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Studies in Higher Education

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713445574>

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First published on: 08 September 2010

To cite this Article Hoare, Anthony and Johnston, Ron(2010) 'Widening participation through admissions policy - a British case study of school and university performance', Studies in Higher Education,, First published on: 08 September 2010 (iFirst)

To link to this Article: DOI: 10.1080/03075070903414297

URL: <http://dx.doi.org/10.1080/03075070903414297>

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Widening participation through admissions policy – a British case study of school and university performance

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It has been widely claimed that UK students from relatively disadvantaged backgrounds but nevertheless having the potential to benefit from a degree programme are being denied higher education places because of their relatively poor paper qualifications. As a consequence, the claim continues, students from independent schools have an advantage in the competition for such places. Universities have responded to such claims, and incentives from the government to do so, by introducing widening participation programmes, but very little research has been done which explores whether students from disadvantaged backgrounds who are admitted to elite universities perform as well as their counterparts with better entry qualifications. Using a large data set from one university, this article explores performance by students at A-level and their first and final university years. Students from independent schools performed better at A-level than those from state schools, but not at their university examinations, other things being equal.

Keywords: widening participation; underachievement; academic achievement; admission conditions; university practices

Just as the overall expansion of higher education in many countries has been widely welcomed (Tapper and Palfreyman 2005), so the concomitant drive to widening participation – increasing the social diversity of those admitted to university to ensure that all those with the potential and wish to benefit from higher education do so – is also a widespread and well-supported aspect of this growth (Brennan and Naidoo 2008). Higher education participation rates vary widely, not just across but also within countries. The logic for redressing any intra-national differentials is widely recognised and securely based as a mechanism for achieving social justice through social mobility (Cabinet Office 2008; Brennan and Naidoo 2008; Panel on Fair Access to the Professions 2009). Advancing the educational status of disadvantaged groups raises individual and collective lifestyle choices and quality, and associated levels of health, wealth and happiness. For universities, too, widening participation holds the prospect of a ‘win–win’ outcome. By drawing on a wider range of applicants, average academic standards of students should rise as enrolment profiles diversify.

Inevitably, the detailed texture of the specific programmes that constitute this international widening participation movement will bear the impress of nation-bound parameters, be they legal, cultural, political or economic. An equivalent to India’s bold move to double, at a stroke, the quota of university places assigned to the untouchable castes may not be constitutionally feasible elsewhere, for example, and

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valuable investigations of higher education's role in encouraging social democratising and inequality reduction are often focussed through nation-specific studies (for example, Ntshoe 2003; Morley, Leach, and Lugg 2009). Tapper and Palfreyman's (2005) edited collection of 11 national widening participation experiences further illustrates the necessity of understanding these within their specific geographical settings, providing evidence, for instance, of how the social spotlight of higher education diversity ranges across concern for the status of women (the Netherlands), of rural communities (Scandinavia) and of racial minorities (the USA), while the British experience provides further evidence of the national obsession with social class.

But, as Brennan and Naidoo also observe (2008, 300), such concerns for the nationally unique can be overdone, in two distinct ways. First, even where the details of a country's widening participation initiatives may be forged in the furnace of its own circumstances, their fate will be affected by the wider global economic systems of which the country is part (as in South Africa's attempts to use higher education as a vehicle for social justices: Ntshoe 2003). Second, and more central to our present argument, looking for similarities and opportunities for a sharing of widening participation experiences, successful or otherwise, is common sense (e.g. Layer 2005). The issues, concerns, problems and responses encapsulated in widening participation policies and practices often transcend sovereign territories, so can be drawn on not just within but also across national boundaries. Thus, the extent to which higher education has been a locus for increased or decreased social polarisation in those accessing undergraduate programmes has been explored in Finland (e.g. Kivinen and Rinne 1996, 2004; Kivinen, Ahola, and Hedman 2001; Kivinen, Hedman, and Kaipainen 2007), for example, and in Israel (e.g. Ayalon, Shapira, and Shavit 1991; Ayalon and Shavit 2004). Inevitably, international sharing is less commonplace than it is intranationally, however.

One crucial feature of any widening participation policy is evaluation of its impact: has it achieved its goals? Such an assessment is the focus of this article, using a case study of the widening participation programme at one British university. A major criticism of the 'elite universities' there (mainly long-established institutions with strong demand for undergraduate places and international research records) has been their substantial under-representation of students from educationally disadvantaged backgrounds who nevertheless have the potential to succeed at university: a recent report (Panel on Fair Access to the Professions 2009) points to such under-representation and the barriers to social mobility that it raises. In response to such claims – not least from government – those universities have introduced widening participation programmes designed to increase their intakes of students from disadvantaged backgrounds. Have they succeeded? Do students from educationally disadvantaged backgrounds succeed at such universities when admitted, performing at least as well as those who might otherwise have occupied their places? We address that question using a rich data set from one such university.

Background

The national setting

A detailed review of the UK's recently established but vigorous and dynamic policy landscape of widening participation, the successor to similar concerns as expressed, for example, in the 1970s 'access course' initiatives for those without the conventional qualifications for university entrance, is beyond our scope. (For valuable background

see, for example, Higher Education Funding Council for England [HEFCE] 2001, 2004, 2006; National Audit Office 2002, 2008; Department for Education and Skills 2006; Admissions to Higher Education Steering Group 2004.) The second recommendation (of 93) of the influential report of the National Committee of Inquiry into Higher Education (1997: named the 'Dearing Report' after its chair) was that its advocated expansion should be achieved by recruiting more students from hitherto under-represented groups. A battery of other reports, exhortations and policy proposals have followed from government, its agencies (e.g. HEFCE) and independent lobbyists (e.g. the Sutton Trust: see Sutton Trust 2004, 2005). Their arguments have been acted on in three ways. The acceptance of widening-participation students was incorporated into the funding formula for British higher education institutions – universities were to be rewarded for taking more widening-participation students; monitoring of their progress was also introduced by publishing annually actual and 'benchmark' (target) undergraduate 'performance indicator' figures for selected widening-participation groups (such as those from particular social class backgrounds and from state schools) accepted at each UK university. Finally, all English higher education institutions are required to enter into access agreements (McCaig and Adnett 2009), contracts with government allowing individual universities to raise their undergraduate fees up to a prescribed maximum (originally £3000 p.a.) All have chosen to do so (and most to the maximum) but, in return, from 2003 onwards each has needed to have approved with the newly created Office for Fair Access (OFFA) an 'agreement' showing how it intends to use its additional fee income to fund widening-participation students (through bursaries, for example), the types of widening-participation students it intends to prioritise, and its intake targets (sometimes collectively termed widening-participation 'milestones'). A central policy to increase widening participation has thus been devolved to individual universities for implementation.

Each university is encouraged to plan its own widening-participation contributions in four main areas. First, it develops promotional ('outreach') activities, to raise the awareness and aspirations of under-represented groups towards higher education in general and itself in particular. Second, each produces its own interpretation of what it means by a 'widening-participation student', on which its admissions policies will be based. Third, each structures its financial bursary and other incentives to support such low income/widening-participation students enrolled, with some low-key oversight through an OFFA. Finally, rather than being an entitlement based on prior school attainments, a place in a UK university has to be earned through open competition through the world's largest centralised admissions service for higher education (UCAS – the Universities and Colleges Admissions Service) and universities have the opportunity to factor in widening-participation criteria to this selection process.

Students in the UK (and from abroad) can apply to any course at any university irrespective of where they live, each of which has the autonomy to accept or reject them. Each course has a planned intake number of places, with admission decisions usually devolved to selectors in appropriate academic departments. Considerable weight rests on the applicant's academic record at school so far, and predicted performance in examinations yet to be taken. Successful candidates are offered either unconditional or conditional entry; for most UK-based students it is the latter, based on performance at the nationally set Advanced ('A') level examinations, taken in their final school year (Year 13), usually in three, sometimes more, subjects: the normal

offer will specify the range of grades that the applicant must get (e.g. two As and one B). The decision to admit from among the majority given those conditional offers is finalised after the examination results are announced, only a few weeks before the university year commences; if students obtain the prescribed grades their place is guaranteed.

The number of undergraduate places to be filled is not further subdivided by quotas for different groups of students, partly for legal reasons, so the sorts of 'affirmative action' programmes run by American universities are not operated in the UK. Rather, to guide this often very difficult selection process (places on many popular courses are oversubscribed by a factor of 10 or more), each university establishes its own admissions practices and policies, which in many (including that studied here) are implemented by academic staff members acting as departmental and faculty admissions officers. Those officers, aware of the university's widening-participation targets and advice on how to meet them when assessing applicants' credentials, have to judge how many offers to make by estimating how many potential students will (a) take up the offer (students apply to a number of universities, and if they get offers of places from several must decide which they will take a few weeks before they taken their final examinations – and they can hold another in 'reserve', usually asking for lower grades) and (b) achieve the grades set.

Widening-participation pressures on selectors and public scrutiny of the social profile of the undergraduate intakes they generate are at their most intense among the so-called 'elite' universities. These have the greatest competition for their courses and the highest entry standards (many require three A grades in the A-level examinations for entry), and are thus likely to disadvantage the lower-attaining widening-participation students from educationally disadvantaged backgrounds. Not surprisingly, those universities perform relatively poorly on the national performance indicators for admitting such students, and also send their graduates disproportionately into prestigious and highly paid professional careers. Many have developed a reputation for cultural/social exclusivity that deters widening-participation students from applying in the first place (Hoare and Aitchison 2009), and have been portrayed as major impediments to social mobility

Educational disadvantage and academic potential

Other things being equal, widening-participation students may get lower grades at school than their non-widening-participation counterparts, either because they are of lower academic quality or because their school grades give an unduly low impression of their ability and potential to succeed on a degree programme. If the first holds, there is no need for any widening-participation dimension to university admissions – the face-value academic quality of each candidate's application is a good, unbiased, predictor of degree potential. But if not then there is a *prima facie* case that widening-participation students suffer from 'educational disadvantage' of one sort or another, resulting in their university applications misrepresenting, by undervaluing, their academic degree potential compared to those from non-widening-participation backgrounds. If so, this needs be recognised and incorporated into a more contextualised higher education admissions process. Our analyses are geared to seek out (necessarily circumstantial) evidence for how well students from educationally disadvantaged backgrounds admitted on the basis of widening-participation criteria perform at university.

Educational disadvantage can arise for one or more of a number of reasons:

- personal circumstances – such as age (mature students may lack access to a formal educational environment with the support that implies, or have to squeeze study time around family care or employment) or study-affecting disability (e.g. visual impairment, chronic illness, dyslexia);
- family/household circumstances – these may place little value on educational attainment, academic study and post-school progression, with a lack of resources, monetary and otherwise, to support it even if valued, as well as of graduate-educated role models in the family circle;
- neighbourhood/community – a student's local environment may provide a similar low priority and peer-group status accorded to education and academic attainment, and a dearth of counterbalancing local role models; and
- schooling – attendance at poorly resourced and poorly performing schools, lacking not just material resources but also enthusiasm, experience and advice to support university applications, plus no collective valuing of academic achievement from student peers, and a diversion of scarce teaching time to maintaining discipline.

Students suffering educational disadvantage may therefore not show their full academic potential even where they do apply to university.

Many government public statements use the existence of such educational disadvantage to justify admitting more widening-participation students to universities. So the highly influential Schwartz report (Admissions to Higher Education Steering Group 2004, 5) stated: 'a fair admissions system is one that provides equal opportunity for all individuals, regardless of background, to gain admission to a course suited to their ability and aspirations'. The then Department for Education and Skills' (2006, 3) document, *Widening participation in higher education*, underlined this: 'widening participation means helping more people from under-represented groups ... to participate successfully in higher education'. Schwartz also noted that 'although there is broad agreement that diversity is important there is considerable uncertainty about how it should be considered in the admissions process' (Admissions to Higher Education Steering Group 2004, 24), but in recommending a 'holistic assessment' of contextual as well as academic considerations, particularly for competitive courses, he called for this to be linked to an 'evidence-based approach' (31). This echoed one of the report's core principles that 'a fair admissions system should strive to use assessment methods that are reliable and valid' (Principle 3, page 8) and in this be informed and guided by 'current research and good practice' (Principle 3, page 8). Similarly, the National Council for Educational Excellence (2008, 12) recommended that: 'HEIs should continue to use, and where possible expand the range of, all the information available to them to identify the best students with the greatest potential to reach the highest academic achievement'. Then in July 2009 the Milburn Panel's *Unleashing Aspiration* report on the (relative lack of) social mobility into Britain's professions called for (Panel on Fair Access to the Professions 2009, 80): '[university] admissions policies that take account of the social and educational context of pupil achievement'.

Until recently, however, the British higher education sector has shown little public recognition of how it might incorporate evidence-based educational disadvantage and academic potential not only into its admissions processes but also its support for widening-participation students on degree programmes. Rather, the impression is hard

to escape that many universities, public sector stakeholders and independent lobbyists see the widening-participation task as ending when students register at university. Layer's (2005, ix) evaluation of widening participation in Britain and the USA records that there has been:

a mixture of overall financial support together with a myriad of initiatives aimed at helping under-represented groups into higher education but relatively little focus on what happened once they were in universities and colleges ... The danger is that we focus overly on who enters rather than looking at who can succeed.

Our argument and analysis here is premised on the view that the post-registration experience of widening-participation students matters not just for its own sake – we need to know and respond if they have a miserable time, perform poorly or drop out. Such evaluations – we focus here on academic performance only – can also inform universities on the success or otherwise of their widening-participation policies, and inform their modification in the continued allocation of scarce places on degree programmes.

The evidence so far

This rapidly changing political landscape has stimulated the growth of an impressive research literature on widening participation in Britain and beyond: Gorard et al. (2006), for example, undertook a massive review of the UK literature on barriers to higher education entry for widening-participation students, covering over 4000 articles; the UK Higher Education Academy's Widening Participation (2009) literature database contained some 1200 articles in summer 2009; and the experiences of widening-participation students contemplating higher education entry and those taking that step include studies by Forsyth and Furlong (2003), Quinn (2004) and Reay et al. (2005). Regarding specifically academic performance by widening-participation students in the UK, some of the evidence relates to named universities (e.g. Hoskins, Newstead, and Dennis 1997; Surtees, Wainwright, and Pharoah 2002; Duff et al. 2004) but most is drawn from aggregated 'macro' analyses of the university sector as a whole. Four particularly relevant conclusions emerge.

First, prior school and college academic attainment (examination grades on entry to university) is a clear and persistent determinant of university attainment as well – 'better' students in terms of paper qualifications on university entry are also better on exit. Second, three individual or household characteristics are strongly related to university academic attainment. Gender emerges as an important discriminant, with females on average having higher final degree attainments than males, when appropriate statistical controls have been applied, though with males attaining disproportionately high numbers of first-class degrees. Why this should be, whether rooted in male–female psychological differences in attitudes to risk, or more prosaically to differential academic subject selection by the two genders, remains less clear (e.g. McNabb, Pal, and Sloane 2002; Woodfield and Earl-Novell 2006). Ethnicity has an effect too. Although there are detailed variations within the heterogeneous 'non-white' ethnic groups, when aggregated these are 'over-represented' in British higher education compared to white students but they perform less well at university than their white peers, even when a variety of possible controls are allowed for (Connor et al. 2004; Broecke and Nicholls 2007; Richardson 2008).

Students from higher social classes on balance outperform those from lower ones, again other things being equal (Smith and Naylor 2001, 2005). Perhaps the dampening effect on attainment of financially necessary term-time employment by (presumably) lower class/lower income students may be one factor influencing this (Auers, Rostoks, and Smith 2007), as may be the strength of the richer personal networks of higher class students, particularly where they find themselves the dominant group of any university undergraduate population (Eggens, van der Werf, and Bosker 2008; such students are proportionately overrepresented in the national undergraduate population as a whole).

Finally, in the UK the strongest relationship with university performance alongside entry grades is with school type attended – *ceteris paribus*, pupils from (free) state schools outperform those from (fee-paying) independent schools in their degree attainments (Smith and Naylor 2001, 2005; HEFCE 2003; Naylor and Smith 2004). Within the independent sector Smith and Naylor (2005) related this effect in more detail to the different fee bands schools charge their customers. Some disaggregation by type of university has also been undertaken. In Smith and Naylor's (2001) study the state/independent differential seems robust across seven sub-types of universities founded pre-1992 (i.e. excluding the many institutions that have achieved university status since then), though with HEFCE's (2003) analysis the relative performance of the school types examined is less consistent for the most selective/elite universities.

In the literature on widening participation, and especially its discussion in the media, school type often dominates discussion, because students from independent schools obtain a proportionately larger share of university places – especially places at the elite institutions – than those educated in the state sector. In part, it is argued, this is because the better-resourced independent schools are much more focused on preparing students for university entrance; their students thus obtain better A-level grades on average and so, if admissions are largely based on that criterion, they gain entry against poorer-qualified competitors. Protagonists for widening-participation policies argue that the latter should be given the opportunity to realise their potential; their opponents contend that denying well-qualified students places in favour of those with lower grades discriminates against those with known ability (and, indirectly, from particular class backgrounds, given the costs of attending independent schools where fees at the most expensive now exceed £30,000 per annum).

The state school system is not homogeneous. Although secondary schools (i.e. those educating students after the age 11) are predominantly comprehensive, some English local education authorities have retained selection at age 11, with grammar schools for those with academic potential and comprehensives for the remainder; some other authorities have retained grammar schools and selection in part of their area only. (There are currently approximately 160 grammar schools in England.) In addition, some comprehensive schools do not offer post-16 education (which includes A-levels): students in those areas attend either sixth-form colleges or further education institutions with a wider educational mission. In general, students from grammar schools perform better at A-level examinations (and therefore are more likely to win university places) than their contemporaries at comprehensive and other state schools.

Two student characteristics that do *not* feature strongly in this literature are local higher education participation rates and school performance (quality) as opposed to school type (independent, state). The first has been ignored so far in most of the published literature, when compared to students' prior attainment at school. We include data on the average performance of students at each applicant's school at

A-levels in the previous years, and on higher education participation rates in their home neighbourhoods. Students at schools with above-average success rates at A-level may be influenced by their peers' achievements and strive for a university place as a consequence, as might those who live in areas where large numbers of school-leavers proceed into higher education – providing local role models for students and their families. The overall academic level of performance of schools and colleges has been incorporated in a limited way in two studies, showing that its effect is weak and/or inconsistent (HEFCE 2003; Smith and Naylor 2005). Smith and Naylor only explore variations in school performance within the independent school sector while the HEFCE study does not replicate its 'school type' analysis, disaggregated by university groups, for the school performance variable.

All these variables feature in our analyses, along with the others given prominence in the wider widening-participation literature. Four further features underline the originality of this study. First, our data set is more recent than any analysed thus far in the literature, covering student cohorts who therefore have had a longer exposure to the potential impacts of UK and university-based widening-participation policies and practices. Second, we take a wider perspective on 'degree attainment' than previous studies, examining not just those gaining a particular class but also those falling above and below the cohort average attainment. This is because of the very unequal spread (and hence weak discriminating capacity) of conventional degree classes in the university context we examine – with approaching 80% of the cohorts studied attaining what is normally branded a 'good degree' (first or upper second class). Third, we include a wider range of potential sources of educational disadvantage than previous studies, reflecting our previous general discussion and the ways in which these have been captured specifically in the widening-participation milestones of our case study.

Fourth, and most important of all, we examine just one university – Bristol. This is important for both pragmatic and analytical reasons. The former include the availability of the rich data set. The latter relate to the wide variation across UK universities in the nature of their student intake and the competition for places on their degree courses. As one of the so-called elite institutions with very strong demand for its places and setting high A-level grades as necessary qualifications for entrance, Bristol has traditionally accepted relatively few students from educationally disadvantaged backgrounds – its student cohorts are disproportionately drawn from independent schools and higher social classes; a situation which its widening-participation policies have been designed to redress. Other universities have very different student profiles. Bristol's particular situation might not emerge if the impact of its widening-participation policies were to be analysed as part of a larger data set with a heterogeneous sample of institutions. The best way to evaluate that impact is to analyse the situation there separately, in a case-study approach offering a paradigm for analyses of other institutions.

The Bristol case

In the wake of the Dearing Report the University of Bristol, faced with one of the more elitist images and intake profiles of all UK universities (in the original national benchmarks, for example), enthusiastically took up the opportunity to develop a widening-participation strategy. Its first policy – the Participation Strategy – was in place just two years after Dearing (in 1999), and has since been succeeded by two

Widening Participation strategies, one from 2004 to 2009 and its replacement to run till 2016. A large, well-resourced Widening Participation Office was established to further these policies, widening-participation considerations were built into the University's Admissions Principles and Practices, and eight widening-participation 'milestones' ('targets' such as numbers of state school pupils, those from low socio-economic classes, and ethnic minorities) were identified: targets were set for each at both the initial application and final intake stages of the admissions process. This strategy was designed to capture the wide range of ways in which the University considered its intake profile as under-represented and the reasons that might underlie this.

Bristol admits approximately 3000 undergraduate students each year, receiving some 35,000 applications to a wide range of over 200 degree programmes in arts and social sciences, law, science, engineering, medicine and veterinary science. Most are heavily over-subscribed, presenting admissions selectors with the difficult task of turning away many excellent, well-qualified students who would undoubtedly benefit from the degree programme applied for.

In making their decisions on which students are to be offered places, and what grades they are required to achieve (the great majority of students apply for entry before they have taken their A-level examinations), admissions tutors must take the university's widening-participation policies and targets into account by identifying students who may be suffering educational disadvantage but whose potential to succeed on their chosen course is substantial. No specific targets are set for individual courses: selectors are aware of the issues and overall institutional targets. Similarly, students are not identified in the university's database as receiving a 'widening-participation offer'. Thus analyses of the impact of the widening-participation policy since its implementation can only be made – as is the case in most, if not all, other institutions – by comparing performance according to a range of criteria selected to reflect those which relate to whether students come from ostensibly educationally disadvantaged backgrounds.

The data for these analyses are derived from the University's student database which tracks them from initial application through graduation and into their first employment. Those used here refer to three cohorts who entered the University during the academic years 2002/03–2004/05; most studied for a three-year degree but some sought a first qualification which took four years. The University's admissions policies and normal entry standards did not change significantly over that period, so the three cohorts were combined to provide a large population for study. Information on various aspects of the students' home, school and neighbourhood backgrounds was combined with data on their educational performance – at A-level and in their first and final years at the University.

The analyses reported here refer to 4305 students admitted to undergraduate degree courses during the three years. They exclude a number of groups from the c.9000 admitted in total, who comprise mainly: the large intakes to courses in medicine, dentistry and veterinary science, who do not study for classified degrees (with an entry of c.450 undergraduates per annum to these three programmes, this accounts for c.30% of those excluded from the three cohorts analysed here); those who were admitted on the basis of performance in examinations other than A-levels (such as the international baccalaureate and various access courses) and many from other countries (including Scotland) where A-levels are not taken; plus those from places for which no data are available on the average A-level performance at the schools they attended

(which includes Northern Ireland, Scotland and Wales) – this being one of the key educational disadvantage variables analysed. Thus the study is not necessarily representative of the entire Bristol intake, but it includes all those students for whom we have comparable data on school and university academic performance, making an allowance for the relative attainment of students from disadvantaged backgrounds on degree courses in arts, engineering, science and social sciences. Drop-out rates at Bristol are negligible and can be safely ignored.

The data

Four pieces of information regarding educational performance were available for all students analysed:

- their summed A-level grades, expressed as a points score using the standard procedure (A = 120, B = 100 ...);
- their performance at the end of their first year at the University, expressed as an average percentage mark;
- their performance at the end of their final year at the University, also expressed as an average percentage mark; and
- their degree classification on the conventional UK university system (first, upper second, lower second, etc.)

These form the dependent variables in our analyses, with A-level scores also used as an independent variable.

The independent variables, reflecting our previous literature review and discussion of possible sources of educational disadvantage, for each student are:

- type of school attended, in four categories (independent, state grammar, state comprehensive, state other), although for some analyses a binary classification (independent/state) was deployed;
- academic performance of school attended, using the average A-level score for each school – these were divided into high and low performing schools (with the cut-off at 265 UCAS tariff points);
- residence in a neighbourhood with low higher education participation rates: HEFCE (2005) has classified neighbourhoods (using census data for wards, with an average population of *c.*5000) according to the participation rates of those in the 18–21 age groups living there. Their POLAR (Participation of Local Areas) data were divided into quintiles and for these analyses the lowest two quintiles were used as areas with low participation rates (the same categorisation is used in HEFCE's funding formula to reward universities taking students from educationally disadvantaged backgrounds);
- socio-economic class of student's household: this is based on the Office of National Statistics' classification of households according to the occupation of a designated individual member. Categories 1–3 have been taken as high-class households – although data are not available for 42% of the students, thus introducing a further category (not known);
- disability: candidates are self-identified if they are disabled and there is no independent check of this;
- age: students aged over 21 at the time of admission are classified as mature; and

- gender: this is not a category taken into account by admissions tutors, but is included in our analyses as a control variable because of the known differences between males and females in university performance.

The results

Overall patterns

Table 1 provides summary data for each of the performance indicators – the average point score at A-level, achievement above and below the median in both first and final

Table 1. Summary data for student performance (number of individuals in each category in brackets).

	Average	% above median		Degree class (%)	
		A-level	1st year	Final	1st
<i>School type</i>					
Independent (1747)	344	46	45	17	15
Grammar (506)	341	55	56	19	10
Comprehensive (1250)	335	59	50	21	13
Other state (767)	341	51	54	22	12
All state (2558)	338	51	53	20	12
<i>School performance</i>					
High (3394)	342	51	51	18	13
Low (911)	334	49	49	20	14
<i>Neighbourhood higher education participation</i>					
High (3283)	341	51	51	19	12
Low (1022)	337	49	49	19	15
<i>Social class</i>					
White collar (2137)	340	51	51	18	11
Blue collar (338)	337	46	44	17	19
Not known (1830)	341	50	49	20	13
<i>Ethnicity</i>					
White (3803)	341	51	52	19	12
Non-white (457)	338	43	36	15	20
Not known (45)	334	44	60	13	20
<i>Disability</i>					
Able (3973)	341	52	51	19	13
Disabled (332)	336	44	46	17	16
<i>Student age</i>					
21 and under (4281)	341	51	51	19	13
Over 21 (24)	304	46	46	21	25
<i>Gender</i>					
Male (2081)	341	47	52	21	16
Female (2224)	339	51	48	16	10

year at university, and the percentages getting either a first-class or a lower second-class or less degree. Regarding A-level performance, students from independent schools have a higher average score than those from state comprehensives – indeed from state schools generally – but such differences are not replicated in average performance in the students' first and final years at the University. Indeed, students from independent schools performed less well than their counterparts from all types of state school in their university examinations, and were less likely to get a first-class degree. Superior average performance at university entrance by independent school students was not replicated on their degree courses. Those who attended schools whose average A-level performance was relatively low themselves had low average scores compared to students from high-performing schools, but there was only a slight difference between the two groups in performance at the University, as was also the case with students according to higher education participation rates in their home environments.

Turning to students' personal characteristics, whites performed better than other ethnic groups at A-level, disabled students performed less well than those who were not so classified, mature students performed much less well than those who were under 21 on admittance to Bristol, and students from blue-collar backgrounds performed slightly less well on average than those from white-collar homes. Most of those differentials continued at university: students from blue-collar backgrounds were more likely to get a lower second-class or less degree classification, for example, as were non-white, disabled and (the small number in this sample of) mature students. Males performed slightly better at A-level than females, and were more likely to get either a first or a lower second-class or less degree.

Overall, these aggregated data suggest greater differences between students in their performance at A-level than at university, whatever their personal, family, neighbourhood and school backgrounds, although with some exceptions. This would seem to support the University's efforts to factor in such contextual considerations in their attempts to select those students with the greatest potential to achieve on their courses, as the apparent paper differentials in qualification on entry have been eroded over their subsequent degree programmes. However, many of the background variables overlap – state school students are more likely than those from independent schools to attend low-performing schools, and to come from low-participation neighbourhoods, for example. To take such collinearity into account, we have undertaken statistical modelling.

Statistical modelling

For these analyses, we use five dependent variables:

- whether or not the student had an A-level performance above the median for all students in the cohorts studied;
- whether or not the student had a university first-year performance above the median for all students in the cohorts studied;
- whether or not the student had a university final-year performance above the median for all students in the cohorts studied;
- whether or not the student gained a first-class degree; and
- whether or not the student gained a lower second-class degree, or less.

Since these are all binary variables, logistic regression is used to analyse their relationships with the independent variables outlined earlier.

The tables reporting the results of these analyses give two pieces of information only: the odds ratio associated with the exponent for the independent variable and its statistical significance (whether or not the associated regression coefficient is statistically significant at the .05 level or better). A significant odds ratio greater than 1.0 indicates a better performance than the comparator group; a significant ratio of less than 1.0 indicates a worse performance. The extent of the significant differences is interpreted as a percentage: thus an odds ratio of 1.50 indicates that one group is 50% more likely to have the ascribed characteristic (a first-class degree, say) than the comparator group.

Single variable analysis

This first set of analyses reports the results of separate simple binary regressions for each of the indicators (Table 2). With attendance at an independent school as the comparator, the first column in the first block shows that students from all three types of state school were less likely to obtain an above-median A-level entry score – significantly so for those attending comprehensive schools and other (non-grammar so non-selective) institutions. Once at university, however, students from all three types of state school were more likely to score above the median at the end of both their first and final years at university when compared to those who attended independent schools – by as much as 50% (an odds ratio of 1.51) for ex-grammar school students at the final-year stage: five of those six state school /independent school differences were statistically significant. Similarly, students from state schools were more likely to get a first-class degree and less likely to get a lower second or less than a student from an independent school. The same results are shown in the next block, which reports on a simple binary comparison between state and independent school students only; the former, for example, are 22% more likely to get a first and 79% less likely to get a low class degree.

The remaining analyses in Table 2 examine the relationships between performance and each of the other independent variables in turn. The first shows that whereas at A-level there is a significant difference according to whether the school's average performance per student was classified as high or low – those coming from a low-performing school were 35% less likely to get an above-median entry score (an odds ratio of 0.65) – there was no significant difference in performance at the university. Any disadvantage suffered as a consequence of the school context based on academic performance had disappeared in university evaluations. Similarly, those who came from high-participation neighbourhoods were significantly more likely to get an above-median entry score (an odds ratio of 1.18) than were those from low-participation neighbourhoods, but again there was no significant difference between the two groups once they were at university. Disadvantaged neighbourhood and high/low school performance contexts did not influence university performance.

The other variables relating individual students' characteristics and their home backgrounds also show more significant differences in A-level than university performance. For example, students from blue-collar socio-economic backgrounds, as well as those whose backgrounds were unknown, performed less well at A-level than those from white-collar homes; disabled students performed less well than the able-bodied; and students of unknown ethnicity were less likely to achieve above-median A-level

Table 2. Separate logistic regression analyses of school and university performance (significant coefficients at the .05 level are in italics).

	A-levels	Year 1	Final Year	1st	II2 or lower
<i>School type (comparator: independent)</i>					
State comprehensive	<i>0.69</i>	1.14	<i>1.23</i>	<i>1.12</i>	0.80
Other state	<i>0.83</i>	<i>1.23</i>	<i>1.34</i>	<i>1.35</i>	<i>0.77</i>
State grammar	0.96	<i>1.41</i>	<i>1.51</i>	<i>1.29</i>	<i>0.62</i>
<i>School type (comparator: independent)</i>					
All state	<i>0.78</i>	<i>1.21</i>	<i>1.33</i>	<i>1.22</i>	<i>0.79</i>
<i>School performance (comparator: high)</i>					
Low	<i>0.65</i>	1.02	1.13	1.06	1.07
<i>Neighbourhood participation rates (comparator: lowest two quintiles)</i>					
Highest two quintiles	<i>1.18</i>	1.02	1.05	1.01	0.82
<i>Socio-economic group (comparator: white collar)</i>					
Blue collar	<i>0.77</i>	0.91	<i>0.76</i>	0.90	<i>1.85</i>
Unknown	<i>0.54</i>	1.02	0.93	1.12	<i>1.21</i>
<i>Mature students (comparator: aged 18–25)</i>					
Mature	0.33	0.88	0.86	1.15	2.27
<i>Disability (comparator: not disabled)</i>					
Disabled	<i>0.74</i>	<i>0.79</i>	0.87	0.89	1.33
<i>Ethnicity (comparator: white)</i>					
Non-white	0.83	<i>0.75</i>	<i>0.55</i>	<i>0.72</i>	<i>1.86</i>
Not known	<i>0.49</i>	0.81	1.44	0.67	1.90
<i>Gender (comparator: male)</i>					
Female	0.94	<i>1.21</i>	<i>0.85</i>	<i>0.74</i>	<i>0.59</i>

scores than either whites or non-whites. Disabled students were less likely to achieve above-median results in their first year at university than were the able-bodied, as similarly were non-whites relative to whites; females were 21% more likely to achieve an above-median score in the first year than males. In their final year, students from blue-collar backgrounds performed less well than those from white-collar homes, non-whites performed much less well than whites (an odds ratio of only 0.55) and females less well than males. Overall, therefore, whereas some of the disadvantages relating to individual and household characteristics apparent at A-level remained in place at university – disability, ethnicity and social class – those relating to wider context – school performance and neighbourhood composition – did not.

Multivariate analyses

The analyses in Table 2 look at each independent variable separately, rather than inquiring whether each is significantly linked to performance once other variables are held constant. Multivariate analyses have been undertaken to address that issue, with school type collapsed into just two categories only – independent and state. Although

Table 2 shows significant differences across the different types of state school, it is not feasible to incorporate these into the multivariate analyses for two reasons. First, in some cases there is strong multi-collinearity between pairs of independent variables: disabled students were much more likely to attend independent than state schools, for example. Second, and more importantly, there were very few examples in some cases – for example, virtually no independent and grammar school students attended low-performing schools.

The results of multiple logistic regressions, with all eight classifications entered as independent variables simultaneously, are in Table 3. School type attended is significant in all five regressions: students were significantly less likely to perform above the Bristol median at A-level if they attended state rather than independent schools, but more likely to perform better (indeed, as much as one-third more, an odds ratio of 1.36 at final year) at both sets of university examinations; state school students were also more likely to obtain first-class degrees and less likely to get a lower second or less. Students from low-performing schools were much less likely to achieve above-median entry results, as were the disabled, but neither of these apparent disadvantages extended into their university performance. Non-whites performed less well than whites in all five assessments, however, and students from blue-collar backgrounds were significantly more likely to get a lower-grade degree. Finally, females performed as well as males at A-level, better in the first year at university, but less well in their final year.

Table 3. Multiple regressions between performance, school type and all background measures (significant coefficients at the .05 level are in italics).

	A-levels	Year 1	Final Year	1st	II2 or lower
<i>School type (comparator: independent)</i>					
State	<i>0.83</i>	<i>1.23</i>	<i>1.36</i>	<i>1.27</i>	<i>0.75</i>
<i>School performance (comparator: high)</i>					
Low	<i>0.70</i>	<i>0.94</i>	<i>1.02</i>	<i>0.98</i>	<i>1.17</i>
<i>Neighbourhood participation (comparator: low participation)</i>					
High participation	<i>1.06</i>	<i>1.03</i>	<i>1.08</i>	<i>1.04</i>	<i>0.84</i>
<i>Socio-economic status (comparator: white collar)</i>					
Blue collar	<i>0.86</i>	<i>0.93</i>	<i>0.79</i>	<i>0.92</i>	<i>1.70</i>
Not known	<i>0.52</i>	<i>1.04</i>	<i>0.93</i>	<i>1.12</i>	<i>1.17</i>
<i>Mature students (comparator: aged 18–25)</i>					
Mature	<i>0.44</i>	<i>0.94</i>	<i>0.87</i>	<i>1.11</i>	<i>1.81</i>
<i>Disabled students (comparator: not disabled)</i>					
Disabled	<i>0.73</i>	<i>0.82</i>	<i>0.88</i>	<i>0.89</i>	<i>1.25</i>
<i>Ethnicity (comparator: white)</i>					
Non-white	<i>0.80</i>	<i>0.75</i>	<i>0.55</i>	<i>0.74</i>	<i>1.85</i>
Not known	<i>0.53</i>	<i>0.87</i>	<i>1.41</i>	<i>0.60</i>	<i>1.54</i>
<i>Gender (comparator: male)</i>					
Female	<i>0.92</i>	<i>1.20</i>	<i>0.84</i>	<i>0.73</i>	<i>0.59</i>

The general appreciation that A-level performance is an excellent predictor of degree outcome is introduced in a final set of analyses of university performance, to test whether other background variables remain significant once this is taken into account. Table 4 illustrates the strength of this prediction of degree outcome for these student cohorts at the University of Bristol. Using those who obtained 360 points at A-level (i.e. three A grades) as the comparator, the first block shows a very substantial decline in the likelihood of getting a first-class degree, and the greater the likelihood of getting a lower second class degree or worse the poorer the student's A-level results. Thus, for example, somebody with less than 300 points at A-level was six times more likely (an odds ratio of 6.10) to get a low-class degree than somebody with 360 points, and less than 10% as likely to get a first (a ratio of 0.08). The only exception to the smooth, if exponential, sequences relates to those who obtained more than 360 points, which probably includes students who took one or more of their A-levels more than once.

Does school type attended influence degree results as well as A-level performance? The second block of data in Table 4 gives a clear answer. For example, the likelihood of getting a first-class degree declines by A-level score according to the first four odds ratios in the first column in both types of school, but a student who attended a state school and achieved three A-levels (360 points) was 54% more likely (an odds ratio of 1.54) to be awarded a first than a student with the same A-level score who attended an independent school. And at the lower grade levels, for each category of A-level performance the likelihood of a state school student getting a first was greater than that of one who attended an independent school: with 340 points, for example, the likelihood of a state school student getting a first was a little less than half relative to an independent school student getting 360 points (0.47), whereas for an independent school alumnus with equivalent points it was less, at 0.40.

Table 4. Regressions of degree class on A-level performance and school type attended (significant coefficients at the .05 level are in italics).

	First	II2 or lower
<i>A-level score (comparator: 360 points)</i>		
340	<i>0.34</i>	2.35
320	<i>0.21</i>	3.22
300	<i>0.15</i>	4.45
<300	<i>0.08</i>	6.10
>360	<i>0.59</i>	3.32
<i>School Type and A-level (comparator: independent and 360 points)</i>		
Independent/340 points	<i>0.40</i>	2.10
Independent/320 points	<i>0.21</i>	3.01
Independent/300 points	<i>0.12</i>	5.26
Independent/<300 points	<i>0.03</i>	7.44
Independent/>360 points	<i>0.76</i>	2.19
State/360 points	<i>1.54</i>	0.63
State/340 points	<i>0.47</i>	1.68
State/320 points	<i>0.31</i>	2.35
State/300 points	<i>0.23</i>	2.76
State/<300 points	<i>0.15</i>	3.80
State/>360 points	<i>0.75</i>	2.95

Exactly the same pattern emerges regarding performance at lower second standard or less. The likelihood of such an outcome increases as the A-level score falls, but at a much faster rate for independent than state school students. The likelihood of a student who went to a state school and attained 300 points getting a relatively poor degree was 2.76 times greater than for an independent school student with 360 points; but the likelihood for a similar student with 300 points who attended an independent school was 5.26 times greater.

Table 4 clearly indicates that type of school attended and A-level results are very substantially and significantly linked to degree performance; what of the other variables when these two are held constant? Table 5 reports two multiple regressions, which emphasise and further validate that interpretation. School type attended and A-level results are both significant predictors of degree class: the better your A-level score the greater the likelihood that you would get a first-class degree and the lower the likelihood of a lower second or less – especially if you attended a state rather than an independent school. There were very few other significant relationships, although students from blue-collar homes and non-white students were much more likely to get a lower second or less, whatever their A-level scores and school type attended. Finally, females were much less likely than males to get either a first or a lower second or less; they were therefore much more likely to get an upper second. (We have established that our findings are consistent across the University's faculties, with a few small changes – Science and Engineering tends to accept students with lower A-level scores, for example.)

In summary

Several different aspects of educational disadvantage are generally cited in the British literature on social mobility, and are used to support arguments for widening participation at universities, through admissions policies that identify potential to succeed in applicants from relatively disadvantaged backgrounds. Some aspects of those backgrounds relate to individual characteristics (age, disability, ethnicity), some to the student's household (socio-economic class), to local environment, and to type of school attended. All of these have been taken into account in this case study of a university which has been implementing a widening-participation strategy for more than a decade, to evaluate whether students from relatively disadvantaged backgrounds, admitted through the standard route on the basis of their potential to benefit from its degree programmes, perform at least as well as those admitted on their qualifications alone (i.e. those with very high marks in the entrance examinations and no extenuating circumstances).

It is not possible in our case-study university – and probably not at any other – to identify those explicitly admitted as a function of the widening-participation policy, so a direct comparison of matching pairs is not feasible. Since those admitted without any regard to educational disadvantage considerations are likely to have scored higher at the A-level examinations than those offered places under the widening-participation strategy, however, it is possible to compare them with other groups. That has been undertaken here, with very clear results.

One conclusion has emerged from all of the analyses. Among the cohorts of students admitted to the University of Bristol, those who attended independent schools performed better in the A-level examinations than those who attended state schools. But they did not also outperform students from state schools in their university degree

Table 5. Regressions of degree class on A-level performance, school type attended and background characteristics (significant coefficients at the .05 level are in italics).

	First	II2 or lower
<i>School type (comparator: independent)</i>		
State	<i>1.44</i>	<i>0.68</i>
<i>School performance (comparator: high)</i>		
Low	1.18	0.99
<i>Neighbourhood participation (comparator: lowest three quintiles)</i>		
Highest two quintiles	0.96	0.91
<i>A-level score (comparator: 360 points)</i>		
340	<i>0.32</i>	<i>2.40</i>
320	<i>0.19</i>	<i>3.37</i>
300	<i>0.14</i>	<i>4.81</i>
<300	<i>0.07</i>	<i>6.62</i>
>360	<i>0.45</i>	<i>3.59</i>
<i>Social class (comparator: white collar)</i>		
Blue collar	0.99	<i>1.67</i>
Unknown	<i>1.42</i>	0.94
<i>Ethnicity (comparator: white)</i>		
Non-white	0.84	<i>1.70</i>
Other	0.71	1.39
<i>Mature (comparator: 18–25)</i>		
Mature	1.99	1.23
<i>Disabled (comparator: not disabled)</i>		
Disabled	1.04	1.08
<i>Gender (comparator: male)</i>		
Female	<i>0.73</i>	<i>0.56</i>

programmes: indeed, they were less likely to get a first-class degree and more likely to get a lower second class grade or less. This difference holds even when A-level performance is taken into account: students with high A-level scores are more likely to get first-class degrees, for example, but students from state schools with such high scores are more likely to achieve the highest degree grade than are students with similar scores who attended independent schools. Bristol's widening-participation policy has favoured state school applicants over those from independent schools where selectors identify clear individual-level potential to benefit from a degree programme among the former – and has been criticised from some quarters accordingly. But the policy appears to have been successful: those state school pupils admitted have not only realised their potential in performing as well as independent school students with similar A-level grades, they have on average outperformed them.

Widening-participation policies cannot focus on type of school attended only – and in some cases it may not be relevant. Thus, a range of other indicators has been analysed, many of which also indicate that Bristol's policy has successfully helped students from other types of educationally disadvantaged backgrounds realise their

potential. Thus, students from schools which have low-average performances at A-level and from neighbourhoods where there is little or no tradition of entering higher education may have been admitted on relatively lower A-level grades – and they have realised their potential: students from such backgrounds performed neither better nor worse at Bristol than those from high-performing schools and from neighbourhoods which send many teenagers to university. They stand out as different in their entry qualifications but not in their achievements at university.

The findings are not all as positive, however, and there remains evidence of students from educationally disadvantaged backgrounds who performed below the Bristol average at A-level and also did so in their university examinations. This all refers to the students' individual and home backgrounds. Non-white students in general performed less well than others throughout their university careers, when other factors including their A-level scores were taken into account. They were much more likely to achieve only a lower second class or less grade at the end of their degree programmes – as also were students from blue-collar households (relative to those whose backgrounds could more readily be classified as middle class). This result may have wider applicability across British universities, but it may be particular to Bristol (and perhaps other elite universities) where such students form only small minorities and may find it harder to realise their potential in such a socio-economic environment. We have also identified differences between the sexes, but these are not related to widening-participation issues: gender was included in the analyses as a control variable only, given the identification of those differences in other studies of academic performance.

To the best of our knowledge this is the first study to demonstrate such relationships, and the evidence for educational disadvantage of particular student groups that they imply, at the level of any individual UK university. That the university is also one which has been at the forefront of public interest and, sometimes, media attack for its attempts to widen participation makes it of particularly sharp salience in the ongoing British debates on widening participation, with their relevance for social justice and social mobility. It not only provides evidence on which that university can review its widening-participation policy but also suggests a model that others might apply to their experience, thereby informing national as well as local policies.

Acknowledgements

We gratefully acknowledge the comments and advice of Barry Taylor, the University of Bristol's Director of Communications and Marketing and of Jasmine Livingston, Research Assistant in the School of Geographical Sciences, on earlier drafts of the article. Andrew Newman, previously of the University's Student Data Services division, was of invaluable help in preparing the data sets we have analysed.

References

- Admissions to Higher Education Steering Group. 2004. *Fair admissions to higher education; recommendations for good practice*. The Schwartz Report. Nottingham: Department for Education and Skills.
- Auers, D., T. Rostoks, and K. Smith. 2007. Flipping burgers or flipping pages? Student employment and academic attainment in post-Soviet Latvia. *Communist and Post-Communist Studies* 40: 477–91.
- Ayalon, H., R. Shapira, and R. Shavit. 1992. A second chance for higher education: Academic preparatory programs in Israel. *Research in Higher Education* 33: 497–510.
- Ayalon, H., and Y. Shavit. 2004. Educational reforms and inequalities in Israel: The MMI hypothesis revisited. *Sociology of Education* 77: 103–20.

- Brennan, J., and R. Naidoo. 2008. Higher education and the achievement (and/or prevention) of equity and social justice. *Higher Education* 56: 287–302.
- Broecke, S., and T. Nicholls. 2007. *Ethnicity and degree attainment*. Research Report RW92. London: Department for Education and Skills.
- Cabinet Office. 2008. Getting on, getting ahead: A discussion paper: analysing the trends and drivers of social mobility. <http://www.cabinetoffice.gov.uk/media/66447/gettingon.pdf> (accessed August 16, 2009).
- Connor, H., C. Tyers, T. Modood, and J. Hillage. 2004. *Why the difference? A closer look at higher education minority ethnic students and graduates*. Research Report RR552. Nottingham: Department for Education and Skills.
- Department for Education and Skills. 2006. *Widening participation in higher education*. London: Department for Education and Skills.
- Duff, A., E. Boyle, K. Dunleavy, and J.K. Ferguson. 2004. The relationship between personality, approach to learning and academic performance. *Personality and Individual Differences* 36: 1907–20.
- Eggens, L., M.P.C. van der Werf, and R.J. Bosker. 2008. The influence of personal networks and social support on study attainment of students in university education. *Higher Education* 55: 553–73.
- Forsyth, A., and A. Furlong. 2003. *Losing out? Socio-economic disadvantage and experience in further and higher education*. Bristol: Policy Press.
- Gorard, S., E. Smith, H. May, L. Thomas, N. Adnett, and K. Slack. 2006. Review of widening participation research: Addressing the barriers to participation in higher education. Report to HEFCE by the University of York, Higher Education Academy and Institute for Access Studies. http://www.hefce.ac.uk/pubs/rereports/2006/rd13_06/barriers.pdf (accessed April 30, 2009).
- Higher Education Academy. 2009. Widening participation literature database. http://www.heacademy.ac.uk/ourwork/institutions/wp/literature_reviews (accessed September 30, 2009).
- Higher Education Funding Council for England (HEFCE). 2001. Strategies for widening participation in higher education: A guide to good practice. HEFCE Guide 01/36. http://www.hefce.ac.uk/pubs/hefce/2001/01_36/01_36.pdf (accessed April 28, 2009).
- Higher Education Funding Council for England (HEFCE). 2003. Schooling effects on higher education achievement. Issues paper 2003.32. Bristol: Higher Education Funding Council for England.
- Higher Education Funding Council for England (HEFCE). 2004. HEFCE widening participation and fair access research strategy. HEFCE report 2004/34. http://www.hefce.ac.uk/pubs/hefce/2004/04_34/ (accessed April 28, 2009).
- Higher Education Funding Council for England (HEFCE). 2005. Young participation in higher education. HEFCE report 2005/03. Bristol: Higher Education Funding Council for England.
- Higher Education Funding Council for England (HEFCE). 2006. *Widening participation: A review*. Bristol: Higher Education Funding Council for England.
- Hoare, A.G., and R.L. Aitchison. 2009. PQA: Pretty questionable assumptions. *Higher Education Review* 42: 17–24.
- Hoskins, S.L., S.E. Newstead, and I. Dennis. 1997. Degree performance as a function of age, gender, prior qualifications and discipline studies. *Assessment & Evaluation in Higher Education* 22: 317–28.
- Kivinen, O., S. Ahola, and J. Hedman. 2001. Expanding education and improving odds? Participation in higher education in Finland in the 1980s and 1990s. *Acta Sociologica* 44: 171–81.
- Kivinen, O., J. Hedman, and P. Kaipainen. 2007. From elite university to mass higher education: Educational expansion, equality of opportunity, and returns to higher education. *Acta Sociologica* 50: 231–47.
- Kivinen, O., and R. Rinne. 1996. Higher education, mobility and inequality: The Finnish case. *European Journal of Education* 31: 289–310.
- Kivinen, O., and R. Rinne. 2004. Mapping the field of stratification in higher education: The Finnish experience. *Higher Education* 21: 521–49.
- Layer, G. 2005. Widening participation – Variations on a theme. *Journal of Access Policy and Practice* 3: 70–88.

- McCaug, C., and N. Adnett. 2009. English universities, additional fee income and access agreements: Their impact on widening participation and fair access. *British Journal of Educational Studies* 57: 18–36.
- McNabb, R., S. Pal, and P. Sloane. 2002. Gender differences in educational attainment: The case of university students in England and Wales. *Economica* 69: 481–503.
- Morley, L., F. Leach, and R. Lugg. 2009. Democratising higher education in Ghana and Tanzania: Opportunity structures and social inequalities. *International Journal of Educational Development* 29: 56–64.
- National Audit Office. 2002. Widening participation in higher education in England. Report by the Comptroller and Auditor General, HC 485, Session 2001–2002. http://www.nao.org.uk/publications/0102/widening_participation_in_he.aspx (accessed April 28, 2009).
- National Audit Office. 2008. Widening participation in higher education. Report by the Comptroller and Auditor General, HC 725, Session 2007–2008. London: HMSO.
- National Committee of Inquiry into Higher Education. 1997. *Higher education in the learning society*. London: HMSO.
- National Council for Educational Excellence. 2008. *Recommendations*. Nottingham: Department for Children, Schools and Families.
- Naylor, R., and J. Smith. 2004. Degree performance of economics students in UK universities: Absolute and relative performance in prior qualifications. *Scottish Journal of Political Economy* 51: 250–65.
- Ntshoe, I.M. 2003. The political economy of access and equitable allocation of resources to higher education. *International Journal of Educational Development* 23: 381–98.
- Panel on Fair Access to the Professions. 2009. *Unleashing aspiration*. London: Cabinet Office.
- Quinn, J. 2004. Understanding working-class ‘drop-out’ from higher education through a sociocultural lens: Cultural narratives and local contexts. *International Studies in Sociology of Education* 14: 57–74.
- Reay, D., S. Ball, and M. David. 2005. *Degrees of choice: Social class, race and gender in higher education*. Stoke-on-Trent: Trentham Books.
- Richardson, J.T.E. 2008. The attainment of ethnic minority students in UK higher education. *Studies in Higher Education* 33: 33–48.
- Smith, J., and R. Naylor. 2001. Determinants of degree performance in UK universities: A statistical analysis of the 1993 student cohort. *Oxford Bulletin of Economics and Statistics* 63: 29–60.
- Smith, J., and R. Naylor. 2005. Schooling effects on subsequent university performance: Evidence for the UK university population. *Economics of Education Review* 24: 549–62.
- Surtees, P.G., N.W.J. Wainwright, and P.D.P. Pharoah. 2002. Psychosocial factors and sex differences in high academic attainment at Cambridge University. *Oxford Review of Education* 28: 21–38.
- Sutton Trust. 2004. *The missing 3000: State school students under-represented at leading universities*. Putney: The Sutton Trust.
- Sutton Trust. 2005. *State school admissions to our leading universities: An update to ‘the missing 3000’*. Putney: The Sutton Trust.
- Tapper, T., and D. Palfreyman, eds. 2005. *Understanding mass higher education: Comparative perspectives on access*. London: RoutledgeFalmer.
- Woodfield, R., and S. Earl-Novell. 2006. An assessment of the extent to which subject variation in the arts and sciences in relation to the award of a first class degree can explain the ‘gender gap’ in UK universities. *British Journal of Sociology of Education* 27: 355–72.