MLD, SLD), profound and multiple learning difficulty (PMLD)
- behavioural, emotional and social difficulty (BESD)
- autistic spectrum disorder (ASD)
- multi-sensory impairment (MSI).

The other categories are speech, language and communication needs (SLCN), visual impairment (VI), hearing impairment (HI) and physical disability (PD). The last three in particular, while obviously presenting problems to the children concerned, are often not associated with poor educational performance.

The figures, though incomplete, suggest that the pattern of SEN under School Action Plus is quite different from statemented SEN. For the four types of 'learning difficulty' the proportions are very similar, the biggest category (moderate learning difficulties – MLD) being about 27 per cent for both School Action Plus and statemented SEN. But they differ greatly when it comes to behavioural, emotional and social difficulty (BESD): 36 per cent of those with SEN under School Action Plus, as opposed to 15.7 per cent of those statemented. In contrast, the statements for speech, language and communication needs (SLCN), physical disability (PD) and autistic spectrum disorder (ASD) (23 per cent all together) show considerably higher proportions than under School Action Plus (8.1 per cent). This may reflect greater ease in defining these latter categories objectively.¹⁵

Of the 8.2 million pupils in all schools in 2006, primary and secondary, state and independent, 2.9 per cent had statements of SEN, and 1.1 per cent were being taught in special schools, that is, close to two-thirds of statemented children are taught in mainstream schools.

There are gender differences in SEN. To quote one study, 'Boys are over-represented relative to girls for most categories of SEN. The differences are most pronounced for ASD where boys are over-represented relative to girls 6:1 and BESD where boys are over-represented 4:1. For SpLD and SLCN boys are overrepresented by 2.5:1 and for MLD/SLD by about 1.75:1.' There is no over-representation of boys in the more clearly 'physiological' categories of SEN, i.e. sensory or physical needs and PMLD (Lindsay *et al.*, 2006).

There are modest differences in the incidence of SEN among ethnic groups in our data. For stated SEN the range in the school population at age 16 is from 1.1 per cent of Chinese and 1.4 per cent of Indian students to 2.4 per cent of White British and 2.8 per cent of both Caribbean and Pakistani students. The average is 2.4 per cent. For non-stated SEN, the average is 11.4 per cent, and the relative magnitudes for the main ethnic groups are similar: 6.9 per cent and 8.8 per cent for Chinese and Indian; 10.9 per cent for White British; and 15.2 per cent and 21.0 per cent for Pakistani and Caribbean respectively. These are of course raw figures. We have only found one study which controls for background factors such as socio-economic disadvantage (Lindsay *et al.*, 2006).¹⁶ It finds Afro-Caribbean pupils more likely than White British to be identified as having BESD; it questions though whether this is because of discriminatory behaviour by schools, since it is not true for other black groups. A further finding, also of uncertain causation, is of Bangladeshi and Pakistani pupils being more likely to have certain types of physical impairments and learning difficulties.

Calculations based on the 2004 National Pupil Database (NPD) (London only) show somewhat different proportions of low achievement by SEN type.¹⁷ While the other types often have considerable proportions of low achievement (though mostly *not* those with only physical impairment), much the largest contributors in terms of numbers of low achievers are pupils with various forms of 'learning difficulty', and with BESD. Pupils with hearing, sight and mobility problems commonly overcome their difficulties. The 2006 PLASC results for the whole of England are broadly comparable to these findings. Our Table A12 suggests that the risk of low achievement is higher for non-stated than for stated pupils, which is perhaps not surprising as so many of the non-stated have BESD, and perhaps also reflects the fact that stated pupils are more likely to get the support they need.

It is worth making a special mention of dyslexia, a specific learning disorder often distressing to children and their families who experience it. Dyslexia is commonly associated with a detectable neurological condition, sometimes genetic; however, in modern understanding that condition plays little part in what needs to be done. It is hard to distinguish between dyslexia associated with the condition and lateness in acquiring reading and writing skills. Except perhaps in rare acute cases, nothing is gained by establishing a neurological origin. The treatment will be the same – a personally tailored reading programme such as is provided by Reading Recovery is effective in the great majority of cases. In fact the very term 'dyslexia' nowadays, in the view of many, has mainly a social purpose – if children have reading problems, it may be comforting for them and their parents to have this label. They should not think of themselves as incapable – they have a physiological disorder (Vellutino *et al.*, 2004).

It also deserves to be noted that there is a clear link with age in those identified as having MLD, the SEN category into which many children experiencing difficulty in acquiring literacy skills will fall. In the 2006 PLASC the link with age is quite pronounced. Of nearly 37,000 students with MLD more than 10 per cent are the youngest in their year, going down to just over 6 per cent of the oldest. This carries a significant suggestion that learners should take literacy tests when they are ready, not when they are the 'right' age by calendar year of intake.

There is a considerable overlap between SEN and FSM students in our data. One might ask why special educational needs in general that have physiological or clinical characteristics are more common in disadvantaged families. The answer is that in this field, few such characteristics have their effect on their own; they produce disabilities in conjunction with environmental factors (Rutter, 2003). The relevant physiological or clinical conditions may be equally distributed across social groups, but young people who have them are more likely to exhibit learning disorders if they also suffer from a difficult home and social environment – it is the double disadvantage which shows up more powerfully. In addition, better-off families are more likely to be able to give their children the support they need if the state does not provide it.

Looked-after children

Our 2003 data have no information on looked-after children. But in the 2006 PLASC there are nearly 4,000 Key Stage 4 students who were looked after, less than 1 per cent of the total. Nearly 24 per cent of them belong to the 'No passes' group – about five times the rate in the population as a whole; the proportion with 'Not 5 passes E & M' was four times the average, close to 48 per cent. We have no reason to believe the situation is different from that in 2003. Looked-after children do overlap with those with SEN, and are nine times more likely than the average child to have SEN.¹⁸ Children in care were also found by the Social Exclusion Unit in 2003 to be ten times more likely than other children to be excluded from school (cited in Sergeant, 2006; see also SEU, 2003).

Literacy

A significant part of our findings has been the extent to which poor reading and writing skills at primary school are associated with later low attainment, especially – but not exclusively – for boys. Poor reading and writing achievement in primary school is strongly associated with low achievement at Key Stage 4, but mainly for

White British and Caribbean pupils. Girls fare only somewhat better than boys in this respect. Among White British boys 37 per cent of the 'No passes' group and 50 per cent of the 'No passes > D' group at KS4 had low reading scores in primary school; for White British girls the respective figures were 30 per cent and 49 per cent. The respective figures for Caribbean boys were 33 per cent and 37 per cent, for Caribbean girls 24 per cent and 37 per cent. For Indian boys by comparison the figures were 17 per cent and 50 per cent, for Indian girls 13 per cent and 49 per cent. When we control for other factors, low reading scores at Key Stage 2 are still a highly significant risk factor for low achievement, almost half as powerful as FSM (see Table A12), while low writing scores are more than half as powerful as FSM (further detail on the estimate for writing is in Kingdon and Cassen, 2007).

This is an important finding, suggesting that some part of low achievement at KS4 requires intervention in primary school.

Gender revisited

Low achievement does have to do with disadvantage; but why do disadvantaged boys, and boys generally, do worse than girls? We have already addressed this issue within the limits of our data. Other researchers have come up with a range of explanations. Some have referred to cultural features of white working-class life (Evans, 2006). But there appear to be traditions of working-class children not wanting to do better than their parents, and thus 'leave their class', and at the same time a long history of working-class desires for improvement. Another thread in the literature is that risks and costs are higher for working-class children to go further in their education (Goldthorpe and Jackson, 2006), though this view would seem to have more relevance to the passage into post-16 education than to completing secondary school. It is true that there is an anti-education culture affecting many white and Afro-Caribbean boys in particular; the literature abounds with accounts of such young people saying they will 'get trouble from their mates' and the like if they do well in school. For many pupils school is not cool. There are still, though, questions about the reasons for the prevalence of such attitudes – and why they are more common to boys than girls.¹⁹

One important factor clearly is SEN, many forms of which we have already noted to be more prevalent among boys than among girls. Since some of them are the forms which contribute most to low achievement (BESD and some of the 'learning difficulties'), this must explain a share of their worse outcomes – but only a share. SEN pupils do dominate the 'No passes' group, but they are less than half of the 'No passes > D' group, and are about half of low achievers by our other two measures.

The question most germane to us – since something can be done about it – is whether the nature of schooling itself contributes. For some students, school may produce an experience of loss of self-esteem, starting in primary school if they fall behind in reading or writing, and continuing or emerging in secondary school if they perform relatively poorly. If boys do worse than girls at early stages, this may be part of the explanation of their later worse performance – especially since, as we have noted from the work of Machin and McNally (2005), some of the methods of GCSE assessment favour girls. The anti-education culture may be something boys take refuge in, something that gives them an alternative identity, placing value and self-esteem in things other than those offered by school. At least one author has suggested as much (Evans, 2006). This is a somewhat different view from the sociological observation that working-class children may be rebelling against a school experience that is essentially middle-class. It may be saying that a key issue could be the lack in the system of forms of education that engage every child – and make them feel good about themselves and the place they are studying in. We return to this in our discussion of curriculum matters below.

There do appear to be particular boy problems with reading. The gender aspect of reading ‘resistance’ is frequently commented on. There is still evidence that the particular needs of boys are not being attended to universally. They may develop later than girls, and also have a number of issues about reading to do with masculinity, or behavioural problems such as shortness of attention span. There are well-known ways to address such problems and they are used in many schools (Frater, 2000).

The literature on boys’ difficulties with reading is considerable (see e.g. Barrs and Pidgeon, 1993, 1998; Frater, 2000; Noble and Bradford, 2000; Francis and Skelton, 2005). The early start of reading teaching in Britain may be part of the problem. There are at least four countries where learning to read starts later and ends up with children reading earlier and with fewer failures.²⁰ Research suggests our early start benefits the majority, but it may leave those who fall behind feeling particularly discouraged. One thing that might help is just taking the test later: as we note above, there is evidence that a significant disproportion of pupils with moderate learning difficulty are those born in August, i.e. the youngest in their school year. The DfES is now consulting opinion on a ‘progression pilot’ which would allow pupils to take tests when they are ready rather than at prescribed ages (DfES, 2006m). ‘Stages, not ages’ could usefully become a principle at various points in school education.

Boys may indeed identify reading as ‘feminine’ or an unmanly thing to do, at a time when they are forming their own identities. There is a story repeated in the literature of a primary school boy taking books home under his T-shirt, so that other boys could not see them. Such behaviour may come from the observed reading roles of

males and females at home or in school, and may be reinforced by peer pressure.²¹ It is also noted that most primary school teachers are women, who, it is sometimes claimed, do not provide boys with 'male role models' – but against this it may be said that a majority of primary heads are men; that women can provide appropriate role models; and that the models provided by male teachers may not always be appropriate, especially if they exaggerate male stereotypes (Francis and Skelton, 2000). Besides, although a US study has found that the gender of teachers makes a difference, a recent study found it did not in English primary schools.²² Further issues include the type of reading material – boys seeming to prefer informational texts, comics and so forth, girls being more at home with fiction – learning styles, gender preferences about the structure of classwork etc. The list is long. But it does not mean that the problems cannot be addressed.

Whichever of the explanations is correct – and each may play some part – there is in fact much to be done, and much positive experience to be followed. A recent Ofsted report identified a wide range of outcomes and of practice in better- and worse-performing primary schools (Ofsted, 2004). Good practice ranges from whole school policies with what might be called boy-friendly features to special activities that encourage boys' reading and a literary culture. Particular stress has to be given to monitoring students and giving them additional attention individually or in small groups if they are in danger of falling behind.

Another factor about boys' performance in secondary school is less often commented on in educational research – the set of behavioural characteristics referred to as 'hormones' or the emotions of adolescence, and specifically male kinds of behaviour. Males really are different from females. Some of the special needs discussed here – autism spectrum disorder, for example – are far more common among boys than among girls. Boys are more likely than girls to engage in violence (see, for example, Moffitt *et al.*, 2001) and far more likely to be excluded from school. A child psychiatrist has observed that the great majority of boys and girls are well adjusted at home and at school. But there is a difficult minority. And schools may not always be helping; as the study puts it, they can 'infantilise' children (Graham, 2004). How often we read of young people saying in surveys that they like their FE college or workplace experience because they are 'treated with respect', or 'treated like adults'. There are difficult children, but schools should give them the support they need, and not make them more difficult.

One suggested remedy for this is 'pupil participation'. This is essentially a term for giving pupils a voice in the planning and evaluation of their learning, but also for their working towards relationships between schools and communities and appreciating through involvement their responsibilities as citizens. Experience suggests that

where followed, pupil participation does provide numerous benefits, including improved discipline. It is one antidote to the kinds of frustration with schooling that lie behind disengagement. Participation is practised successfully in various schools and LAs. A number of proposals for fostering it are put forward in *Working Together: Giving Children and Young People a Say* (DfES, 2004c); perhaps they deserve to be followed more universally.

It would be wrong to conclude that there is only a boy problem: boys may outnumber girls in low achievement, but there are obviously many girls who are not doing well either. If there is some concentration on boys, it is because being boys constitutes a source of difficulty over and above that conferred by disadvantage, and one that is at least partially remediable within the school system.

Geography

Low achievement does exist in pockets of rural areas, but it is mainly an urban problem, and somewhat concentrated in a number of urban boroughs. There are 13 local authorities where the 'No passes' score was 50 per cent or more above the national average of 5.53 per cent in 2003: in order of this score, they were Merton (8.5 per cent), Bradford, Sheffield, Liverpool, Middlesbrough, Kingston upon Hull, Reading, Haringey, Newcastle upon Tyne, Nottingham, Manchester, City of Bristol and Knowsley (14.6 per cent). The distribution for 'No passes > D' was somewhat more even, with only five LAs 50 per cent above the national average of 25.2 per cent: they were Barnsley (36.5 per cent), Bristol, Knowsley, Nottingham and Kingston upon Hull (45.2 per cent). These should not be regarded as educational 'black spots'; they are more reflective of the extent of disadvantage. But they may also reflect relative lack of success in coping with disadvantage.

The two scores are mapped by LA in Maps A1 and A2 in the Appendix. As can be seen, the biggest concentrations by either score are in the great conurbations of Manchester, Merseyside and London.

Figure A1 in the Appendix shows that there are very considerable differences between LAs in average school quality. Measuring school quality as the effect of a school on low achievement after intakes have been allowed for, we find a gap of two standard deviations between the highest and lowest performing LA in this respect, statistically a very strong result (statistical details in Kingdon and Cassen, 2007). Our data allow us to examine the finding only a little further. We find a relationship between the LA effect in this sense and per pupil expenditure: additional expenditure above the mean level of £3,100 per student is associated with better performance by

local authorities in reducing low achievement. There is great variation in expenditure across the country, well over £1,000 per pupil, not counting schools with particularly heavy costs, such as special schools, which cater to students with more severe educational needs. In addition we find that the best-performing LAs by our school quality measure are more or less the same ones where there is a smaller incidence of low achievement among FSM students – that is, they are doing better for their FSM students. This is a promising avenue for further research, which could tell us more about what contributes to this apparent success.

Conclusion

Low achievement has very many facets. It may begin in the home; it is strongly associated with not learning to read and write well at primary school; it differs by gender, ethnicity and geography, and by local authority. It is clearly related to initial disadvantage, but some of the facts point to factors other than or additional to disadvantage: that girls from the same backgrounds do significantly better than boys, for example; that disadvantaged pupils from some ethnic groups do better than others; and that many students slip back in secondary school after a decent start in primary school. In the next chapter we explore the role of the secondary school system; as it shows, there is great variety among schools in their capacity to reduce the impact of disadvantage.

2 The school system and its shortcomings for low achievers

Secondary school performance

Our own research has generated a number of findings about the role of schools. What we find is that schools do make a difference: they add about 14 per cent to the statistical explanation of low achievement after allowing for all the other factors we can measure about pupils' background, and the estimate is highly statistically significant. (This is in line with other research, which commonly finds that schools account for this kind of share of the variation in pupils' achievement.¹) Our measure of school quality is akin in meaning to the DfES's 'contextual value added', which reflects the performance of students in tests but takes into account their background and prior achievement, though calculated differently.

Looking at the effects of schools in relation to low achievement sheds further light on the roles of FSM, SEN and the other characteristics of students in our data. Our results support the notion that FSM students attend worse quality schools, as found in Burgess *et al.* (2006). However, we find that only about 6 per cent of the net association between FSM and low achievement, other things being equal, is due to FSM students attending worse quality schools. The bulk of the effect of FSM is the disadvantage that FSM status reflects. That is to say, the adverse effects of disadvantage appear in all the contexts and at every stage of education and pre-education we discuss; the *additional* adversity arising from being in a poorer quality secondary school is relatively modest. This finding by no means implies, though, that there is nothing more to be done to assist FSM students to do better in school.

The change in the importance of some factors other than FSM is larger, however. After controlling for all other factors, we find that about 20 per cent of the total association between SEN and low achievement is due to SEN students being more likely to attend poorer quality schools. The effect of neighbourhood variables also changes: the detrimental effect of 'percentage of adults without any qualifications' in the student's area, and of 'percentage of single-parent homes' in the area – which we found to be significantly related to low achievement – works partly via children from such neighbourhoods being more likely to attend lower quality schools.

There is a big debate about the numbers of poor schools (*Times Educational Supplement*, 8 October 2006). The National Audit Office's 2006 report on poorly performing schools (NAO, 2006a) gives a nuanced picture. It cites data on secondary

schools which are not doing well by a variety of criteria. There are three categories from Ofsted: 'special measures' (failing schools requiring major remedial attention – 90 schools), 'serious weaknesses' (just short of special measures – 45 schools) and 'underachieving' (schools that perform less well than others in similar contexts – 11 schools). There were two further categories defined by the DfES: 'low-attaining' (less than 20 per cent of pupils getting five A*–C passes at GCSE – 53 schools); and 'underperforming' (not achieving adequate attainment given pupils' prior results – 578 schools). This is based on what is known as 'value added' – the performance of a school in relation to the levels predicted for its pupils from their past records. This makes 777 schools, but they are not all bad. The report notes that Ofsted found 10 per cent of the low-attaining schools to be 'good', underlining the need to be careful about judging a school on what may effectively be due to its intake.

The NAO (2006a) shows that the numbers in most categories of poor performance have been coming down in recent years. Their data were mainly for 2003 and 2004. There had been nearly 200 low-attaining schools in 2001, so coming down to 53 was a reduction by 75 per cent, even if that reflects a number of schools passing from just below to just above the borderline. Ofsted data, published in June 2006, showed there were then only 67 secondary schools in special measures and 27 with serious weaknesses – a further reduction. There is still a long way to go to reduce remaining poor performance, but there is no doubt of the commitment in the system to continue improvement, and a huge range of activities are in process to achieve that.

In its annual report for 2006 Ofsted suggested that while the majority of schools were doing well, and those found wanting in previous inspections were making progress, provision was 'inadequate' in about one in 12 secondary schools inspected in the previous year (Ofsted, 2006).² The report said its inspection standards had been increased, but it does not give the precise criteria for these judgements. Nevertheless, as they inspect about one third of schools every year, this is a plausible estimate. Our own research sheds further light on the impact of school quality on achievement.

First we must look at how the system affects school intakes. 'Segregation' in educational research usually refers to the extent of disproportionate representation of various groups in schools. Many have asked whether schools became more segregated, by ability or disadvantage, in recent years, particularly following the greater availability of school choice. The answer on this is cloudy. The majority of research suggests that segregation has increased only marginally if at all, and the results depend on how segregation is measured and the periods examined (Gorard *et al.*, 2003). One study, however, criticises the methodology of earlier work, and does suggest a recent increase in segregation, in London and in LAs where a high proportion of students attend voluntary aided schools (Allen and Vignoles, 2006).

But perhaps more important than the direction of change is the *extent* of segregation. A troubling finding has been that ‘where rich and poor children live in the same place and have the same measured ability, the poor child is less likely to go to a good school’; and that ‘in parts of the country where choice is more feasible, pupils are more highly segregated across schools’ (Burgess *et al.*, 2006).³ This work suggests that poor families are not doing well out of the existing system. The DfES too notes the likelihood of less well-performing pupils going to lower quality schools with higher proportions of disadvantaged pupils: ‘Low attainers at Key Stage 2 are more likely to go on to schools with low GCSE attainment and high FSM rates’ (DfES, 2005a).⁴

The issue has also been examined for selective LAs where the 11 Plus still exists and children are sorted into grammar and secondary modern schools. Children with FSM but with the same Key Stage 2 test scores as better-off children are far less likely to be selected for grammar schools, and their performance suffers as a result. As the study notes, ‘The paradox is that for the minority of poor children who do gain a place in grammar school the advantage this bestows appears to be greater than for more affluent children’ (Atkinson *et al.*, 2006, p. 27). It is perhaps not surprising that Kent LA, which has the highest proportion of pupils attending selective schools (Atkinson *et al.*, 2006), produces the highest number of low achievers by our ‘No passes > D’ measure. Those who hanker after the grammar school alternative should appreciate that, at least as it functions at present, it comes at a distinct cost.

Apart from these selective LAs, selection goes on elsewhere, and not just in the grammar, faith and other schools that are permitted to practise selection for at least some of their intakes. As is well known, some of the ‘sorting’ goes on by better-off parents buying houses close to ‘good’ schools (see Gibbons and Machin, 2004, and the numerous works they cite). And there is also ‘covert’ selection – schools using interviews, requirements of expensive school uniforms and the like to influence the character of the pupils they take (Benn and Millar, 2006; West *et al.*, 2006).

We calculated ‘school quality’ as each school’s marginal effect on its students’ chances of low achievement. We then examined the factors associated with school quality. Looking at those for which we have data, we can ‘explain’ statistically quite a lot – 30 per cent in fact – of school quality in this sense. Higher proportions of FSM students reduce it; ethnic composition does not have much visible effect. Grammar, voluntary aided and specialist schools, and schools benefiting from policy initiatives such as Excellence in Cities and the former Education Action Zones exhibit higher quality in our sense. (The detailed results are in our analytical paper: Kingdon and Cassen, 2007.) The latter finding is particularly encouraging as these programmes were designed for disadvantaged areas.

Subsequent to the time our data cover there has been a major expansion of specialist schools. Jesson and Crossley (2006) have now borne out and added to our finding. Some two-thirds of comprehensives are now specialist, and they are making at least a modest difference. They are getting more pupils into the better GCSE grades than non-specialist comprehensives, and also doing better by their FSM pupils. The authors say it has not yet been established why this is so; it may have to do with their collaboration with other schools and spread of best practice, with better vocational provision, or many other factors. But it is not, they claim, due to selection: although specialist schools are free to select 10 per cent of their pupils, only 7 per cent of them use this freedom.

It should be noted though that research other than our own has found the better performance of faith schools, most of which come under 'voluntary aided', almost disappears after their intakes are accounted for. They do have somewhat better average results. But once allowance is made for intakes, while Jewish schools do a little better, 'church schools – whether C of E, RC or "other Christian" – outperformed non-religious schools on some measures, but only to a very slight degree' (Schagen and Schagen, 2005).⁵

As is discussed above, good schools – those that are particularly effective in helping students to avoid low achievement – are not uniformly distributed across LAs; they are concentrated in some more than in others. There is considerable variability in school quality across LAs (see Figure A1 in the Appendix).

To what extent may this be due to the impact of school resources? This is a vexed topic in other research looking at class size or expenditure, because of the great difficulty in attributing causality. An influential US author found that resources do not consistently raise achievement (Hanushek, 2003), though the methodology of this study was criticised (Krueger, 2003). There is perhaps greater acceptance today that resources can make a difference; studies of the USA, Israel and South Africa have all found that class size *does* matter after accounting for potential bias (Angrist and Lavy, 1999; Case and Deaton, 1999; Krueger, 2003).

A further study (Blatchford *et al.*, 2003) found that smaller classes in UK primary schools did have positive effects on outcomes, but mainly in the first year. In the UK there is also some evidence on the effect of pupil–teacher ratios (PTR) on student achievement, but a mixed picture emerges. (Pupil–teacher ratios in schools are the closest we come in our data to class size.) For instance, Bradley and Taylor (1998) find that the PTR has no effect on the level of exam performance at age 16, though a change in PTR does have a very small effect on change in exam performance. Feinstein and Symons (1999) and Dearden *et al.* (2002) find that the PTR has no

impact on educational qualifications. But Levačić *et al.* (2005) find that lower PTR and higher per pupil expenditure both raise student achievement, though the effects are relatively small and subject specific. Graddy and Stevens (2006), using a data set for UK private schools, find that a higher PTR has a consistent negative effect on examination results at age 18.⁶

Our own modelling of school resources finds per pupil expenditure to have significant and positive associations with students' chances of being low achievers but, as we report, the association with reducing the PTR is much more modest, though positive; and it has lower statistical significance than the effect of per pupil expenditure (see statistical details in Kingdon and Cassen, 2007). There is a lot of 'noise', or potentially confounding factors, in estimates of the effect of class size. We only have overall school-level PTR figures, which are not the same thing as class size for pupils in their GCSE year. However, our findings on additional resources in terms of per pupil expenditure are less equivocal. As well as being broadly positive and statistically significant, they show a statistically greater association with low achievement for FSM and SEN students, though white students' low-achievement status is far less responsive to increased resources than that of minority ethnic groups, and resources matter about twice as much to girls as to boys. This also suggests that across-the-board increases in resources may not help the students most difficult to reach, but have to be directed to those most needing help.

Curriculum

I didn't like school when I was there and was fed up with the whole education thing. I didn't want to learn. I just wanted to get a job and get on with life.

(Former pupil, cited in DfES, 2006f)

A third of British adults are living a life of regret. That's according to new research by the Learning and Skills Council (LSC). Close to one in three adults (31 per cent) say they wish they had achieved better qualifications when they were younger and one in four (27 per cent) regret not making the most of the opportunities they were given at school or college.

(Press release, Learning and Skills Council, 9 February 2007)

There is considerable evidence (and an admission in the most recent Schools White Paper: DfES, 2005c) that the National Curriculum fails to engage many children. There is a problem of the young people whose aptitudes lie more on the

practical side, as well as those who – possibly for that reason, possibly for others – are disaffected. Part, though only part, of the solution is to improve the provision of vocational or practical education. An enormous amount of effort has gone into devising a path in this direction.

Research suggests that vocational courses and work-related learning experiences before the age of 16 do contribute to improving young people's motivation in school and the likelihood of their continuing in education after 16 (McCrone and Morris, 2004). Students can benefit when the experience is outside school, in a further education college or workplace; they talk in particular about being treated with respect in such places, as well as their interest in and enjoyment of practical subjects. Part of recent vocational work went on under the Government's Increased Flexibility Programme which was launched in some 2,000 schools in association with colleges and employers; this has recently been evaluated to have had broadly positive results, and has particularly benefited boys with SEN amongst others (Golden *et al.*, 2006).⁷ The introduction of GNVQs and work-based learning and the revival of apprenticeship schemes were all part of the general effort to enhance the vocational 'offer'.

There are, of course, other programmes which work at re-engaging pupils. One such is the Skill Force programme, originally launched by the Ministry of Defence education department in 2000, now a charity partnered by, among others, the DfES. Young people in Years 10 and 11 drop two GCSE subjects and learn a variety of survival and practical skills, but spend the bulk of their time in class working towards an ASDAN award, a certificate recognised as equal to a GCSE B grade. Beneficial results have been claimed for local authorities that have implemented the Skill Force programme.⁸ Numerous other organisations, such as Foyer and the Prince's Trust, do such work.

Nevertheless it is essential that mainstream education should bridge the gap between academic and vocational work and their links with the job market. For many the issue is doing better at school subjects (Steedman and Stoney, 2004). A problem is that some lower-level qualifications may be of little value in terms of subsequent earnings: basic skills such as mathematics and English still count for a great deal.⁹ But vocational education has a major part to play, and would play it better if provision was universally of good quality and if 'academic drift' did not make what is intended to be practical considerably less so (as has happened with vocational GCSEs and A levels) (DfES, 2004a).

As it is there is now talk of a '16 Plus', the kind of division that used to be seen in the days of the 11 Plus exam which divided 11 year olds between secondary modern

and grammar schools. The new division is between those who get adequate GCSEs at 16 to go on to A levels and university and those who do not. The situation is not in fact black and white. Over a third of entrants to higher education arrive there through FE colleges (Foster, 2005). But the weakness of vocational provision in schools contributes to our NEET score, the percentage of those 'not in employment, education or training' between 16 and 18. The UK score is among the highest in the OECD countries and it has remained stubbornly at similar levels for over a decade. It came down substantially from 1985 onwards; it was 22.4 per cent in 1994, fluctuated to a peak of 25.5 per cent in 2002 and then declined to 23.8 per cent (provisional) in 2005; the figure for 2005 was actually higher than that for 2004 (DfES, 2006g).¹⁰

The Government's flagship proposal to remedy the situation is the specialised Diploma. But despite the large number of relevant government policy papers issued in the last two years,¹¹ commentators express a degree of concern that they have still not got it right. Vocational education must meet a number of objectives: it must offer genuine alternatives to pupils of all levels of ability; it must provide a path to employment and to further and higher education. And it must be of substantial educational value and respected both educationally and in the labour market for the qualifications it leads to.

The specialised Diploma, which according to present plans will be made available in 14 different 'lines' or subject groups, could satisfy all these objectives. The doubts are about whether they can do so in the absence of reform of the present structure of GCSEs and A levels; and whether they can all be made available to all pupils everywhere. The latter problem relates to the capacity of the school and college system to generate high quality instruction available to all, when many options in particular places are likely to attract only small numbers of pupils and thus be expensive. Schools working in networks are expected to handle this problem. The concern of the present report, however, is mainly with the first of these doubts.

A key issue for the new Diplomas, and for tackling low achievement, is whether there is a viable option for students who do not expect to reach the 'gold standard' of five A*–C GCSE passes. The danger is that such students will continue to become disaffected by the school process as a whole, and the vocational side will continue as an often lame alternative. GCSEs have both academic prestige and recognition by employers. The specialised Diploma has to achieve comparable status; otherwise the vocational path may continue to be seen as the route for the less able and it will be hard to establish the new Diploma's 'brand' as something employers and students will value.¹²

Achieving a good status for the Diploma is certainly the intention. The 14–19 implementation plan (DfES, 2005d) foresees all students being offered the opportunity to acquire a vocational qualification: there will be a ‘national entitlement’ under which students will spend half their school time on the National Curriculum, and for the rest they will choose between ‘an arts subject, design and technology, a humanities subject and a modern foreign language’, as they can now, and ‘any one of the 14 specialised Diploma lines at an appropriate level’. All this will be in place by 2013 (DfES, 2005d). The first five specialised Diplomas will be launched in 2008, including one on IT.

The doubters have some evidence on their side. Even among those with one to four GCSE passes at some level, only 40 per cent remain in full-time education post 16 (Payne, 2004).¹³ Given the prestige of GCSEs, many wait until they see their GCSE results before deciding on their next steps – by which time it can be too late for someone who should have been on a different path much sooner. Something is needed to avoid such outcomes. Wales has announced a post-16 baccalaureat to be launched in 2007, which looks like something to watch. It will recognise existing GCSEs and A levels, but give students better opportunities to acquire practical skills, and get credit for achievements other than those tested in written exams (‘Backing the bacc’, *Education Guardian*, 24 October 2006).

Against such concerns it can be said that the phased start may give time to see whether the kinds of difficulties foreseen can be ironed out. There are positive signs. Considerable efforts are being made to enlist employers in the development of the new Diplomas and ensure that they recognise them. We were given to understand by staff of the Qualifications and Curriculum Authority that forms of equivalence will be created with GCSEs so that schools concerned about their ‘league table’ status will be happy to adopt them. The increasing attraction of Foundation Degrees indicates a demand for qualifications which combine academic and work-based learning: introduced in 2001, with academic institutions and employers participating, they have already enlisted 38,000 students (see the website www.foundationdegree.org). Reaching another government target, that of seeing 50 per cent of young people progressing to higher education – not to speak of another recently mooted, of making education compulsory to age 18 – will require a broadening of what is on offer. A great deal is riding on this new effort to establish vocational education on the footing that it has long deserved.

Targets

If you consider the good of the school system as a whole, and in particular the goals of inclusive education and reducing low achievement, you must question the place of the target of five A*–C passes at GCSE and its associated league tables.

There are three counts against the target in the context of the issues of this report:

- It gives schools that can select an incentive not to take on students who are likely to miss the target, thus increasing ‘segregation’.
- There is much research evidence for ‘triage’ within schools (concentrating resources on the students who can be helped to turn Ds into Cs, at the expense of the low performers and the best: West and Pennell, 2000; Golden *et al.*, 2002; Burgess *et al.*, 2005b; Wilson *et al.*, 2006).
- It perpetuates the organisational difficulty of establishing vocational education on an effective footing.¹⁴

It is not that there is anything wrong with the ambition of pupils’ getting five A*–Cs; it is just that it has become far too prominent in schools, school management and teaching at the expense of other desirable objectives. The five A*–C score has become an example of Goodhart’s Law, something familiar from monetary economics: a measure adopted as a target eventually ceases to be a good measure, and distorts the behaviour it is intended to guide (Chrystal and Mizen, 2003).

The teaching of reading

The needs of a young dyslexic are seldom adequately catered for. This results in huge numbers of them becoming bewildered, disengaged and failing in the classroom by the age of eight, nine or 10. Without effective support, the dyslexic child might become obstructive, and dismissive of educational goals ... Many drop out, truant, and follow a depressingly familiar downward path that leads them into the courts.

(J. Hewitt-Main, special needs tutor at Chelmsford Prison, *Education Guardian*, 23 January 2007)

We have observed above the role in low achievement played by poor reading development in primary school. Part of the problem, in the view of many, is the National Literacy Strategy (NLS) itself. It appears to have been introduced without rigorous attention to the findings of research about the teaching of reading (Wyse, 2003).¹⁵ (There are also suggestions of flaws in the measurement process: Tymms, 2004.¹⁶) While early results of the NLS appeared highly positive up to 2000, as measured in statutory tests on English in primary schools (Machin and McNally, 2004),¹⁷ improvements then stalled. Since 2000 the proportions achieving Level 4 in reading for boys have bumped along above and below the 80 per cent level; girls' achievement has similarly fluctuated at about 5 percentage points better. In writing, progress has been steadier, but the tally of Level 4 attainment reached only 67 per cent in 2006 for the average of both sexes, and with a 16 percentage point gap between boys and girls, who reached 59 per cent and 75 per cent respectively (see Table A17).

The Strategy has been criticised for an excessively mechanical approach, cutting classes into bite-size pieces, divorcing reading texts from books, and overdoing quantitative criteria – even for deskilling teachers.¹⁸ One desirable change might be to alter the NLS's emphasis on stand-alone texts, rather than books which may engage pupils much more. A promising option is the Power of Reading project developed by the Centre for Literacy in Primary Education. Initial results in 30 schools suggest that speaking, listening and writing as well as reading all benefit from this book-based teaching method.¹⁹ 'Texts' may have been introduced to help boys, but it is not clear that they do.

Some controversy also attaches to the Government's review of best practice in the teaching of early reading (DfES, 2006e), in particular its emphasis on synthetic phonics. Even that review suggested synthetic phonics had to be used in association with other techniques to enrich the learning experience; but some doubt both the overwhelming superiority credited to the method by the review and the evidence on which the recommendations were based, particularly the famous study of Clackmannanshire, where the good results may have been due to other factors besides synthetic phonics (UKLA, 2005, 2006).

Altogether the plateauing of the primary school reading results suggests that the NLS is not helping the children most difficult to reach. A strong candidate to help some of them is Reading Recovery. In a study of a kind relatively rare in UK education research, children in eight London boroughs were followed with and without Reading Recovery. 'Boys and girls did equally well in reaching age appropriate levels after Reading Recovery.' Discouragingly, 'Interventions for the lowest achieving Year 1 children in non-Reading Recovery schools were predominantly carried out by

teaching assistants rather than teachers. A surprising number of children were not reported to receive any form of support, even though they had been identified as the lowest attaining in their class' (Burroughs-Lange, 2006).

The study quoted observes that what is mainly missing is the funding for schools to employ appropriate teachers. It appears to be a further example of unfortunate neglect of pupils most in need of help. Coupled with our finding of the significance of poor reading in primary school as a factor in later low achievement, this is clearly an important area for further concentration. And, as the study notes, failure to learn to read and write by age 11 follows children into not only their secondary schooling but their adult years, with serious social consequences (Vellutino *et al.*, 2004).

Vellutino *et al.* (2004) claim that far more reading difficulty than is commonly credited is due to 'experiential and/or instructional deficits' than any innate handicaps. They cite a carefully monitored project in the United States where with one-on-one remedial help for those who needed it, poor reading was reduced to 1.5 per cent of the population studied – as they put it, 'a far cry from the 10 per cent to 15 per cent figures that have emerged as estimates of the incidence of reading disability in the relevant literature'.

Clearly poor reading could be brought to much lower levels. The conclusion of the Burroughs-Lange (2006) study was as follows:

... very little progress in literacy was made by children who commenced Year 1 as the lowest achievers in their classes. The exception was for children who received Reading Recovery intervention during the year. These RR children, who had entry levels similar to comparison children in schools without RR, had, by the end of the year, on average gained ... 20 months on word reading age ... Their class teachers assessed them as having made good progress during the year, in literacy, oracy, work habits, social skills and all learning related attitudes.
(Burroughs-Lange, 2006)

The research cited here suggests the progress is lasting, and can contribute to better learning outcomes by a large number of indicators.

Work on reading of course has to, and does, go on in secondary school. Many of the elements of good practice are similar to those shown to be effective in primary school, with the additional idea of addressing reading in all subjects, not just in English (Frater, 1997). We do not rehearse here the issues in the teaching of writing. It seems to attract much less study, but our findings show its importance – and

so much of educational performance at age 16 is judged on the basis of written examinations.

Special educational needs

I felt that everyone knew what the problem was, but that the LEA just didn't have enough money to make the provision Liam needed, so tried to make out his problem was not that severe. Everything changed when Liam entered Year 5 ... We now fell under the Corporation of London instead of Tower Hamlets. Within two weeks of being reassessed, Liam was diagnosed as severely phonically dyslexic and given a statement. (Parent, quoted in 'Learning the hard way', *Education Guardian*, 16 January 2007)

In evidence to a House of Commons Committee, a minister admitted that the SEN system is not working well (House of Commons, 2006). He was right. Children can wait two years or more to receive a 'statement'. But this means children and parents may have to wait for the support they need until it is too late. The Commons Committee's evidence showed there is a 'postcode lottery' in effective support to parents and children. They attribute it principally to a lack of resources: local authorities are unwilling to issue a statement because of the funding implications. They also refer to a shortage of trained specialist staff to support SEN children in school. And in one study they cite, 23 per cent of mainstream teachers said they had only one day's training on SEN.

Looked-after children

When Jason was arrested, Stella wrote to the judge, 'This is your ****. He has been in your hands since four and he can't even read.' Jason got off.

School? I was beaten if I was found in school. I had to go out and make money.

In 2000 the DfES in England and Wales required schools to designate a teacher trained in all aspects of the care system. They should have 'enough authority to make things happen and be an important resource

for the child.' In a recent survey of 66 care leavers, 55 were unaware of any such teacher.

(Sergeant, 2006)

As with SEN, all is not well with the care system. A study by the National Foundation for Educational Research (NFER) found 29 per cent of looked-after children attended three or more secondary schools; 25 per cent had six or more care placements during the same period (Fletcher-Campbell and Archer, 2003). Again, there is considerable variation in the quality of provision of care and in the support in schools for young people in care. And like other disadvantaged children, those in care perform better in better schools, but are 'less likely than their peers to be in high-performing schools'. This is stated in the new Green Paper, which proposes welcome and overdue changes (DfES, 2006h; see also Sergeant, 2006).

When one looks across the findings we report here, it is evident that both SEN and looked-after children can lose out four times in the current set-up. Many of them do not get the help they need for reading in primary school. They are quite likely to be sorted into less well-performing secondary schools as long as current forms of selection are practised, with a significant negative impact on their outcomes. Once in school they may be relatively neglected as schools concentrate their best efforts on the child on the margin who can be converted from a D to a C – that is the meaning of 'triage'. And they can be denied the specific forms of support they require because funding is absent, and the measures designed for them by government policy are not being carried out.

These young people form a large percentage of low achievers. To make Every Child Matters a reality, at the very least the most vulnerable of them should receive the support they need.

Financing

There has long been a debate about the role of financial resources in educational outcomes. Our study finds the level of per pupil expenditure in schools and, to a lesser extent, the pupil–teacher ratio to be significant factors in reducing the risk of low achievement. The Government's funding to local authorities includes provision for disadvantage; but LAs have their own individual formulas for passing this funding to their schools. The result is that in several LAs schools are not getting the level of funding that their level of disadvantage suggests. Such was the finding of a joint report by the DfES and the Treasury in 2005 (DfES/HM Treasury, 2005). In 2004 a per pupil minimum funding guarantee was introduced for schools covering their

average cost pressures; this limited LAs' ability to redistribute funding. The DfES will launch a consultation on school funding in spring 2007 which will, amongst other things, consult on the operation of the minimum funding guarantee and deprivation funding for 2008–09 to 2010–11. In the meantime, budgets for schools and LAs will be governed by a settlement announced in 2005.²⁰ That is, the situation will remain as it is until 2008–09.

Conclusion

There have been considerable improvements in standards and in performance in recent years. Much has been learned about how to raise school outcomes. There have been a variety of positive initiatives, such as Excellence in Cities or the recent spread of specialist schools. But from the point of view of low achievement there is still more to be improved. A better job could be done in identifying and supporting children who are behind in reading and writing in primary school. Disadvantaged students are more likely to attend poorly performing schools, and in school they may not receive the best teaching if they are regarded as unable to help the school's league table position. The targeting which lies behind this is due for reconsideration. Looked-after children and those with special needs are in far too many cases not receiving the support which policy lays down. Many schools have not been receiving extra financing according to the extent of disadvantage they experience. There is much to be done in schools to reduce low achievement to considerably lower levels.

3 Policy implications

Our own research, coupled with that of others and the findings of published reports by official and unofficial bodies, points to a number of policy implications. There is no single magic bullet; rather it is a case of making progress with all the things that bear on low achievement. In the main they are already objectives of official policy, though in some cases policies are not being fully implemented; and in some areas we find existing policies wanting.

Early years and primary schools

Parental engagement is crucial.
(Blanden, 2006)

Many of our young people felt they were failures in primary school.
(Interview with the Director of Education, Lewisham College, 2005)

Low achievement may start in the home. A difficult home life or unsupportive parents can give a child a poor start. Physiological or clinical factors, which we have not been able to cover in this report, play a part in some of the conditions underlying low achievement – but they can create greater or lesser problems depending on whether they are identified early and treated effectively. If special educational needs are found to be more common amongst poor people, it is often because of the double effect of these factors together with disadvantage. Obviously the large range of measures in hand to support parents must be strengthened. As already noted, pre-school education, parenting help, income support and everything which improves the home learning environment have major parts to play.

The evidence supports all these measures as an essential part of what needs doing to bring down low achievement. It is not up to schools alone. Research has found very high economic returns to pre-school interventions of these kinds, measured in 'reductions in violent and criminal activity and incarceration costs, educational progression and academic achievement, behavioural and emotional competence, reduction in maltreatment of children, health improvement, labour market success and reduced welfare payments'.¹

In an education report, however, our main pointer must be to the needs in schools that the research has identified. Take literacy first. The National Literacy Strategy

seems to have reached those who were reachable by its methods, but more stubborn problems remain – the 17 per cent or so who are not reaching Level 4 in reading at primary school, and the third of children who are not doing so in writing. Those with the greatest difficulties need additional or different support such as Reading Recovery. The Chancellor's December 2006 pre-budget statement announced that the Every Child a Reader programme would be extended nationally. It will provide help to some 30,000 children by 2010. But initially it will only be extended to 4,000 children in 18 LAs. The implication is that the problem will remain only partially addressed for some time to come.

At the same time our review of the literature above suggests that some adjustments to the National Literacy Strategy may be appropriate, making it less mechanised and driven by quantitative objectives, and using a greater range of teaching methods. Policy makers should not rest until poor reading is down to much lower levels than the current 17 per cent of primary school leavers.

Writing issues have attracted less research than reading. One thing that is observed, however, is that boys' motor skills develop later than girls'. This is only part of the explanation, though, for the gender gap in writing at Key Stage 2. Schools are not addressing writing problems as well as they could (Ofsted, 2005). There is now reasonable evidence for and guidance about what constitutes best practice in the teaching of writing to address boys' problems and those of girls as well (Frater, 2001, 2004; Barrs and Pidgeon, 2003). This guidance needs to be followed more fully in primary schools, and pursued in secondary schools when poor writing persists.

Secondary schools

We are particularly keen to help schools make an impact on the children with the poorest basic skills.

(Carol Taylor, Basic Skills Agency, quoted in *Education Guardian*, 26 September 2006)

It is not the task of this report to comment on everything that needs to be done to improve the overall performance of schools. There is already a large literature on this subject. The National Audit Office report of 2006 gives a list of measures, and there is besides the impressive body of knowledge available in numerous Ofsted reports. One that holds particular interest is a report reflecting an initiative under the London Challenge, where poorly performing schools have improved faster than the national average (Ofsted, 2006). Among the key measures of the initiative were

financial support and professional development to stabilise the supply of teachers – a particular problem in London – and measures to strengthen school leadership and the ‘learning culture’. Of particular interest was the role of specialist advisers who directed schools in choosing among the variety of support measures officially on offer, and gave assistance to LAs facing problems in supporting schools and specific groups of young people needing help. For a fairly modest cost, some £5–7 million a year over six years, a considerable impact was made.²

Findings such as ours noted above, that only 14 per cent of low achievement is explained by schools, are sometimes interpreted as implying that little can be done without addressing fundamental disadvantage and inequality. Policies in that direction are of course eminently desirable. But 14 per cent is not small; and it is for secondary schools. Some of the shortcomings are in primary school. And our school system has correctable features that are inimical to the disadvantaged, and is missing out in other ways which could help to reduce low achievement. It is a proper concern to consider policies which might help to improve school outcomes for those we identify as being at risk. The following are some key issues.

Selection

The disadvantaged and those who do not achieve well at primary school should not be disproportionately represented in poorly performing schools. The revised School Admissions Code (<http://www.dfes.gov.uk/sacode/>) put forward at the beginning of 2007 will go some way to redress the situation. But more effort is needed to ensure a better spread of disadvantaged children across the school system, so that those with FSM, SEN or lesser prior achievement have better chances of being in good schools.

SEN and looked-after children

These two categories of young people with particularly troubling disadvantages are not well served by current provision. The proposals in official reports referred to in this study, if they were fully implemented, would go far towards assisting them, their families and their schools with the support they need. These young people may or may not be capable of becoming high achievers; but far fewer of them should end up with no or very limited qualifications. The critical measures, mostly advanced in the policy documents already cited, are for proper identification and support of the learners in question, resources to assist them, and training for teachers in recognising and coping with their conditions. It should not take years for children with special needs to have their needs recognised and supported properly. Measures are

also clearly required to reduce the variability among LAs in the extent to which they provide support for SEN students.

Clearly from what was said above, a move away from the target of five A*–C GCSEs is another important measure that will support these most vulnerable and difficult children. And other children too. No child deserves a worse teacher for any reason, least of all because he or she may not help a school reach a target. The proposals in *Making Good Progress* (DfES, 2006m) will also be valuable for helping to ensure better performance and less slipping back by pupils of all abilities. They give a particular meaning to ‘personalised learning’, that every learner should be monitored, encouraged and challenged to perform as well as he or she can. Schools should have incentives to pursue such a goal, and should not have other targets that conflict with it.

Curriculum

Young people should be able to see the connection between education and their future in the world of work.

(Schoon, 2003)

Despite all the work and preparation at the policy level, it is not clear that what is currently in place is going to give the impetus to practical and vocational education that is needed. More debate seems still to be required – as opposed to what the Nuffield Review describes as a situation where ‘the professional voice is only relevant when it provides a solution to a problem raised by an implementation plan that is already fixed’ (Nuffield Foundation, 2006, p. 37). Getting vocational and practical education right is a crucial element in any strategy to reduce low achievement, and one of the important areas where expert opinion has expressed apprehension about the current policy stance.

Targets

This report has not entered into the debate about the ‘choice’ agenda. But there is concern about the way in which choice is exercised, particularly in relation to the target of five A*–C GCSEs and its associated league tables. These do a disservice to potential low achievers, discouraging many schools from admitting pupils who might bring down their scores, and concentrating teaching resources on the pupils most likely to raise the schools’ standing.

A possible start would be to replace 'five A*–Cs' with average point scores, which would give schools equal incentives to improve any student's scores. But for addressing the needs of the disadvantaged, different ways of judging schools and their quality are needed. It is encouraging that the Secretary of State for Education and Skills stated in late 2006 that the targets were 'too narrow' (speech to the National College of School Leadership, 16 November 2006). A discussion note about reforms of targets was promised, but was not available at the time this report was completed.

Schools should receive credit for all the performance they improve – and, from the point of view of this report, especially for what they accomplish for disadvantaged pupils. Even 'contextual value added' does not do that completely; it would have to be weighted value added, that is, with additional weight given to raising the performance of the disadvantaged. The Secretary of State's suggestion of 'progression premiums' whereby schools are rewarded for making a difference with struggling pupils would be a step in the right direction.³ We would not suggest that every aspect of school performance that deserves highlighting can be captured in a single measure. On the contrary, schools can be and are judged by a number of criteria; it is the fault of league tables that they reduce them to a single index.

Resources

We know the educational benefits of more individual attention, small group teaching and tutoring, and that they are easier to get where the overall pupil teacher ratio is low. In private schools there is one teacher for every nine pupils compared with one teacher for every sixteen in state secondary schools.

(Gordon Brown, pre-budget speech, 6 December 2006)

Schools must have the financial and material support they need to cope with disadvantage, especially teaching support and trained staff who can address special needs, the problems of looked-after children and such programmes as Reading Recovery. One of the measures our and other people's research points to – and what all teachers know – is reducing class sizes. This does not mean reducing all class sizes, which would be prohibitively expensive. It has been calculated that bringing class sizes in the maintained sector down to the levels prevailing in independent schools would cost in the region of £1.5 billion a year for London alone (Personal communication from a GLA colleague). But an extra teacher to halve class sizes – perhaps mainly in English or Maths – for the most deprived students in the most deprived schools could have an impact.

One extra teacher for the most disadvantaged 20 per cent of secondary schools would cost about £20 million a year at £30,000 per teacher. A secondary school visited for this project took on an extra English teacher under its own budget; the teacher was used to take pupils out of their English class six at a time for extra help over a number of weeks with whatever they needed, from reading and writing skills to specialised teaching for high fliers. The results were very positive: as the headteacher said, 'Without good English skills, they cannot access the syllabus.' In another, highly disadvantaged school, the 20 most difficult pupils from one year were taken into a special class and taught separately by the school's best teachers on an unpaid, voluntary basis, with beneficial effects for the pupils themselves and for those from whose company they were removed. It was a successful experiment, but the school did not have the resources to repeat it. In all the schools we visited the staff had pertinent ideas about how they could use extra resources to reduce low achievement.

Conclusion

Our key findings are summarised at the outset of this report. They point to an agenda that will reduce low achievement. It means reaching more fully those who most need help – children in public care and those with special educational needs – and those much larger numbers who are not in a desperate plight but still need considerably greater focus by the education system. The agenda lies in pre-school, primary schools and secondary schools. Early years provision has to do better in reaching the most disadvantaged, particularly with early learning. In schools there is a need for some reallocation and enhancement of expenditures; reform of features of the school system which actually contribute to low achievement; and addressing the other policy priorities listed here. All these could considerably reduce the numbers of young people who currently leave school with difficult prospects. Giving far greater priority to reducing low achievement would represent money and effort well spent, for the individuals concerned and for society at large.

Notes

Introduction

- 1 The DfES refers to students' results in tests as 'attainment'. 'Achievement' in their documents means performance relative to context and conditions. However, we use 'achievement' to refer to students' test results. This is how it is used both in ordinary speech and in the literature of educational economics. Here and there in this report, though, the reader will see 'attainment' with the same meaning, especially when we refer to DfES findings and documents.
- 2 Sylva *et al.* (2004) also cite a US study showing that pre-school education can outweigh the effects of social disadvantage. And see further Bynner (2001). Further conclusions from the range of US experience can be found in Schweinhart (2003).
- 3 There is a further survey in Sinclair (2007). And this is a conclusion of Blanden (2006). Pilling (1990) found either a teacher or a parent to be crucial for children who 'escape from disadvantage'.
- 4 Educationally the UNICEF report ranked the UK 20th, but that was averaged from three components, including reading, mathematics and science at age 15, where we ranked a more respectable 9th. What brought us down were the other two: the percentage not in employment, education or training at age 15–19 and the 'percentage of pupils age 15 expecting to find work requiring low skills', in both of which we were near the bottom of the table. There seems no particular reason why our 'educational well-being' should be assessed as the average of these three indicators – as with other measures in the study, the individual scores are more impressive than the outcomes of these averaging processes. That our young people trust their peers less than others, take more drugs, are more liable to teenage pregnancy and have a relatively low sense of well-being are troubling enough.
- 5 Blanden and Gregg (2004) found that 'income has a causal relationship with educational attainment' after accounting for confounding influences. A paper at the World Congress of the Econometric Society in 2005 reporting a study of 6,000 children suggested that tax credits in the USA were effective in raising test scores. 'With \$1,000 in extra income, children's test scores had risen on average by 2.1 per cent of a standard deviation in maths and 3.6 per cent of a s.d. in reading. With the maximum tax credit of \$4,000 ... the gains in reading were

more than 16 per cent of a standard deviation ... The gains were even higher for Black and Hispanic children' (Dahl and Lochner, 2005). Also, evaluations of the Educational Maintenance Allowance have shown positive, if limited, effects on staying-on rates post 16 (DfES, 2001).

- 6 Doughty (2006), basing himself on a somewhat exaggerated interpretation of Belsky *et al.* (2006); more careful reflections of evaluation findings, suggesting that more time is needed for more secure evaluation results, can be found in Melhuish *et al.* (2005).

Chapter 1

- 1 Data from the PLASC for 2006. The number of students covered is higher, at over 597,000.
- 2 There is not a single country of the 40 listed in OECD (2006), Table A2.1, where boys do better than girls at the end of secondary education, though there is one (Korea) where they do as well.
- 3 Spielhofer *et al.* (2004) show that girls do somewhat better in single-sex than in mixed schools; but there are very few such schools in the state sector, nowhere near enough to account for their better performance.
- 4 It is 15.7, 16.1 and 14.9 percentage points respectively – all these detailed figures are in Kingdon and Cassen (2007).
- 5 'Minority ethnic pupils are more likely to experience deprivation than White British pupils, especially Pakistani, Bangladeshi, Black African and Black Caribbean pupils. For example, 70 per cent of Bangladeshi pupils and almost 60 per cent of Pakistani and Black African pupils live in the 20 per cent most deprived postcode areas (as defined by the Index of Multiple Deprivation) compared to less than 20 per cent of White British pupils' (DfES, 2006k).
- 6 For other research showing a variety of different results on ethnicity, see Wilson *et al.* (2005), Bradley and Taylor (1998), Modood (2005) and Gillborn and Mirza (2000). Their results are mainly based on *achievement* scores, and differ in some details from ours.
- 7 See e.g. Rebecca Smithers, 'We must tackle failure of black boys – Phillips', *Guardian*, 30 May 2005.

- 8 It may be significant – we are unable to test for it in our data – that 60 per cent of Black Caribbean pupils live in single-parent households, compared with 25 per cent of White British. They are also 1.5 times as likely to be identified as having behavioural, emotional and social disorders as White British (DfES, 2006k).
- 9 In terms of the five A*–C score between 2004 and 2005 there was ‘an increase of 6 percentage points for Black Caribbean pupils compared to an average of 3 percentage points for all pupils’ (DfES, 2006k). See also Demie (2005).
- 10 We re-examined this point in the 2006 PLASC; the result was the same, lower incidence of low achievement on average among those who took GNVQs compared with those who did not; and similar differences between ethnic groups in the proportions taking GNVQs.
- 11 This seems to be especially the case in London – see GLA (2005).
- 12 In addition we have to point out that our data only give FSM status at age 16, so we have imperfect tracking of pupils who may or may not have been eligible for FSM at earlier ages.
- 13 An admirable account of the debate is given by Dyson (2005).
- 14 DfES (2006d), Table 6b. Our own data do include *all* SEN pupils, statemented or not.
- 15 Further detail about these categories and their interpretation can be found at <http://www.teachernet.gov.uk/wholeschool/sen/datatypes/Cognitionlearningneeds/>
- 16 The study is based on the PLASC for 2005.
- 17 Data supplied by a GLA colleague. A similar picture is given for all pupils in DfES (2005a), Table 4.9.
- 18 ‘In 2004, 27 per cent of looked after children had a statement of special educational needs, compared with three per cent of the overall population of children’ (Maxwell *et al.*, 2006, citing DfES and National Statistics data). See further DfES (2006i).
- 19 Evans (2006, p. 75) suggests part of the explanation is that ‘girls, unlike their brothers, have less freedom to play on the streets, [and] are less likely, therefore, to participate in peer groups in which being tough, looking for trouble and

resisting authority are ways to gain a respected reputation. Gender differences are ... always going to be educationally significant in schools in areas where boys enjoy a large measure of freedom to compete, often violently, for prestige on the streets.'

- 20 House of Commons (2005) noted three of these, Denmark, Sweden and Finland, but only said that the issue needed further research. They could have added Switzerland. But they also note that the English language may present special difficulties; and that the countries in question have nursery and other early teaching practices which help children and which the UK does not have in place.
- 21 The gap between boys' and girls' performance in English generally continues into secondary school: in 2006, 80 per cent of girls but only 65 per cent of boys reached Level 5 or above in English at Key Stage 3 (DfES, 2007).
- 22 Dee (2005) for the USA; Skelton *et al.* (2006). The latter study was based on observations of over 300 pupils and 51 teachers in primary schools.

Chapter 2

- 1 Chevalier *et al.* (2005) survey a number of other studies. They find the amount of variance in pupil outcomes explained by schools in these studies ranges from 5 to 18 per cent. The study also reviews research on teacher effectiveness, which was not possible with our data.
- 2 The figure for primary schools was smaller, about one in eight.
- 3 See also Sutton Trust (2006), which shows that the top 200 comprehensives have disproportionately low shares of FSM pupils.
- 4 As noted earlier, 'low attainers' in this report are those in the bottom 25 per cent of performance.
- 5 For a similar finding on faith primary schools, see Gibbons and Silva (2006).
- 6 In an international study of 11 countries – not including the UK – and covering maths and science, it was found that class size has more effect in countries where teaching is of lower average quality (Wössmann and West, 2006).

- 7 This study found little difference in effect between experiences in and outside school.
- 8 'The forces that turned Baba around', *Education Guardian*, 7 November 2006. See also www.skillforce.org.
- 9 McIntosh (2002) finds that the returns to Level 1 and 2 NVQs *by themselves* are negligible – they have no effect on adult earnings. They may, though, have other benefits, and are often steps towards further qualifications. Layard *et al.* (2002) show 'the poor wage and employment prospects of individuals with low levels of literacy and numeracy'.
- 10 The Longitudinal Study of Young People in England sample survey reports 'the most current data on participation in full-time education is for those 16 year olds who were in full-time education at the end of 2005 (three years older than the survey cohort). These 16 year olds have the highest ever rate for staying on in full-time education – 76 per cent (82 per cent for girls and 72 per cent for boys)'. Perhaps the underlying situation is marginally improving (DfES, 2006j).
- 11 The Nuffield Foundation (2006) lists ten of them on pp. 28–9.
- 12 For these and other concerns about the course of reform of vocational education, see Nuffield Foundation (2006).
- 13 Some of course do go on to obtain other qualifications at some point. There is much further evidence in this study on factors affecting outcomes.
- 14 An Ofsted survey reports that 15 per cent of schools were inhibited from improving their vocational offer by concerns for their standing in the five A*–C league table (Ofsted, 2007).
- 15 This study is critical of the NLS evidence base in various aspects of the teaching of reading and writing.
- 16 This study even suggests that the flattening of the improvement curve after 2000 was due to correction of flaws in the assessment procedure.
- 17 In discussion with Ofsted staff it was suggested that even some of the early improvement under the NLS may have been due to 'teaching to the test'.

- 18 Interview with staff of the Centre for Literacy in Primary Education, July 2006. Almost identical points were made in a 2006 survey of teachers by the Association of Teachers and Lecturers (www.atl.org.uk). Teaching in 'bite-size chunks' is actually a quote from DfES recommended practice – see Safford *et al.* (2004). Such criticisms were also voiced to the House of Commons Committee that reported on the teaching of reading – see House of Commons (2005), paras 35ff., though others defended the NLS.
- 19 Further information about Power of Reading can be found on the CLPE website, www.clpe.co.uk.
- 20 Information supplied by the DfES.

Chapter 3

- 1 The research leading to these conclusions is surveyed in Sinclair (2007).
- 2 We are indebted to London Challenge staff for some of the above detail, which is not all contained in the Ofsted report.
- 3 Alan Johnson, press briefing, 8 January 2007. There is more information on the proposal in DfES (2006m).

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Appendix: Data and tables

The main data we have used are from the Pupil Level Annual School Census (PLASC) for Key Stage 4 in 2003, matched with information on the same students' achievement at Key Stages 2 and 3 (years 1998 and 2001), and also matched with data on schools, LAs, 2001 census data on census output areas and super-output-area deprivation indices. While information on student achievement and on school characteristics is available at two points in time, unfortunately data on student characteristics are available only at one point in time, in 2003, when the student was aged 16.

A full account of the statistical analysis carried out for the present study is available from Kingdon and Cassen (2007). In the report we give 'raw' figures, mainly averages (see e.g. Tables A1–A11), and then look at the figures again controlling for background factors (e.g. Table A12). These give us conditional correlations.

The difference between raw and conditional correlations is best illustrated with an example. For instance, the last row of Table A16 shows that the raw FSM/non-FSM difference in the percentage of students with 'No passes > D' is 20.3 percentage points. On the basis of this raw figure we might say that FSM status is associated with a large 20.3 percentage point greater risk of low achievement compared with non-FSM. However, FSM pupils are also more likely to have been low achievers at age 11, to come from more deprived neighbourhoods, etc. Thus, the high *raw* association of FSM status with chances of low achievement is partly 'picking up' the effect of other factors (poor neighbourhoods, low prior achievement, etc.) with which FSM is correlated.

'Controlling for other factors' means comparing FSM and non-FSM students who have similar observed characteristics *other than* FSM status, e.g. who come from similar neighbourhoods, have similar prior achievement level, and have similar SEN status etc. When we 'hold other factors constant' (by means of a regression equation) and effectively compare students who share similar other characteristics, FSM status is associated with only a 5.6 percentage point higher risk of low achievement (see the figure for FSM in the fifth column of Table A12). In other words, while in the raw data FSM is associated with a 20.3 percentage point higher chance of low achievement, conditional on other factors being the same FSM is associated with a 5.6 percentage point higher risk of low achievement.

We should emphasise that this is not a causal relationship, only a conditional correlation. This is because a student's FSM status may be correlated with unobserved characteristics which are also correlated with his or her chances of being a low achiever. For instance, it is possible that a family with low endowments of personal qualities such as motivation, drive and ambition is both more likely to be low earning (hence the child is FSM eligible) and to have low-achieving children. In this case, it may be spurious to say that FSM status *causes* low-achiever status since FSM status may simply be capturing the effect of low motivation and so forth.

It should also be mentioned, when we 'condition' for prior achievement, that for a significant proportion of the pupils with Key Stage 4 records there are no matching Key Stage 2 records; the missing pupils are commonly those who have changed schools and whose records have not been transferred to the new school, or who have entered the country after age 11. There are grounds for suspecting that the missing pupils are more disadvantaged than average. We have tested for any possible bias arising from the missing data by running our model assuming that *all* those missing were low achievers at Key Stage 2; fortunately, while this affects somewhat the magnitudes of the resulting coefficients, it does not make a sufficient difference to alter any of our conclusions. (Many studies have conditioned on prior achievement just using the data for which there are matches, without reporting any such tests.)

For statistical reasons we are only able to run most of our modelling with the largest of our groups of low achievers, those receiving no passes above D, or 'No passes > D'; but we also report some results for the next largest group, those not obtaining passes in at least five subjects including English and Maths, or 'Not 5 passes E & M'.

Table A1 Four measures of low achievement

	No passes	No passes > D	No passes E or M	Not 5 passes E & M	Total
%	5.5	25.0	8.6	13.4	
Numbers	32,000	144,000	50,000	77,000	577,000

Source: PLASC data for 2003. Unless otherwise mentioned, all subsequent tables are based on authors' own calculations from these data.

Table A2 Distribution of low achievers (no GCSE passes), by ethnicity and gender

Ethnicity	Girls		Boys		Total	
	N	% of grand total	N	% of grand total	N	% of grand total
Bangladeshi	96	0.30	147	0.47	243	0.77
Indian	133	0.42	192	0.61	325	1.03
Pakistani	227	0.72	408	1.29	635	2.01
Asian Other	88	0.28	96	0.30	184	0.58
African	323	1.02	311	0.99	634	2.01
Caribbean	191	0.61	354	1.12	545	1.73
Black Other	72	0.23	113	0.36	185	0.59
Chinese	38	0.12	52	0.16	90	0.29
Mixed ethnicity	165	0.52	236	0.75	401	1.27
Ethnicity missing	1,192	3.78	1,758	5.58	2,950	9.36
White British	9,650	30.60	14,767	46.83	24,417	77.44
White Traveller	41	0.13	36	0.11	77	0.24
White Other	314	1.00	531	1.68	845	2.68
Total	12,530	39.74	19,001	60.26	31,531	100.00

Table A3 Distribution of low achievers (no passes above grade D), by ethnicity and gender

Ethnicity	Girls		Boys		Total	
	N	% of grand total	N	% of grand total	N	% of grand total
Bangladeshi	438	0.30	871	0.60	1,309	0.91
Indian	637	0.44	1,228	0.85	1,865	1.29
Pakistani	1,297	0.90	2,526	1.75	3,823	2.65
Asian Other	213	0.15	341	0.24	554	0.38
African	988	0.69	1,321	0.92	2,309	1.60
Caribbean	1,146	0.80	1,827	1.27	2,973	2.06
Black Other	323	0.22	563	0.39	886	0.61
Chinese	69	0.05	121	0.08	190	0.13
Mixed ethnicity	626	0.43	886	0.61	1,512	1.05
Ethnicity missing	3,954	2.74	6,479	4.50	10,433	7.24
White British	45,497	31.58	70,189	48.72	115,686	80.30
White Traveller	101	0.07	89	0.06	190	0.13
White Other	827	0.57	1,510	1.05	2,337	1.62
Total	56,116	38.95	87,951	61.05	144,067	100.00

Table A4 Distribution of students by low-achievement status and correlates

	No passes		No passes > D		No passes E or M		Not 5 passes E & M	
	Low achievers	Non-low achievers	Low achievers	Non-low achievers	Low achievers	Non-low achievers	Low achievers	Non-low achievers
Free school meal	32.7	13.1	27.0	9.6	31.6	12.5	31.0	11.6
First language not English	14.1	9.1	9.9	9.2	12.5	9.1	12.1	9.0
No SEN	40.5	86.2	57.3	92.5	49.6	86.9	47.4	89.3
Non-statemented SEN	28.7	11.0	29.2	6.2	28.4	10.5	31.0	9.1
Statemented SEN	30.9	2.8	13.5	1.2	22.0	2.7	21.7	1.6

Table A5 Percentage of KS4 takers by ethnicity and gender with no GCSE/GNVQ passes

Ethnicity	Girls		Boys		Total
	Girls	Boys	Girls	Boys	
Bangladeshi	3.58	5.38	5.38	4.49	4.49
Indian	1.93	2.69	2.69	2.31	2.31
Asian Other	5.97	6.13	6.13	6.05	6.05
Pakistani	3.59	5.69	5.69	4.71	4.71
African	7.79	8.21	8.21	7.99	7.99
Caribbean	4.33	8.46	8.46	6.34	6.34
Black Other	6.03	8.97	8.97	7.54	7.54
Chinese	3.95	4.81	4.81	4.40	4.40
Mixed ethnicity	4.90	7.61	7.61	6.20	6.20
Ethnicity missing	6.94	8.86	8.86	7.97	7.97
Other ethnic group	8.71	11.64	11.64	10.30	10.30
Refused	5.15	6.44	6.44	5.82	5.82
White British/Irish	4.25	6.29	6.29	5.29	5.29
White Traveller	20.3	18.95	18.95	19.64	19.64
White Other	6.3	9.78	9.78	8.12	8.12
Total	4.46	6.50	6.50	5.50	5.50

Table A6 Percentage of KS4 takers by ethnicity and gender with no passes > D

Ethnicity	Girls	Boys	Total
Bangladeshi	16.35	31.86	24.18
Indian	9.23	17.17	13.27
Pakistani	20.52	35.23	28.34
Asian Other	14.46	21.78	18.23
Black African	23.82	34.85	29.09
Black Caribbean	26.00	43.67	34.61
Black Other	27.03	44.68	36.09
Chinese	7.17	11.19	9.30
Mixed ethnicity	18.60	28.57	23.38
Ethnicity missing	23.03	32.67	28.20
White British/Irish	20.03	29.89	25.04
White Traveller	50.00	46.84	48.47
White Other	16.60	27.82	22.45
Total	19.98	30.09	25.13

Table A7 Percentage of KS4 takers by ethnicity and gender with no pass in English or Maths

Ethnicity	Girls	Boys	Total
Bangladeshi	6.79	9.73	8.28
Indian	3.52	4.32	3.93
Pakistani	6.33	9.83	8.19
Asian Other	7.81	8.11	7.96
Black African	11.45	12.80	12.09
Black Caribbean	8.28	14.96	11.54
Black Other	10.71	15.00	12.91
Chinese	4.47	5.92	5.23
Mixed ethnicity	7.90	10.48	9.14
Ethnicity missing	9.89	12.19	11.12
White British/Irish	7.02	9.51	8.29
White Traveller	25.74	26.32	26.02
White Other	9.01	13.49	11.35
Total	7.25	9.79	8.55

Table A8 Percentage of KS4 takers by ethnicity and gender without at least five passes including English and Maths

Ethnicity	Girls	Boys	Total
Bangladeshi	10.12	15.25	12.71
Indian	5.17	6.87	6.03
Pakistani	9.90	16.36	13.33
Asian Other	10.93	13.35	12.18
Black African	16.10	19.45	17.70
Black Caribbean	12.71	24.02	18.22
Black Other	16.82	25.16	21.10
Chinese	8.41	10.08	9.30
Mixed ethnicity	11.95	16.83	14.29
Ethnicity missing	14.92	19.23	17.23
White British/Irish	10.62	15.19	12.94
White Traveller	37.13	37.37	37.24
White Other	14.09	20.29	17.32
Total	10.96	15.61	13.33

Table A9 Percentage distribution of low achievement, by free school meal eligibility

Pupil eligible for free school meal	Girls (%)	Boys (%)	Total (% cent)	Boy-girl difference (% points)
<i>% no passes</i>				
Yes	10.12	14.32	12.24	4.20
No	3.43	4.85	4.15	1.42
Total	4.38	6.18	5.30	1.80
<i>% no passes above grade D</i>				
Yes	41.24	53.92	47.65	12.68
No	16.38	25.90	21.23	9.52
Total	19.91	29.83	24.96	9.92
<i>% no passes in English or Maths</i>				
Yes	16.29	21.11	18.73	4.82
No	5.68	7.61	6.66	1.93
Total	7.18	9.51	8.37	2.32
<i>% not 5 passes including English and Maths</i>				
Yes	24.69	32.80	28.79	8.10
No	8.58	12.37	10.51	3.79
Total	10.87	15.24	13.10	4.37
(N)	(282,504)	(292,642)	(575,146)	

Tackling low educational achievement

Table A10 Progress out of and into low achievement from KS2 to KS4, by ethnicity

Average mark at KS2	Total point score at KS4				Total
	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	
<i>White British</i>					
Bottom 10th percentile	40.6	31.5	15.7	2.3	100
10th–25th percentile	18.0	34.3	36.0	11.7	100
25th–50th percentile	8.3	17.8	40.7	33.3	100
Above 50th percentile	2.4	4.2	17.8	75.7	100
<i>Indian</i>					
Bottom 10th percentile	14.0	40.4	32.6	13.0	100
10th–25th percentile	3.8	17.6	46.0	32.6	100
25th–50th percentile	1.3	6.2	32.3	60.3	100
Above 50th percentile	0.7	1.7	10.3	87.4	100
<i>Pakistani</i>					
Bottom 10th percentile	22.7	41.9	27.8	7.6	100
10th–25th percentile	7.3	23.7	42.9	26.1	100
25th–50th percentile	3.9	9.8	36.6	49.7	100
Above 50th percentile	1.5	3.2	16.4	78.9	100
<i>Bangladeshi</i>					
Bottom 10th percentile	19.1	39.2	27.0	14.6	100
10th–25th percentile	6.7	22.7	37.1	33.5	100
25th–50th percentile	4.4	10.5	32.6	52.5	100
Above 50th percentile	3.4	4.2	16.1	76.4	100
<i>Caribbean</i>					
Bottom 10th percentile	34.7	43.6	18.7	3.0	100
10th–25th percentile	15.7	36.1	34.8	13.4	100
25th–50th percentile	8.3	20.9	43.0	27.9	100
Above 50th percentile	4.2	8.3	28.2	59.4	100

Table A11 Progress out of and into low achievement from KS2 to KS4, by FSM, gender and ethnicity

Average mark at KS2		Percentage points score at KS4														
		FSM pupils only						Non-FSM pupils only								
		Males			Females			Males			Females					
Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	
<i>White British/Irish</i>																
Bottom 10th percentile	61.9	31.3	5.9	0.9	50.6	38.2	10.2	1.1	39.9	43.6	14.4	2.2	29.9	44.2	22.6	3.3
10th–25th percentile	35.9	40.2	20.1	3.9	27.4	36.3	29.3	7.1	17.5	37.9	34.7	9.9	12.1	29.1	42.4	16.4
25th–50th percentile	22.0	31.6	34.0	12.3	15.9	24.7	38.8	20.6	8.0	20.3	43.3	28.5	5.3	12.7	39.4	42.6
Above 50th percentile	10.2	16.2	33.0	40.6	8.3	10.8	27.9	53.0	2.1	4.7	20.7	72.4	1.6	2.5	13.6	82.3
<i>Asian, Bangladeshi</i>																
Bottom 10th percentile	27.0	45.7	19.4	8.0	13.3	35.4	35.1	16.2	26.4	38.4	24.0	11.2	7.2	35.3	30.1	27.5
10th–25th percentile	11.3	28.6	34.0	26.1	2.7	13.0	42.8	41.6	8.6	32.9	28.3	30.3	2.8	21.0	40.6	35.7
25th–50th percentile	7.6	15.1	36.2	41.2	3.2	8.1	29.2	59.5	3.7	11.8	34.2	50.3	1.6	6.0	32.1	60.3
Above 50th percentile	5.2	7.1	22.3	65.5	2.9	2.2	13.5	81.4	3.1	3.9	19.0	74.0	1.5	3.4	8.6	86.5
<i>Asian, Indian</i>																
Bottom 10th percentile	23.6	48.8	17.3	10.2	15.7	39.7	33.1	11.6	15.9	46.3	28.7	9.2	8.3	32.0	41.2	18.6
10th–25th percentile	9.0	32.1	41.0	18.0	3.7	20.3	46.0	30.0	4.4	20.2	47.5	27.9	2.3	11.4	45.3	41.0
25th–50th percentile	2.2	14.9	37.6	45.3	4.1	5.1	33.7	57.1	1.1	8.2	35.0	55.8	0.7	3.2	28.8	67.3
Above 50th percentile	1.6	5.3	24.0	69.1	0.8	4.0	12.1	83.1	0.5	2.1	12.5	84.9	0.7	0.7	6.7	91.9
<i>Asian, Pakistani</i>																
Bottom 10th percentile	31.4	45.5	18.1	5.1	20.3	39.5	30.8	9.4	27.2	41.9	26.2	4.8	9.5	41.1	37.6	11.8
10th–25th percentile	11.9	32.6	39.8	15.7	4.3	17.5	43.9	34.3	9.1	27.9	43.0	20.1	2.8	17.5	45.0	34.7
25th–50th percentile	5.6	16.3	41.8	36.3	2.5	5.8	37.9	53.8	4.1	12.3	40.5	43.1	2.5	5.8	29.2	62.6
Above 50th percentile	2.8	9.3	25.3	62.6	1.6	2.0	12.0	84.4	1.6	2.7	20.5	75.3	0.6	1.1	9.5	88.8
<i>Black, African</i>																
Bottom 10th percentile	20.7	46.8	27.7	4.8	12.6	39.3	37.2	11.0	25.4	47.9	24.3	2.4	16.4	34.3	39.3	10.0
10th–25th percentile	11.4	34.8	39.1	14.7	5.7	19.4	46.5	28.4	10.3	29.1	45.3	15.4	3.7	15.1	49.5	31.7
25th–50th percentile	8.7	17.5	40.9	32.9	1.9	9.5	43.8	44.8	4.8	10.9	42.4	41.8	1.7	6.8	28.8	62.7
Above 50th percentile	4.7	10.4	31.1	53.9	1.5	2.0	14.8	81.6	1.4	6.7	16.0	75.9	0.8	2.9	9.3	87.1

Table A11 Progress out of and into low achievement from KS2 to KS4, by FSM, gender and ethnicity – Continued

Average mark at KS2		Percentage points score at KS4																	
		FSM pupils only						Non-FSM pupils only						Non-FSM pupils only					
		Males			Females			Males			Females			Males			Females		
Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile
<i>Black, Caribbean</i>																			
Bottom 10th percentile	43.1	39.8	16.2	0.9	26.1	48.9	19.4	5.6	39.5	43.0	15.4	2.2	23.7	46.7	25.3	4.3			
10th–25th percentile	20.4	43.9	28.1	7.7	12.2	35.7	40.0	12.2	19.8	39.6	32.0	8.7	8.4	30.1	39.6	21.9			
25th–50th percentile	12.4	31.6	37.8	18.2	8.0	18.5	44.6	29.0	8.3	26.3	44.6	20.8	5.9	13.7	43.4	37.0			
Above 50th percentile	6.2	13.3	38.9	41.6	4.9	13.1	36.0	46.1	5.5	9.6	31.3	53.6	2.0	4.9	21.6	71.5			
<i>All other races</i>																			
Bottom 10th percentile	44.4	37.6	14.2	3.8	33.4	35.9	22.3	8.4	38.3	39.3	18.3	4.2	29.3	38.9	23.8	8.0			
10th–25th percentile	24.8	34.7	27.4	13.1	18.0	27.5	33.3	21.2	18.9	35.0	32.0	14.1	14.5	27.1	39.1	19.4			
25th–50th percentile	16.9	22.6	33.8	26.8	12.7	17.4	32.7	37.2	10.2	19.7	39.4	30.7	6.7	12.9	37.0	43.4			
Above 50th percentile	7.2	11.4	27.4	54.0	6.1	7.4	20.4	66.1	3.0	5.4	19.7	71.8	2.5	3.1	13.6	80.8			

Table A12 Marginal effects of variables on 'No passes > D'

	Personal variables		Plus census output area variables		Plus prior achievement	
	ME	Robust-t	ME	Robust-t	ME	Robust-t
Male	0.064	38.0	0.067	43.9	0.055	47.0
Age at start 02–03	–0.002	–10.4	–0.002	–12.7	0.002	17.0
SEN statement	0.279	42.0	0.279	43.0	0.076	16.4
SEN non-statement	0.335	101.1	0.314	97.4	0.142	56.4
FSM	0.188	69.1	0.097	46.1	0.056	33.8
Mover	0.099	10.7	0.096	13.1	0.076	13.3
Abnormal start	0.055	12.5	0.045	11.7	0.033	11.3
<i>Ethnicity variables</i>						
Bangladeshi	–0.091	–12.5	–0.085	–11.4	–0.076	–14.7
Indian	–0.095	–17.7	–0.084	–17.0	–0.075	–21.7
Pakistani	–0.055	–10.4	–0.056	–10.6	–0.068	–20.2
Asian Other	–0.089	–9.3	–0.077	–8.1	–0.065	–9.9
Black African	–0.088	–11.9	–0.083	–12.3	–0.071	–15.9
Black Caribbean	0.004	0.6	–0.008	–1.5	–0.025	–6.3
Black Other	0.025	2.4	0.008	0.8	–0.011	–1.6
Chinese	–0.126	–12.7	–0.116	–11.9	–0.083	–10.8
Mixed ethnicity	–0.038	–6.8	–0.034	–6.6	–0.021	–5.0
Ethnicity missing	0.009	1.9	0.014	3.2	0.011	3.2
White Traveller	0.067	2.5	0.071	2.6	0.043	2.0
White Other	–0.064	–8.4	–0.053	–8.2	–0.045	–8.4
<i>Census output area variables</i>						
% ethnicity black			–0.032	–1.6	–0.022	–1.3
% ethnicity asian			–0.025	–2.5	–0.010	–1.3
% unemployed			0.414	11.1	0.247	8.0
% no qualifications			0.372	45.4	0.192	28.8
% lone parent families			0.168	25.3	0.107	19.6
<i>Prior achievement</i>						
Average point score KS2					–0.033	–140.1
Low reading ach. at KS2					0.026	20.3
N	463,589		463,589		463,589	
Pseudo R-square	0.1113		0.1519		0.2972	
Mean of dependent var.	0.171		0.171		0.171	

Note: White British are the omitted ethnic group, as the results are in terms of other ethnicities in relation to White British; a negative coefficient implies smaller likelihood of low achievement compared with White British. ME stands for marginal effects, the statistical impact of a given variable other things held constant – no causal effect is implied. The estimator is a binary probit. The t-values are based on standard errors that are corrected for clustering at the school level.

Source: Kingdon and Cassen (2007).

Table A13 Percentage of GNVQ takers by ethnicity, and percentage of low achievers, by whether student took any GNVQs

	Percentage of GNVQ takers	% of low achievers (No passes > D), by whether student took any GNVQs		Difference (b-a)
		GNVQ taker (a)	GNVQ non-taker (b)	
Bangladeshi	0.32	0.14	0.29	0.15
Indian	0.26	0.09	0.15	0.06
Pakistani	0.30	0.22	0.31	0.09
Asian Other	0.20	0.16	0.19	0.03
Black African	0.24	0.20	0.32	0.12
Black Caribbean	0.25	0.25	0.38	0.13
Black Other	0.23	0.27	0.39	0.12
Chinese	0.18	0.05	0.10	0.05
Mixed ethnicity	0.20	0.18	0.25	0.07
Ethnicity missing	0.20	0.22	0.30	0.08
White British	0.21	0.20	0.26	0.06
White Traveller	0.16	0.29	0.52	0.23
White Other	0.20	0.17	0.24	0.07
All races	0.21	0.20	0.27	0.07

Note: GNVQ non-takers are those who took GCSEs only and no GNVQs.

Table A14 Low achievement, with interaction of ethnicity and FSM

	No passes > D		Not 5 passes E & M	
	Marginal effect	Robust-t	Marginal effect	Robust-t
Bangladeshi	-0.059	-7.1	-0.026	-6.5
Indian	-0.074	-20.0	-0.029	-14.0
Pakistani	-0.064	-16.0	-0.028	-12.0
Asian Other	-0.061	-7.6	-0.025	-5.1
Black African	-0.064	-11.3	-0.025	-7.1
Black Caribbean	-0.015	-3.0	-0.007	-2.6
Black Other	-0.007	-0.8	-0.001	-0.3
Chinese	-0.077	-9.1	-0.030	-5.8
Mixed ethnicity	-0.023	-4.8	-0.005	-1.7
Ethnicity missing	0.017	5.0	0.014	6.3
White Traveller	0.053	2.1	0.028	1.9
White Other	-0.038	-7.5	-0.003	-0.8
FSM	0.068	36.8	0.034	30.7
FSM Bangladeshi	-0.055	-5.8	-0.018	-3.3
FSM Indian	-0.021	-2.1	-0.011	-1.9
FSM Pakistani	-0.030	-5.1	-0.015	-4.2
FSM Asian Other	-0.039	-2.6	-0.008	-0.7
FSM Black African	-0.041	-4.5	-0.020	-3.3
FSM Black Caribbean	-0.042	-5.9	-0.017	-4.3
FSM Black Other	-0.020	-1.6	-0.009	-1.2
FSM Chinese	-0.076	-3.3	-0.030	-2.0
FSM Mixed ethnicity	0.003	0.3	0.005	0.9
ESM Ethnicity missing	-0.033	-6.9	-0.012	-5.1
FSM White Traveller	-0.031	-0.8	-0.001	0.0
FSM White Other	-0.044	-4.5	-0.012	-2.2
N	463,589		463,589	
Pseudo R-square	0.2978		0.1718	
Mean of dependent var.	0.171		0.063	
Individual level variables	Yes		Yes	
Census output area variables	Yes		Yes	
Prior achievement	Yes		Yes	

Note: The estimated equation contained variables similar to those in the final pair of columns of Table A12 but also includes interaction terms between FSM and ethnicity. Not all variables are reported. For further discussion see Kingdon and Cassen (2007).

Table A15 Progress out of and into low achievement from KS2 to KS4, by FSM status

Average mark at KS2	Percentage points score at KS4				Total
	Bottom 10th percentile	10th–25th percentile	25th–50th percentile	Above 50th percentile	
<i>Non-FSM</i>					
Bottom 10th percentile	33.9	43.1	19.4	3.6	100
10th–25th percentile	14.6	32.7	38.4	14.4	100
25th–50th percentile	6.6	16.1	40.6	36.6	100
Above 50th percentile	1.9	3.6	16.9	77.6	100
Total	7.3	13.2	25.3	54.3	100
<i>FSM</i>					
Bottom 10th percentile	48.2	36.5	12.5	2.8	100
10th–25th percentile	26.4	35.5	28.2	9.9	100
25th–50th percentile	16.3	24.7	36.4	22.7	100
Above 50th percentile	7.9	11.9	28.2	52.0	100
Total	22.9	26.0	27.1	24.1	100

Table A16 Percentage of students with no passes > D, by FSM status

	FSM	Non-FSM	Difference
Bangladeshi	0.150	0.132	0.018
Indian	0.140	0.066	0.074
Pakistani	0.217	0.134	0.083
Asian Other	0.164	0.071	0.093
Black African	0.171	0.100	0.071
Black Caribbean	0.292	0.212	0.080
Black Other	0.350	0.219	0.132
Chinese	0.039	0.034	0.004
Mixed ethnicity	0.318	0.117	0.201
Race missing	0.353	0.175	0.179
White British	0.401	0.150	0.251
White Traveller	0.444	0.231	0.213
White Other	0.238	0.101	0.136
Total	0.351	0.148	0.203

Table A17 Percentage of pupils achieving Level 4 or above in Key Stage 2 tests: reading and writing

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>Reading</i>										
Boys	63	64	75	80	78	77	78	79	82	79
Girls	71	79	82	86	85	83	84	87	87	87
All pupils	67	71	78	83	82	80	81	83	84	83
<i>Writing</i>										
Boys	45	45	47	48	50	52	52	56	55	59
Girls	62	61	62	63	65	68	69	71	72	75
All pupils	53	53	54	55	57	60	60	63	63	67

Source: Data supplied by DfES; 2006 figures are provisional.

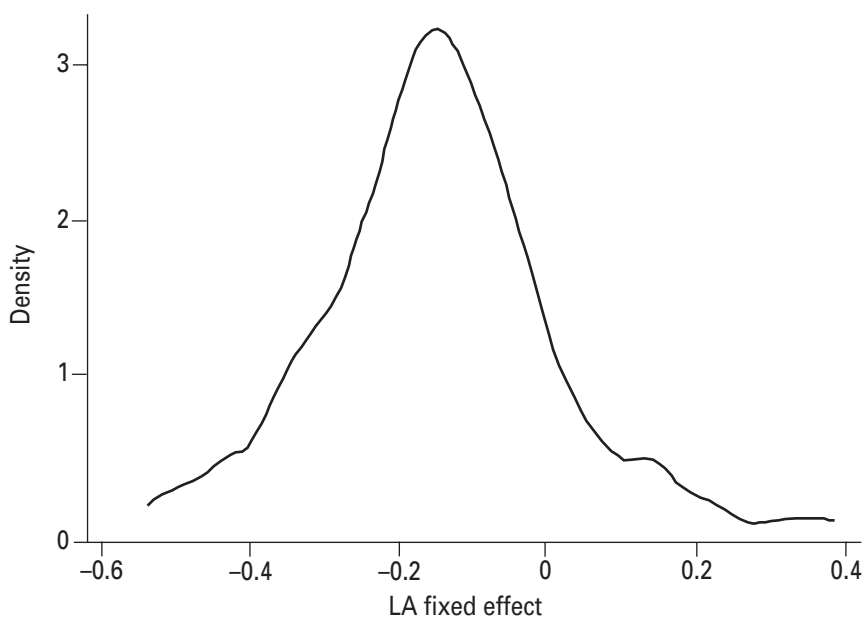
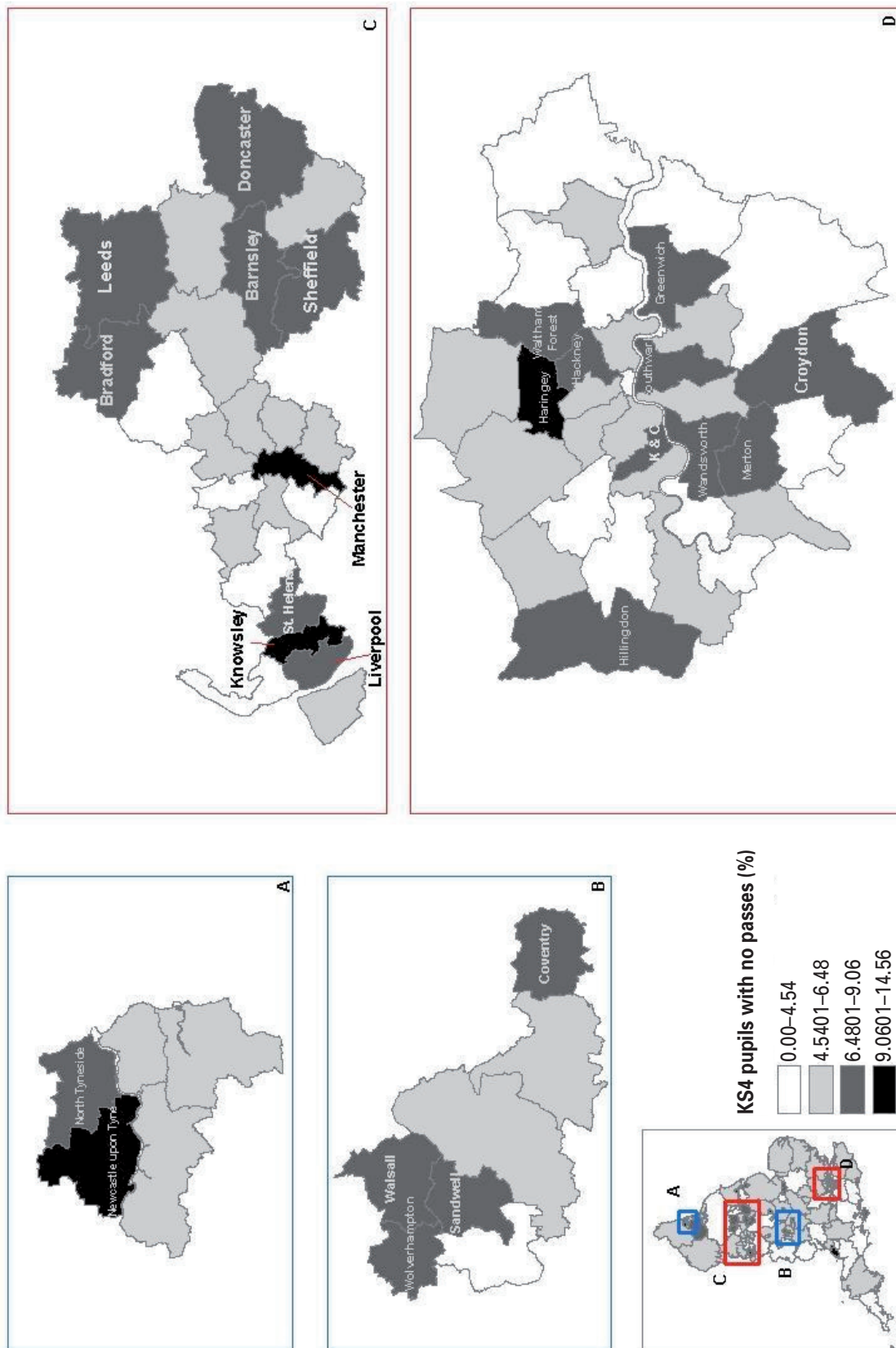
Figure A1 Distribution of the local authority 'fixed effect'

Figure A1 shows that there is a good deal of variation between LAs in school quality. School quality in this report is measured as the school fixed effect in a regression of 'No passes > D' which controls for pupil characteristics as well as pupils' ability by controlling for past achievement at Key Stage 2. It refers to reductions in low achievement and is a negative number. The LA fixed effect is estimated from a regression of the school fixed effect on school characteristics. It varies from about -0.5 to 0.3 implying a gap of about 0.8 in school quality between the lowest and highest performing LEA. The standard deviation of our measure of school quality – the school fixed effect – is 0.40 (around a mean of 3.005). Thus, the difference between the lowest and highest LA fixed effect is equal to about 2 standard deviations of our measure of school quality. In other words, high quality schools are indeed concentrated more in some LAs than others and as a result average school 'quality' varies substantially across LAs.

Map A1 KS4 pupils with no passes, by LA (selected regions)



Map A2 KS4 pupils with no passes > D, by LA (selected regions)

