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School experience as a potential determinant of post-compulsory participation

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Keywords

Pupil voice, participation, occupational class, aspiration, logistic regression, learner identity

Abstract

This paper considers the views of young people aged 14 to 16 about their future education, training and occupation. It is based on a study of around 3,000 year 11 pupils in 45 educational settings in England during 2007/08, supplemented by documentary analysis, official statistics, and interviews and surveys with staff and parents. Pupil-reported plans to continue in formal education and their aspirations for professional occupations are heavily stratified by individual and family background, including prior attainment. This is as expected. But once this variation has been accounted for, in a logistic regression model, there is both a small school mix 'effect' and a much larger school experience effect. The patterns in the pupil stories suggest that there are some simple levers available to policy-makers and to practitioners for the improvement of young peoples' plans to participate.

Introduction

In England, as elsewhere in developed countries, policy-makers are concerned about the stubborn patterns of non-participation in education and training once some young people have reached school leaving age. The Department for Children, Schools and Families in England (DCSF 2009) in relation to their Every Child Matters agenda stated that 'Reducing the proportion of 16- to 18-year-olds not in education, employment or training (NEET) is a priority for the Government'. This is because, they claim, being NEET between the ages of 16 and 18 is a key predictor for subsequent unemployment, lack of participation in society, low income, teenage pregnancy, and poor health. It is estimated that 15% of NEET young people die within 10 years by the age of 28, and the situation is reportedly worsening with the economic recession (Lipsett 2009).

Around one third of adults in England have then continued to avoid all forms of education and training for the remainder of their lives, including government training schemes, open and correspondence courses, adult evening classes, and work-based learning (Gorard and Rees 2002, Macleod and Lambe 2008). This leads to a population and a workforce reportedly poor at reading, writing and arithmetic, and in a worse position than in some other developed countries (Lee 2009).

There is some socio-economic ‘reproduction’ in patterns of post-compulsory participation (Selwyn et al. 2006), so that parental occupation is a predictor of NEET status and plans (Thomas and Webber 2009). However, the organisation of schools themselves and the experiences of children in schools are also a potential determinant of subsequent participation (Antikainen and Huusko 2008). Relevant school experiences include being made to feel a failure (Gorard and Rees 2002), and good mentoring especially for pupils with low expectations at home (Younger and Warrington 2009). Small scale work suggests a peer effect on reported intentions to continue in education at age 16, especially for boys (Thomas and Webber 2009).

Larger scale work suggests that pupils in countries with more segregated systems tend to report greater favouritism for one or more groups of pupils (Smith and Gorard 2006). This leads to somewhat worse attitudes to school, and less sense of belonging (Gorard and Smith 2010). Mainstream schooling has a generally positive effect on aspirations of pupils with learning difficulties, for example (Casey et al. 2006). For those below average attainment, attending selective schools appears to negatively affect their academic self-concept, and this is a reasonably long-lasting effect (Marsh et al. 2007). If this is pupils’ experience of treatment at school, and if the pupils in the more segregated settings experience more unfairness, then what does this mean for their aspirations, participation and preparation as future citizens?

This paper reports the result of a large-scale study of young people, considering their aspirations and plans for education after the age of 16. It asks about the relative importance of pupil background, school structure, and individual experiences at school, on pupil plans for the future. The next section presents a summary of the methods, while the ensuing sections present some of the relevant results and some of the possible implications for those concerned with enhancing the aspirations and meaningful participation of young adults.

Method

Using Edubase (a public database of school and college details) combined with annual schools census pupil intake data, and the national pupil database of achievement, we selected a sample of educational settings catering for 14 to 19 year-olds in England in 2007/2008. These were selected to represent all regions of England, the diversity of institutions and provision, and the range of size and performance. The case study approach was a requirement of the funder, so that each institution agreed to take part for a further five years following this baseline study, and changes in provision and attitudes could be tracked over time as the 14-19 reforms become more fully embedded. Cases were selected randomly within these categories, but the inevitable level of replacement (and the use of some pre-existing contacts) means that the sample is not random. This means that the techniques of sampling theory, such as significance tests and model goodness of fit tests are not relevant to the analysis. Our concern was with the ‘effect’ sizes within our achieved sample, chosen to represent the national diversity of educational settings.

The resultant 45 cases included community and other schools such as selective, academies and faith-based, colleges catering for pre-16 pupils, and pupil referral

units/projects. The sample includes a minimum of four such schools in each category. There were 16 community schools, 12 Further Education colleges taking some year 11 pupils, five faith-based schools and Academies, four Foundation schools, four independent schools, and four other (including PRUs and special projects). We were specifically requested by the funder not to include special schools. The largest school, other than the FE colleges which catered for a much larger age range, had 1,475 pupils and the smallest had nine. Their published Key Stage 4 attainment ranged from the highest to the lowest decile in 2006. They were geographically distributed by economic region, with 10 in London and the South East, seven in the Midlands, five each in the East of England, and the North West, and six each in the South West, Yorkshire and Humberside, and the North East. In terms of local population density, 19 were in dense urban settings, 10 in sparser urban settings, six in smaller towns, and 10 in villages or hamlets.

For each case we gathered organisation strategic plans, achievement, retention and progression data, prospectus, policies and information on advice and guidance, staff numbers/structure, and curriculum range. We surveyed all year 11 (2,700) and year 12 (2,200) pupils in each centre (where available) and all full-time staff in year 11 settings. We conducted interviews with the principal, chair of governors, a parent-governor, teacher governor, local employer, representative of a partner organisation, young people disengaged from education or training, young people with learning difficulties, year 11 learners, and some of their parents. In total we conducted 798 pupil and 295 adult interviews. This paper focuses on findings related to year 11 pupils, and the adults dealing with them. We followed standard professional and institutional guidelines on ethics. All cases and individuals within cases took part voluntarily, and were made aware that they could withdraw at any time. All data was held separately from an encryption key, known only to the project directors, and never made available to the funders. This approach also provided cases with some defence against freedom of information requests. No case or individual is identifiable from the database handed over to the funders, and for this reason the biographical data attached to the interviews is deliberately minimal.

We assured all participants of anonymity while also being required by the funder to provide all participating institutions with full case reports. The identity of all staff and pupils interviewed were known to the participating institutions, who had made the arrangements and scheduled the rooms for interviews. One consequence of this, and the Freedom of Information Act, is that we could not store or use many of the characteristics of each individual that we might otherwise have wanted to without inadvertently identifying a specific individual. The consequence is that we are unable to link the individual survey results to the school involved, except at an institutional level.

The analysis in this paper is based on a combined data file linking the individual responses to the survey of pupils, the characteristics of each institution from Edubase, of the school pupil mix and course entry patterns from NPD/PLASC, an estimate from documents of the number of curriculum areas offered, and school-level summaries (means, or percentages above a threshold level) of responses to the staff survey. To these are added the transcribed accounts of a sub-set of the pupils (and some adults) from an Nvivo file coded according to perspective and the theme of participation, and

linked to the survey data at institutional level. For more details on the sampling, methods of data collection and analysis see Gorard et al. (2009).

The focus is first on two survey variables based on agreement by pupils that ‘school has encouraged me to learn more’ and that ‘I plan to continue in education after age 16’, or not, and on a third variable derived from their planned future occupation. The occupations were coded as wither professional in nature or not. These are each treated as the dependent variable, in turn, in a binary logistic regression analysis, with the other variables outlined above used as potential explanatory variables. The explanatory variables are entered in stages: first the individual pupil background characteristics such as sex, then the school-level characteristics such as curriculum offer and staff responses, and finally the individual pupil responses to other survey items. At each stage, the addition of new variables can only explain variation in the outcomes that is left unexplained by the previous stage. The stages are selected for several reasons. Perhaps most importantly, they represent a kind of biographical order from birth characteristics to current experiences at school. Placing the school-level variables before the individual ones also allows the greatest possible role for the influence of institutions on pupil outcomes (although each model has been run in several orders and the same substantive conclusions emerge each time). The base level for each outcome simply reflects the proportion of positive responses (50% means that 50% of pupils agreed for example). It is from the base level that the explanatory variables can be used to create a better explanation of pupil outcomes. Thus, the variation explained at each stage is:

$$(\text{Percentage predicted correctly} - (100 - \text{base})) / (100 - \text{base})$$

Any variance left unexplained (100-percentage predicted correctly) could be due to a variety of factors including model mis-specification or transcription and recording errors. The most likely causes of unexplained variance are missing variables (we can only use what we have, and this omits factors such as pupil motivation and individual evidence of additional needs), and the inherent unpredictability of individuals (we would not expect to explain 100% of the variation in any outcome).

Within each stage, new variables are entered into the model, and then removed in backward stepwise fashion using the likelihood ratio. Thus, some variables are not used in each model, as they contribute nothing to the outcome, and some variables are not used in any of the models. Each explanatory variable that is retained has a calculated coefficient that gives an idea of its relative importance to the model. The coefficient is like an odds for one category compared to another (so that 0.5 for sex might mean that males were only half as likely *ceteris paribus* to have the specified outcome). Alternatively, the coefficient for a real number variable is a multiplier (so that 0.9 for school-level FSM might mean that the specified outcome is only 0.9 times as likely for every percentage of the school intake eligible for free school meals). The precise figures are not key here (there are too many compromises in such a large and complex dataset, and the model is best fit *a posteriori* only), but their relative importance and the direction of their ‘influence’ could be an important clue to the determinants of pupil aspiration and plans to participate in education.

The determinants of reported participation

The three outcomes

The pupil survey included a range of statements relevant to future participation, and the percentage agreeing with some of these appear in Table 1. Only just over half of pupils report that school so far has encouraged them to want to learn more, and that they plan to continue in formal education after the age of 16. A similar picture emerged from the study by OFSTED (2007), with 50% of years 6 to 10 wanting to study to HE level after school. Both are low figures, and since these data were recorded the government has announced plans for all young people in England to remain in education or training until after age 17. These participation outcomes are themselves strongly linked to wanting a professional occupation as an adult. Some pupils following largely vocational programmes aspired to vocational qualifications and entry to skilled trades, in some cases planning to work with family or existing family friends. This outcome is to be valued in that they are ready for the world of work and wish to be qualified for it. However, in terms of equity, their perceived lack of professional ambition could be poverty of aspiration - a result of inequality of opportunity perhaps (see below). We consider each of the first three ‘outcomes’ in Table 1 in more detail.

Table 1 – Percentage of year 11 pupils agreeing with each statement about participation and citizenship

School has encouraged me to learn more	51
Future plans to continue in education at 16	55
Want a professional occupation	56

N=2700

The overall models

Table 2 shows the result of the logistic regression model using a number of possible explanatory variables to try and explain the difference between pupils reporting that school has encouraged them to learn more, and the rest. The pupil personal and family background explains some of the variation. Little of the variation in responses is explicable by school-level factors. Most of the differences between those who have been encouraged to learn and others, that are explicable, are related to individual experiences of education (see below).

Table 2 – Cumulative percentage of variation in responses to ‘School has encouraged me to learn more’, explained by each stage of analysis

Individual pupil background variables	12
School-level variables	6
Individual experiences of education	35

Note: in this table, the figures show the percentage of variation in pupil responses that can be explained by each group of variables. For example, the pupil reports of experiences at school explain 35% of the variation in responses, over and above 18% explained by pupil background and school-level variables.

Table 3, similarly, shows the result of the logistic regression model using a number of possible explanatory variables to try and explain the difference between pupils planning to continue in education after 16, and the rest. The pupil personal and family

background explains the bulk of the variation that can be explained, meaning that intention to study after compulsory schooling is heavily stratified. Again, little of the variation in responses is explicable by school-level factors. More positively, perhaps, at least some of the differences between those planning to continue and others are related to individual experiences of education (see below).

Table 3 – Cumulative percentage of variation in responses to ‘I plan to continue in education after age 16’, explained by each stage of analysis

Individual pupil background variables	30
School-level variables	4
Individual experiences of education	20

Note: in this table, the figures show the percentage of variation in pupil responses that can be explained by each group of variables. For example, the pupil background explains 30% of the variation in responses.

Finally, for this summary, Table 4 shows the result of the logistic regression model using a number of possible explanatory variables to try and explain the difference between pupils wanting a professional occupation, and the rest. The pupil personal and family background explains a considerable proportion of the variation that can be explained, meaning that professional aspiration is highly stratified. Some of the variation in responses is explicable by school-level factors. A substantial part of the differences between those wanting a professional occupation and others is again related to individual experiences of education (see below).

Table 4 – Cumulative percentage of variation in aspiration for professional occupation, explained by each stage of analysis

Individual pupil background variables	21
School-level variables	6
Individual experiences of education	22

Note: in this table, the figures show the percentage of variation in pupil responses that can be explained by each group of variables. For example, the school-level variables explain only 6% of the variation in responses.

Pupil background

The first stage in the regression analysis for all three models involved using only the potential explanatory variables related to pupil background (such as sex, parental occupation and income). Those which were strongly linked to the three participation outcomes are very similar (Tables 5 to 7). Pupils from professional family backgrounds are more likely to report being encouraged to learn more, planning to stay on in education after 16, and wanting a professional occupation themselves. Pupils from families living in poverty (as officially defined), who are less likely to have professional parents, are correspondingly less likely to report plans or desires for participation of this kind (but see below).

Table 5 – Individual background variables in model for being encouraged to learn more

Father has professional occupation	1.35
Mother has professional occupation	1.27
FSM (eligible)	0.69

Note: in this table the figures are odds ratios. A pupil eligible for free school meals is only 0.69 times as likely as other pupils to report being encouraged to learn more.

If occupation and eligibility for FSM represent social class factors, these factors are the only background determinants of feeling encouraged to learn more (Table 5). The pupils planning to continue at age 16 are further stratified by sex and first language (there is no direct measure of immigrant status or ethnicity). As expected, girls and pupils speaking a language other than English at home are more likely to continue to post-compulsory education (Table 6). The same individual and background characteristics are also linked to occupational aspiration (Table 7).

Table 6 – Individual background variables in model for planning to continue in education

Sex (female)	2.79
English as a second language	2.70
Mother has professional occupation	1.89
Father has professional occupation	1.56
FSM (eligible)	0.47

Note: in this table the figures are odds ratios. A pupil with a professional mother is 1.89 times as likely as other pupils to report planning to continue in education.

Occupational aspiration is additionally stratified by the (self-reported) prior attainment of each pupil at Key Stage 3 (Table 7). Given that the educational system in England moves from being largely comprehensive at age 15 to mostly selective in higher education, it is the highest attainers who are more likely to have professional aspirations. Participation in education and training at age 16, or not, is not selective in England and so prior attainment is less of an issue for immediate participation itself (see above). Attainment is, however, related to the course or track followed. Academic attainment was rarely valued in and of itself, but as a gateway to being able to do what they want in the future - further or higher education or employment. This is reflected in pupil comments such as:

Grades are very important as they enable us to get further in our careers. [pupil]

Because if you haven't got school you won't have no chance getting in college... and if you're going college it's to do college and a better chance of getting a job. [pupil]

Table 7 – Individual background variables in model for occupational aspiration after education and training

Sex (female)	2.21
Mother has professional occupation	1.56
English as a second language	1.47
Father has professional occupation	1.47
Attainment at Key Stage 3	1.46
FSM (eligible)	0.59

Note: in this table the figures are odds ratios. A pupil with a professional father is 1.47 times as likely as other pupils to report wanting a professional occupation.

School-level factors

For all three ‘participation’ outcomes, the variables measured or available at school level are largely unrelated once individual pupil background has been accounted for. This is so, even though the school-level variables greatly outnumber the individual pupil ones. The staff attitudes, approaches, and reported priorities, the overall school results at Key Stage 4, the ethnic mix of pupils, geographical location, the curriculum offer, the school type such as faith-based or single sex, and the management organisation of each school are all unrelated to patterns of reported participation plans. There are only two notable school-level factors related to what the model shows is the clear minority of variation in outcomes (see Tables 2 to 4 above).

The first is a kind of gradient of schools relating to the level of government or local authority control. Once individual pupil background had been accounted for, pupils in community schools of all types were less likely to report wanting to stay on in education than pupils in maintained ‘independent’ schools like Foundation and Academy schools, and even less likely than pupils in fee-paying schools. This could, of course, be a disguised intake effect due to variables or measures not available to the model. However, there is a suggestion from the case study work that one difference in experience is the way in which pupils relate to staff. The difference is not universal, but pupils in community schools seem more likely to agree that:

Some teachers don’t respect you and wonder why you cause so much trouble. Some teachers in the school respect certain pupils and don’t respect some others, and they wonder why kids get so rude to them and start swearing and that’s when we get into trouble. The teachers say we want respect from you but they don’t normally show it to us. They’re the teacher they’re always right, we’re the kid and we don’t know what we are going on about. [pupil]

Others might agree more with this pupil, who had previously not been keen on school, but had noticed a change over time as his school became an Academy.

‘cos they all treat you like you’re adults, and that’s actually good, cos... like, young adults, and they tell us, like, if you don’t bother about your GCSEs you’re not gonna end up nowhere, so... that’s when I thought, just keep my head down, do my work. [pupil]

This may be due to his getting older, but there are similar stories from pupils in other non-community school settings, including those released to study in college or real work settings. Sometimes the impact of treating the pupils differently and in a more adult way is even greater off-site, when they are deemed to have ‘failed’ at school. According to one adult:

We find that, it never ceases to amaze me, they are completely different creatures down at [project name]. I’ve heard, I think, one young lady, she came from [school name] and apparently from all accounts, she was a bit of a horror, you know, and she’s absolutely perfect at [project name]. She behaves herself. She does as she’s asked. And when you ask her why, she says it’s the way she’s spoken to. She feels that sometimes teachers don’t speak to her with the respect that she deserves. [adult trainer]

There were several reports of the greater respect experienced between staff and learners in FE colleges and workplaces:

Teachers are much, they respect you more, talk to you like, not like you're a little kid, treat you with a bit of respect, give you a bit of leeway if you're like that with them, if you do what they do, they'll be alright with you. They won't talk to like a little child or look down at you or anything, so that's cushedy.
[pupil]

But the same kind of transformation was noted by parents in several fee-paying schools:

I can't say how pleased I am for having a daughter who wasn't confident at all, who left this school a changed person. It changed her character and gave her a feeling that she could achieve.

A relationship of mutual respect between adults and young people is, therefore, a possible determinant of pupil desire to continue in education. And our evidence suggests that for whatever reason, this kind of relationship is currently more likely in schools, and other institutions, outside direct community control. This is not any sort of argument for increasing the proportion of independent schools, for example, but a suggestion that something can be learnt from them by all schools. And it must be remembered that the total variation explained by all school-levels factors is anyway minimal.

The second school-level pattern relates to the aggregated intake to schools (or school mix). As might be expected, pupils whose parents are professional are more likely to want a professional occupation themselves. Once these individual values are accounted for, there is still a small amount of variance (near 6%) explicable by the percentage of FSM and professional background pupils in each school. A similar but weaker pattern applies to the other participation outcomes (2% explained). This could be evidence that one of the levers under our direct control in education is the mix of pupils between institutions. An explanatory variable that might link to the mix effect is pupils reporting contact with pupils on other courses or programmes (perhaps via vertical programmes and activities or simply because of a small institution). Such pupils are more likely to want to continue in education. One reason could be that they become aware of the range of possibilities. If so, this is a reason for mixing pupils of different types within as well as between schools.

Individual experience of school

The final stage in each model, using individual pupil responses to their experiences of schooling so far, is at least as influential as pupil background. Indeed, for feeling encouraged to learn more, experiences of school so far are the major possible determinant. Participation relevant outcomes are positively influenced by the provision of good information and guidance for the future, a feeling of being in control, advice from immediate family, and contact with pupils doing other courses (perhaps offering insights into alternatives, or even things to avoid). So the overall impression is that pupils want help from various sources, but to feel that the choice remains theirs. These outcomes are also enhanced by being in small classes with

appropriately specialist teachers, indicating that the quality of the learning environment also plays a role (Tables 8 to 10).

Table 8 – Individual response variables in model for wanting to learn more

Future guidance was good	2.01
Encouraged to make up own mind	1.79
Choice influenced by family	1.54

Note: Tables 8 to 10 present odds ratios, like those in Tables 4 to 7, but the odds here are influenced by having taken background and school-levels variables into account already.

Table 9 – Individual response variables in model for planning to continue in education

Choice influenced by family	1.37
Contact with pupils on other programmes	1.30
Teachers for specialists subjects	1.30
Choice influenced by school pressure	0.56
Learning also at work	0.53
Learning also in college	0.42

Table 10 – Individual response variables in model for occupational aspiration after education and training

Classes were small enough to learn	1.22
Learning also in college	0.63
Not qualified for desired course	0.61

Participation is, predictably, curtailed by lack of any necessary pre-qualification (Table 10), and pupils also seem to react badly to pressure from schools to participate in specific ways (Table 9, and see below). Pupils learning outside schools are substantially less likely to want to continue in education or to have a professional occupation. This may be a result of self-selection imperfectly accounted for by the prior stages of this regression model, or it may be partly a consequence of their greater awareness of opportunities beyond school.

Several small groups of pupil-reported experiences are repeatedly associated with positive outcomes. As such, these robust links are worth further consideration, even though their causal models are unclear. One of these is guidance - about future employment or future learning opportunities. Those pupils reporting good guidance report being better prepared for their futures in terms of handling their health, personal relationships and money, and in terms of the future world of work. Guidance is also positively related to pupils being encouraged to want to learn more, and to preparation for citizenship. Of course, these results could be partly hidden intake effects, and the confidence that pupils portray over money and health might be illusory. However, it is difficult to imagine how else outcomes such as these could be assessed other than by self-report. There is at least a *prime facie* case that guidance is useful and makes a difference even when pupil intake and school-level factors are accounted for.

There were mixed views among young people about the quality of information, advice and guidance provide for them. Around 40% of young people reported that they had received clear guidance about employment, and around 55% about their future

learning. Pupils describe a variety of choice mechanisms to assist them and their parents or carers, including written booklets, options evenings, and subject ‘taster’ sessions. Helpful support from teachers was welcomed and acknowledged positively. Young people also valued opportunities to talk with pupils who had taken particular subjects, which was facilitated formally by staff in some organisations.

For some young people, there was more appreciation of internal than external guidance. The Connexions Service was integrated fully in some schools’ programmes. One pupil describes:

there’s a careers office that’s upstairs and they’ve got a careers advisor up there and she’s really nice, like she, like if you go to her, she’s there all the time and if you’ve got any questions, just go straight to her. [pupil]

But this level of integration was inconsistent, especially among schools deemed ‘successful’. Some staff and pupils suggested that the service is more applicable for young people taking work-related courses or intending to leave education in the near future.

There was some concern that making curriculum choices sometimes seemed a perfunctory exercise, influenced by organisational demands or by teachers ‘selling their subject’:

It seemed teachers were too fussed about timetabling and how many pupils were going to do each subject, rather than why we want to do subjects and how they will help with our future career plans. [pupil]

Some young people reported feeling pressured to take up some subject options rather than others. Or they were conscious of being restricted or routed to certain pathways, especially those that are work-related. Some suggested that their school may not advise them fairly about out-of-school opportunities if they decided to exit an 11-18 school at age 16,

Of course, these problems and their solutions are not just structural. The way in which pupils are treated by their teachers may also have a major influence on lowering aspirations:

When I actually went for an interview at [agricultural college] and got my place... I showed my Head of House and... she actually turned round and said that it’s a load of rubbish, there’s no point doing it, ‘cos I ain’t going to get nowhere in life ‘cos I never come to school... I might as well just drop all my dreams and just be a bum, basically, live off Social. Which really put me down. [pupil]

Conclusions

The conclusion to this paper starts by rehearsing some of the caveats about the research approach used here, and listing some of the ways in which the warrant of the

implications has been assured (Gorard 2002). It ends by suggesting some of the practical implications of the work, if accepted.

The importance of these results

A lot of potentially important variables remain unmeasured in this survey of pupils, and in the school-level characteristics derived from the official schools census data. In addition, the samples are not perfectly representative, and there is inevitably some non-response, both at school and pupil level. More importantly, the analysis associates some parts of the reports of pupils with other parts of the same reports. There is no definitive test of a causal model here, and even a danger of elements of tautology in some of the associations reported. There is no prior evidence of the enjoyment and interest of pupils, of the kind that could be used to create a baseline or assess the progress made over a period of time at school (and this would be fascinating and important development of this study). Regression techniques are anyway infamous for dredging datasets and finding spurious patterns *post hoc* (Gorard 2006). These are the kinds of problems that would occur in any real-life research project of this scale and ambition. Being aware of them, and making readers aware of them, is part of the defence to being misled by them.

Where there is overlap with prior projects between the questions asked and the methods used, the results here replicate earlier findings from an international survey of 6,000 pupils in Belgium, France, Italy, Spain and Wales (EGREES 2005), a 2,000 case pilot in Belgium, the Czech Republic, England, France, Italy (EGREES 2008), and a survey of 13,000 pupils in the same five countries plus Japan (Gorard and Smith 2010). So there is now a body of evidence on some of these issues that covers over 20,000 pupils in seven countries worldwide. In addition, our survey results (self-reports of pupil attainment, for example) are in agreement with official and other data sources where a comparison is possible. The pupil comments, whether given in conversation, focus groups, or written on the questionnaire, agree with and extend the survey results. The presence of members of the research team in each research setting during delivery of the instruments, and the wonderful conversations that ensued, show that the vast majority of pupils take the chance to express their views very seriously indeed.

Efforts to avoid being misled by regression include using only robust and sizeable results, and trying a range of alternative models solely for the purpose of testing the volatility of the solutions. There are no issues of significance (and so vanishing breakthroughs) here. Only effect sizes are used (of 33% or more of outstanding variance explained), and odds outside the range 0.8 and 1.2 that are consistent in scale and direction across different outcomes or groups of pupils. Potential explanatory variables were entered in a theoretically coherent order to prevent unwanted proxies from dominating the analyses, but the models were also run in reverse order and the substantive findings did not change. Each model was compared to a precise equivalent derived from the same dataset and predictors, but with the outcome variable replaced by a random number with the same distribution over two categories (such as enjoying school or not). These random models barely improved from the baseline figures (e.g. while the outcome about being encouraged to learn more went from the base of 51% to 52% explained using the meaningless data, it went to 77% explained using real

data). This provides strong assurance us that the published results are not spurious patterns.

The scale of relationship between the predictors such as pupil background, school mix or pupil experience of justice, and the two outcome variables here is substantial, over a reasonably large sample. The results are credible. Another way of imagining these findings is to compare them with the long-standing tradition of work on academic school effectiveness. School effectiveness, as a field, has the same problems as the work described here. It is not a causal test, does not have complete information, has to deal with omitted variables and missing cases, and so on. But the models here are based on biography (and so the time sequence necessary for causation), rather than the nesting hierarchies or levels used in school effectiveness which perforce leave aside characteristics that do not nest, such as the pupil characteristics like sex and their experiences of schooling. Although measures of intrinsically hard to measure ideas in education will be imprecise, they do not suffer from the problem of propagation of errors that school effectiveness calculations do (Gorard 2010). In these respects, the findings are more powerful than the school effects purportedly found in school effectiveness work. Thus, the findings are genuinely worth thinking about the consequences of.

Government policy in education worldwide is routinely based on evidence from erroneous analyses, much smaller studies, or studies that make no attempt to provide a warrant for their conclusions. See, for example, the high impact study for England discussed in Gorard (2008), in which major national policy affecting the social mobility of 60 million people is being based on around nine out of 17,000 adults appearing in an unexpected cell for a cross-tabulation, and on an error caused by using the wrong year in an international comparison. Billions of pounds are spent, at huge opportunity cost, on policies and practices that have no success, and no hope of success (such as the teacher effectiveness programme envisaged by Barber and Moursched 2007). The work here is recognisably different from such examples, and could be used to generate useful ideas for policy and practice.

The implications of this study

As with attainment and aspiration, post-compulsory education in England is stratified by socio-economic origin (Gorard and See 2009). Previous research has shown that participation in education for young people aged from 14 onwards becomes increasingly stratified by pupil background and everything associated with that, such as higher average levels of prior attainment (Gorard et al. 2007). And this pattern continues lifelong, with around one third of adults in England never again participating in any kind of formal education or training, nor reporting a pastime or hobby requiring them to learn informally (Selwyn et al. 2006). There is increasing evidence that despite the stratification of this pattern – non-participants are generally less qualified, from less educated and lower occupational status families, and so on – schools have a role in reinforcing or weakening it.

All three variables used here as indicative outcomes relevant to aspiration and participation are quite heavily stratified by pupil background. However, the scale of stratification is, as far as is possible to judge, less than that frequently found in studies of attainment. This suggests, promisingly, that more of the variation in participation

outcomes is affected by the actions of schools and teachers than is the case with the stubborn patterns of differential attainment. Schools and teachers can make a difference.

The major influence on pupil *a priori* interest in continuing in education comes from their reports of experiences of education so far – especially encouragement to think for themselves and the quality of guidance on offer. Feeling encouraged to learn more and intending to continue at age 16 are both associated with pupil autonomy in setting learning targets, and being encouraged by teachers to make up their own minds. Considerable variation has been observed in classroom relationships and interactions between pupils and teachers (Gorard and See 2010). In their initial and subsequent development, teachers need to be made fully aware of the likely depressing impact of close classroom control and top-down design of educational programmes on their pupils' eagerness to learn and intention to continue in education after the age of 16.

The clustering of pupils with similar backgrounds in their own schools reduces the potential role models for more disadvantaged pupils. For those not speaking the language of their country of residence, the most important factor in successful learning was exposure to native speakers (Lee and Madyun 2008). Clustering pupils with similar backgrounds in schools tends to strengthen social reproduction over generations. Integrated school systems seem to lead to the desirable outcome that a pupil's achievement depends less on their social and cultural background (Dupriez and Dumray 2006, Schutz et al. 2008). Although most egalitarian school systems are also set in countries with egalitarian structures and income equality anyway, these systems are designed to delay for as long as possible the separation of pupils by attainment (Boudon 1973). This allows most time for schools to counteract resource differences between pupil families, and suggests that anything that can be done to reduce institutional isolation by ability, religion, geography, housing quality, isolation, or curricular specialisation is likely to help create higher and fairer levels of post-school aspiration. The implications for policy are plain. No selection, no faith-based schools, no curricular specialist schools for the core years, no division between schools responsible for their own admissions and the rest, and so on. In fact, though, these are almost precisely the opposite of the policies of the government in England, and in many other countries.

What is true between schools also applies within schools. Pupil aspiration, confidence, awareness of future opportunities, and preparedness for life beyond school are all enhanced through contact with pupils on other programmes of study, or in work-based settings. A consequence of acting on the desirability of all-ability comprehensive intakes to schools might be an increase in *within*-school setting and tracking. Also, where young people with very severe learning challenges are integrated into mainstream schools they will inevitably have some extra help and facilities. For fair outcomes it is clear from the data here that these tracks within schools must not be mini-schools in themselves. Internal, perhaps vertical, divisions can be created within schools, and cross-age tutoring arranged, along with other activities that encourage pupils from different backgrounds and of different talents to mix, work and play together.

The highest educational and occupational aspirations are sometimes reported by young people with the lowest levels of attainment, and so perhaps with the least

realistic expectations of attaining these ambitions (Strand and Winston 2008). But pupils who are restricted in their choice of courses at age 14 by low prior attainment are generally less likely to want a professional occupation (see above). This leads to a kind of education-based discrimination, which is too often overlooked (Tannock 2008). In England, it is illegal to select people for occupations or educational places on the basis of age, sex, social class, ethnicity and so on. Yet we continue to select on the basis of academic attainment, despite knowing that attainment is clearly stratified by these same ‘illegal’ variables (Gorard et al. 2007). In many ways it makes no sense (Walford 2004).

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