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Wasted talent?

**Attrition rates of high-achieving pupils between
school and university**

The Sutton Trust, June 2008

Key findings

- 60,000 pupils -- who at age 11, 14 or 16 are among the top fifth of academic performers in English state schools – do not subsequently enter higher education by age 18.
- Pupils on free school meals are 19 percentage points less likely than other school pupils to enter higher education by age 19, when school qualifications are not taken into account.
- However, pupils on free school meals are virtually just as likely as other school pupils to enter higher education by age 18 if they attain A-levels.
- Looking only at young people who do go on to university, those on free school meals are 6 percentage points less likely than other school pupils to enter leading research universities by age 19, when school qualifications are not taken into account.
- When these qualifications are considered, pupils on free school meals are only slightly less likely than other school pupils to enter leading research universities by age 18.

Introduction and background

Earlier this year the Sutton Trust commissioned a short research project to quantify the numbers of pupils who perform well academically during school but who do not go on to higher education in general, or leading research universities in particular. The findings helped to inform a number of policy proposals developed for the Government's National Council for Educational Excellence aimed at boosting university applications from state schools in poorer areas. The Trust will publish its full report to the NCEE in July. This note summarises the findings of the study.

Produced by Haroon Chowdry, Claire Crawford, Lorraine Dearden and Anna Vignoles at the Institute of Education and Institute of Fiscal Studies, the findings presented here form part of a much wider project supported by the Economic and Social Research Council. This investigates for the first time the trajectories of individual pupils from the end of primary school to entry into higher education. Crucially, the analysis considers who goes to higher education and who does not, and the type of higher education experienced by different pupils.

The aim of the Sutton Trust project was to understand whether individuals from poorer backgrounds are still less likely to attend university once prior achievement in exams at school, particularly A levels, are taken into account. If the disparities in HE participation between different socio-economic groups are small once A-level scores are considered, this would confirm previous research which suggests that inequalities in the school system are at the root of the socio-economic gap in university participation.

The research exploits a new combination of administrative datasets linked by the Department for Children, Schools and Families and the Department for Innovation, Universities and Skills. This includes data from the National Pupil Database and Pupil Level Annual School Census, and Higher Education Statistics Agency data on students. It covers one cohort of pupils (approximately 600,000), starting at age 11 and entering higher education at age 18 in 2004-05.

The analysis is limited by the data available. It compares the outcomes of the minority of school children eligible for free school meals¹, and the majority who are not. This highlights particular HE participation gaps -- between the majority of children in state schools and those from extremely poor backgrounds. However, this does not shed light on university

¹ In 2004, 14.3 per cent of pupils in English schools qualified for Free School Meals. The full analysis for the Economic and Social Research Council report includes finer measures of family background and will be available from Tuesday 17 June.

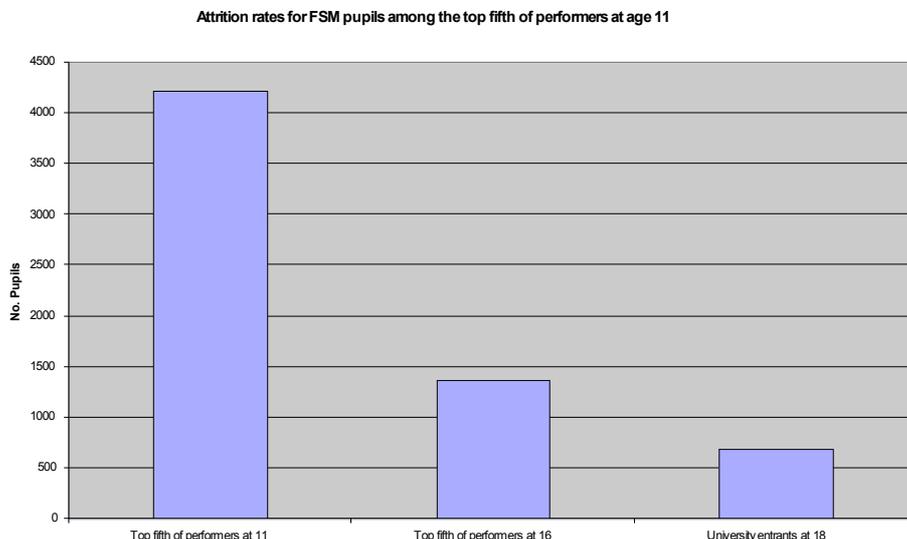
participation gaps between pupils from the most prosperous backgrounds and other pupils. In particular, the data does not include pupils from independent schools².

Findings

Attrition rates

The study allows us for the first time to quantify the numbers and proportions of pupils who are among the best academic performers at some point during their schooling, but who do not end up going on to university. In other words the analysis provides an estimate of the ‘attrition rates’ of academically-talented pupils that occur in schools, often long before the pupils consider whether to apply for degree places. Top performing pupils are defined as those pupils who were among the top fifth of performers in school examinations at Key Stage 2 (age 11), Key Stage 3 (age 14) and GCSE (age 16)³.

The data reveals extremely high rates of ‘leakage’ among the least privileged pupils – those qualifying for free school meals. The following graph traces the outcomes for one cohort of pupils on free school meals (FSM) who were among the top fifth of performers at the end of primary school as they progress through the secondary school system. It shows how high the subsequent attrition rates are for these pupils.



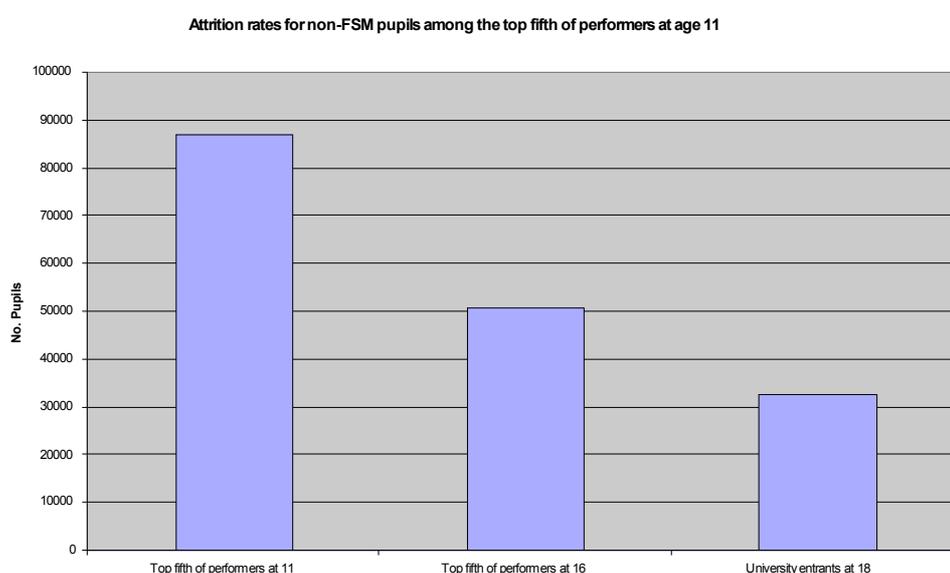
Two thirds (2,850) of these top performing FSM pupils at age 11 in Key Stage 2 tests are not among the top fifth of top performers taking GCSEs at age 16. And a further half (680) of the

² A study published by the Sutton Trust in 2004 showed that approximately 3000 state school students each year are not among the 30,000 students who gain admission to a group of leading research universities – even though they academically qualified to do so.

³ Individual pupils were separated into five groups on the basis of their English and Maths scores at age 11, and at later stages of schooling.

pupils who remain among the top fifth of top performers at 16 do not subsequently go to university at age 18. This equates to a total loss of around 3,000 high performers in this one cohort of pupils who had showed academic potential, but who had not subsequently entered higher education⁴.

This loss of able pupils from poor backgrounds is dwarfed in absolute numbers however by the attrition rates for the vast majority of previously highest performing pupils who are less disadvantaged and do not qualify for free school meals. The following graph follows the much larger cohort of non-FSM pupils who were among the top fifth of performers at the end of primary school as they progress through the secondary school system.



This shows that 42 percent (37,000) of the top fifth of performing pupils at 11 are not among the top fifth of performers at age 16 – and 27,000 of these pupils do not go onto HE. A further 35 percent (18,000) of those pupils still in the highest performing bracket do not go onto university at age 18. This equates to a total loss of over 45,000 students in one cohort from across the range of socio-economic backgrounds who were among the highest academic performers at the end of primary school who do not go on to enter higher education.

Total attrition rate

So far these figures consider only the attrition rates of pupils who were among the top fifth of performers at age 11 – but the research also looked at those pupils who were in the top 20

⁴ This takes into account some pupils who are not among the top-performers at age 16 but who still go onto HE.

percent at age 14 or age 16, but who may not have been in this high-performing group at age 11.

Including all these pupils, who at some stage of their schooling were top academic performers, and tracking how many then progressed to higher education, provides an overall attrition rate for one cohort of pupils. This suggests that in one cohort of pupils 60,000 young people -- who at age 11, age 14 or age 16 were among the top fifth of performers in school -- do not subsequently enter higher education by age 18.

To put this figure into context, this equates to approximately one in ten pupils in each year group at English schools⁵; if all these pupils entered higher education by age 18, UK wide university participation rates would increase by 25 per cent⁶.

Higher education participation rates

While these attrition rates are high, the study also conveys an extremely positive message for those pupils who do attain A-levels. The 'raw' gap in higher education participation rates between pupils on free school meals and other pupils is stark: not taking school results into consideration, non-FSM pupils stand a 32 per cent chance of going onto higher education in contrast to FSM pupils who stand a 13 per cent chance -- a gap of 19 percentage points. However, the gap in university participation rates between pupils on free school meals and other pupils virtually disappears completely once pupils have attained A-levels.

In other words, it does not matter if you were eligible for free school meals or not, or indeed what results you achieved earlier on in school, if you get A-levels you are as highly likely as any other pupil to subsequently enrol on a degree course. The main problem in terms of widening access to higher education is getting non traditional students to A-levels in the first place⁷.

Entry to elite universities

The study also investigated the likelihood of university participants attending a particular grouping of research intensive universities, the Sutton Trust 13⁸. Is it the case that the nature

⁵ This assumes that there are a total of 600,000 state school pupils in the one cohort.

⁶ The number of young entrants entering UK universities in 2004/05 was 245,000.

⁷ The latest figures from the Youth Cohort Survey show that 82 percent of pupils who achieved two grade Es or better at A-level progressed to Higher Education by 18 years of age in 2005/06.

⁸ The Sutton Trust 13 universities are those ranked the highest in an average of published university league tables in 2000. The list comprises: Birmingham, Bristol, Cambridge, Durham, Edinburgh, Imperial College, London School of Economics, Nottingham, Oxford, St Andrews, University College London, Warwick and York.

of a person's higher education experience differs according to their socio-economic background, even if their likelihood of attending university does not once levels of attainment are considered?

Instead of simply looking at whether or not a pupil participates in higher education, the analysis takes all the young people who are enrolled in higher education and then looks at whether or not an individual participates at one of the Sutton Trust 13 institutions.

When school results are not considered, non-FSM pupils who go on to higher education stand a 11 per cent chance of entering one of the Sutton Trust 13 universities, while FSM pupils who go on to higher education stand a 5 per cent chance. The gap is 6 percentage points.

However, when prior attainment at school is taken into account, this gap in participation between non-FSM and FSM students reduces to just over 1 percentage point. This equates to approximately 850 students in the cohort, who might be expected to enrol at one of the Sutton Trust 13 universities, given their A-level results, but who do not do so.

Conclusions

This study highlights the extent to which the socio-economic gap in attainment at school determines the subsequent socio-economic gap in higher education participation. It reveals significant numbers of high attaining pupils at the end of primary school and at early stages of secondary school who lose ground in examinations during later years, and end up not going on to higher education. If the goal is to increase university participation from state schools, then the priority must be to reduce these high attrition rates of pupils who have shown earlier academic promise.

However, an important and positive message emerging from the research is that pupils who do make it to A-levels in state schools are just as likely as any other to go to university, irrespective of previous exam results or whether they come from a poor background. Once prior achievement at school is considered, poorer and richer students have similar HE participation rates. In other words, the socio-economic gap in higher education participation is attributable to differences in the education achievement of children much earlier in the education system, rather than at the point of entry into higher education.

The analysis also considers whether a socio-economic gap in university participation exists for a particular group of highly selective research led universities (the 'Sutton Trust 13'). The gap was found to reduce markedly once A-level and other prior attainment of pupils was taken into account. A state school pupil from a very poor background stands almost the same

chance of going to one of these universities as any other state school pupil – if they get the appropriate A-level grades. The big problem is that very few FSM pupils get the A-levels in the first place.

However, this is not the case for those state school pupils competing with their independent school counterparts (which are not included in this analysis). A study published by the Sutton Trust in 2004 showed that approximately 3000 state school students each year are not among the 30,000 students who gain admission to the Sutton Trust 13 – even though they academically qualified to do so.

Addressing the attrition rates highlighted in this report requires action earlier on in the educational pathway, not only to sustain the high achievement of those pupils at risk of falling back, but also to raise the aspirations of young people towards university study, particularly those from backgrounds with little or no history of participation in higher education. Although this is clearly a priority for schools – where better information, advice and guidance about university options is desperately needed – there is also a critical role for universities to play. The HE sector should increasingly look to engage with schools earlier on – from primary level upwards – and create meaningful and lasting links with schools and colleges, especially those serving deprived areas. Only through a coordinated approach, involving schools, colleges, universities and the voluntary and business sectors, will the makeup of the student population begin to reflect society at large.