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Socio-economic, ethnic and gender differences in HE participation

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EXECUTIVE SUMMARY

Education is a key driver of intergenerational mobility, yet previous research has suggested that there are large socio-economic and ethnic gaps in higher education participation, including amongst the most selective institutions. Prior attainment has been found to be an important reason why some young people are more likely to go to university than others, but it is less clear which stage of education has the greatest impact on HE participation. This is vital from a policy perspective, as it provides insight into the best time to intervene to raise participation.

This report uses linked individual-level administrative data from schools in England and universities in the UK to document the relationships between socio-economic status, ethnicity and HE participation, and explore what drives these relationships. It builds on the existing evidence by:

- Updating the evidence available from administrative data sources on the relationships between socio-economic status, ethnicity and HE participation to look at HE participation at age 18 or 19 (in 2010-11 or 2011-12) amongst the cohort who sat their GCSEs in 2008;

- Providing new evidence on the interaction between socio-economic status and ethnicity, showing how HE participation varies within and between ethnic and socio-economic groups;

- Exploiting richer measures of attainment at Key Stage 4 and Key Stage 5 than has been used in previous research. This enables us to assess the extent to which accounting for how well young people do at school can explain their subsequent educational choices and progression;

- Investigating other potential reasons for the ethnic differences in HE participation that we see. In particular, we explore whether differences in participation are larger for those who arrived in the country more recently and who might plausibly have higher aspirations for their children (as proxied by whether English is an additional language in the household), and the extent to which the relationships are different inside London (which has seen dramatic improvements in performance in its schools and also has a large number of universities, some very selective).

Overview of key findings

- Ethnic minorities and those from the highest socio-economic backgrounds are substantially more likely to go to university than White British pupils and those from the lowest socio-economic backgrounds. Girls are slightly more likely to go to university than boys.

- We are able to explain all of the small differences by gender – and most of the large differences by socio-economic status – by accounting for a limited set of individual and school characteristics, and a rich set of measures of attainment at Key Stages 2, 4 and 5. We are also able to explain most of the differences in participation at the most selective institutions by ethnic background.

- By contrast, there remain very large and statistically significant differences in participation between individuals from different ethnic backgrounds: amongst the cohort who sat their GCSEs in 2008, all ethnic minority groups are significantly more likely to go to university than their White British peers. These differences are larger for ethnic minorities who speak English as an additional language and for those who live in London. They have also been increasing over time.

- Unfortunately, it is not possible for us to explore what might be driving these remaining differences in HE participation by ethnic background using the administrative data at our disposal; but it seems plausible that aspirations and expectations might play a role.

- The fact that the remaining unexplained differences in HE participation by ethnicity are increasing over time also suggests that these other factors are playing an increasingly important role in driving participation rates amongst ethnic minorities. Further research could usefully explore the specific factors that underlie these differences.

More detail on key findings

- HE participation has risen rapidly over the period covered by our data (which allows us to look at HE participation at age 18 or 19 for the cohorts who sat their GCSEs between 2003 and 2008). Amongst state school students – the group on which we focus – it has risen by just over 5 percentage points, from 30% amongst the 2003 cohort to 35.5% amongst the 2008 cohort.

- We define the top third of HE institutions (HEIs) with the highest average UCAS tariff score amongst entrants as the most ‘selective’ institutions. This group contains 52 ‘selective’ institutions. The proportion of state school pupils attending this group of selective institutions has remained broadly flat over this period (at just over 10%), but the cohort size has risen, so we estimate that the number of pupils entering one of these selective institutions has risen by about 6,500.

Socio-economic status (Chapter 4)

- Participation has risen more rapidly for those from more deprived backgrounds. This has lead to a small reduction (of around 2 percentage points) in the difference in overall participation rates (and a marginal reduction

in the difference in participation rates at the most selective institutions) between pupils in the highest and lowest socio-economic groups over the period of interest.

- Nonetheless, socio-economic differences in HE participation remain substantial: pupils from the highest socio-economic quintile group are around 40 percentage points more likely to go to university than those in the lowest socio-economic quintile group; the difference in terms of participation at the most selective institutions is around 20 percentage points.

- This means that those from the highest socio-economic quintile group are around 3 times more likely to go to university and around 7 times more likely to go to a selective institution than those from the lowest socio-economic quintile group.

- The socio-economic gap in participation overall and at the most selective institutions is largely – but not entirely – explained by differences in background characteristics and prior attainment. Around 85% of the difference in participation overall and over 95% of the difference in participation at the most selective institutions is accounted for by the characteristics of young people at our disposal. Nevertheless, the remaining differences (of 5.6 percentage points in terms of participation overall and 1.1 percentage points in terms of participation at the most selective institutions amongst the cohort who sat their GCSEs in 2008) are statistically significant at the 5% level.

- The role of prior attainment is crucial, especially for participation at the most selective institutions. Key Stage 4 results seem particularly important. For example, the achievement of high grades in EBACC subjects at GCSE remains significantly associated with the likelihood of going to university and of attending a selective institution, even after controlling for attainment at Key Stage 5. Moreover, we can explain at least as much of the raw difference in HE participation by socio-economic background by controlling just for attainment at Key Stage 4 as we can by additionally controlling for individual and school characteristics, and performance at Key Stage 2.

- We hypothesise that it is because Key Stage 4 results are such good predictors of whether pupils stay in post-compulsory education and how well they do at Key Stage 5 that the addition of controls for subsequent attainment adds very little to the story. This suggests that secondary school is a crucial period in which to influence HE participation rates, via increasing attainment.

Gender (Chapter 5)

- Girls are significantly more likely to participate in higher education than boys, and the differences have remained roughly constant over the period covered by our data. Girls are around 8 percentage points more likely than boys to go

to university at age 18 or 19, and just under 2 percentage points more likely to attend a selective institution.

- As was the case for socio-economic status, prior attainment plays a key role in explaining these differences. Once we account for the fact that boys, on average, perform worse than girls earlier in their school careers, the gaps are reduced. In fact, amongst the cohort who sat their GCSEs in 2008, boys are actually slightly *more* likely to go to university than girls once we account for prior attainment. This has changed in recent years: amongst the cohort who sat their GCSEs in 2003, boys were still slightly less likely to go to university than girls conditional on prior attainment. Boys are also slightly more likely to attend the most selective institutions, which was the case for both the 2003 and 2008 cohorts. These differences are small – less than one percentage point – but are significantly different from zero as our sample is very large.

Ethnicity (Chapter 6)

HE participation overall

- Participation has risen more rapidly for ethnic minorities than for White British pupils over the period covered by our data. Some of these increases in participation have been very large indeed: for example, Black African pupils saw their participation rates increase by 11 percentage points between the cohorts who sat their GCSEs in 2003 and 2008.

- This means that all ethnic minority groups are now, on average, significantly more likely to go to university than their White British counterparts. Amongst the cohort who sat their GCSEs in 2008, the difference in participation rates is at least 5 percentage points in all cases, with some very large differences indeed. For example, Chinese pupils are, on average, almost 40 percentage points more likely to go to university than their White British counterparts.

- Even after accounting for background characteristics and a rich set of measures of prior attainment, pupils from all ethnic minority groups are, on average, significantly more likely to go to university than their White British counterparts. For example, Black African pupils are almost 35 percentage points more likely to go to university than otherwise-identical White British pupils; most other ethnic minority groups are around 15-25 percentage points more likely to go than similar White British pupils.

- These remaining unexplained differences (which we also refer to as “conditional differences”) in participation have increased over time for most ethnic minority groups. For example, amongst the cohort who sat their GCSEs in 2003, Chinese pupils were, on average, 10 percentage points more likely to go to university than White British pupils from the same backgrounds, attending similar schools and with the same history of prior attainment; by 2008, this gap had more than doubled to 24 percentage points.

- Interestingly, some of these conditional differences are larger than the raw differences that we see (such as for Black, Pakistani and Bangladeshi pupils). This arises because these groups tend to have lower prior attainment and other characteristics associated with a lower probability of participation (such as being from a more deprived background) than White British pupils; once we account for these differences in characteristics, the gaps in HE participation increase.

Participation at the most selective institutions

- The proportion of White British pupils attending the most selective institutions has stagnated over this period, while most ethnic minority groups have seen small increases (of up to 3 percentage points). This suggests that ethnic minorities now constitute a higher proportion of participants at the most selective institutions than they did six years ago.

- In contrast to the picture for participation overall, some ethnic groups (specifically Black Caribbean and Other Black pupils) are still significantly less likely to attend a selective institution than their White British counterparts. Other groups, by contrast, have substantially higher participation rates. The proportion of Chinese pupils who attend a selective institution is particularly high: at 34%, it is higher than the proportion of White British students going to any university, and is more than three times higher than the proportion of White British students going to a selective institution. It also means that nearly half of all Chinese pupils who go to university attend a selective institution, a far higher proportion than for any other group.

- After accounting for the fact that individuals from different ethnic groups come from different backgrounds and have different levels of attainment, we find that, amongst the cohort who sat their GCSEs in 2008, all ethnic minority groups are now significantly more likely to attend a more selective institution than their otherwise-identical White British counterparts. (For the 2003 cohort, they were at least as likely, but not always significantly more likely, to attend such institutions.) These remaining unexplained differences in participation at the most selective institutions are much smaller than they were for participation overall: at most 4.1 percentage points, compared to at least 8.9 percentage points in terms of participation at any UK university.

Other drivers of ethnic differences in HE participation (Chapter 7)

- The fact that there are such large differences in participation between pupils from different ethnic groups, even after accounting for other differences in background characteristics and prior attainment, means that there must be other factors that are more common amongst ethnic minority families than amongst White British families which are positively associated with HE participation. Moreover, these factors seem to be more important for

participation overall than for participation at the most selective institutions, for which the remaining differences are small.

- We investigate two plausible explanations for these differences: first, whether conditional differences are larger amongst ethnic minorities for whom English is an additional language. If we assume that these pupils are more likely to be recent immigrants – and we accept the hypothesis that recent immigrants have higher aspirations for and expectations of their children – then this might provide some suggestive evidence of a role for aspirations and expectations in driving these differences. Second, whether they are larger amongst ethnic minorities living in London. A large proportion of ethnic minorities live in London, so anything that affects attainment or participation in London (such as the large number of more selective universities or the recent improvements in school results) might disproportionately benefit ethnic minorities and thus help to explain the differences in participation that we see.

- In both cases, we find evidence that the remaining unexplained differences in participation (and to a lesser extent participation at the most selective institutions) are larger for ethnic minorities for whom English is an additional language and for those living in London. This suggests that the unobserved characteristics of the pupil (or their family or the school that they attend) that are positively associated with going to university are also more strongly associated with having English as an additional language or living in London. It is plausible that these unobserved factors could be higher aspirations or expectations, but we cannot conclude this with any degree of certainty. What we can say, however, is that higher attainment in London schools is unlikely to explain the London effect, because the differences in participation remain even after accounting for a rich set of measures of school attainment.

Socio-economic status and ethnicity (Chapter 8)

HE participation overall

- There are some striking differences in HE participation overall and at the most selective institutions by ethnic and socio-economic background. For example, Indian pupils in the highest socio-economic quintile group and Chinese pupils in the top two socio-economic quintile groups have the highest participation rates: above 80%. Chinese pupils in the bottom socio-economic quintile group also have extremely high participation rates: with 66% of them going to university, they are, on average, more than 10 percentage points more likely to go to university than White British pupils in the top socio-economic quintile group.

- By contrast, White British pupils from the bottom two socio-economic quintile groups (the bottom 40%) have lower participation rates than any other ethnic groups. Indeed White British pupils in the bottom socio-economic quintile

group have participation rates that are more than 10 percentage points lower than those observed for any other ethnic group.

- The socio-economic gradient in HE participation is also steepest for White British pupils. Amongst the cohort who sat their GCSEs in 2008, 13% of White British pupils in the bottom socio-economic quintile group went to university compared to 55% of those in the top socio-economic quintile group, a gap of 42 percentage points.

- All ethnic minorities in the lowest SES quintile group are, on average, significantly more likely to go to university than White British pupils in the same SES group. This was true in 2003 as well as in 2008. Amongst the highest SES quintile group, White British pupils are, on average, more likely to participate than those from Black Caribbean and Other Black ethnic origins, but less likely to participate than most other ethnic groups in the same socio-economic position.

- Once we account for the other ways in which these groups differ from each other, most ethnic minority groups in both the highest and lowest socio-economic quintile groups are, on average, more likely to go to university than their White British counterparts from similar socio-economic backgrounds. This is true for all but one group – Other Whites – in 2003.

- In contrast to the overall results by ethnic background, the remaining conditional differences amongst those from the lowest socio-economic backgrounds are lower than the raw differences, highlighting that ethnic minorities from lower socio-economic backgrounds tend to have characteristics that are associated with higher HE participation rates – in particular higher prior attainment – than their White British counterparts from similarly deprived backgrounds. This is not the case amongst those in the highest socio-economic quintile group, however.

Participation at the most selective institutions

- As well as having the highest overall participation rates, Chinese pupils from the highest socio-economic backgrounds also have the highest participation rates at the most selective institutions: just under 24% of them (over a third of those who go to university) attend a selective institution, higher – both as a proportion of the cohort and as a proportion of university participants – than the proportion of White British pupils who attend such institutions.

- White British pupils from the lowest socio-economic backgrounds have the lowest participation rates at the most selective institutions, with fewer than 2% of them attending such universities.

- The difference in participation at the most selective institutions rates between the highest and lowest socio-economic quintile groups of White British pupils is large (around 20 percentage points), but is not the largest: pupils from Indian, Other White, Chinese and Mixed ethnic backgrounds all have larger differences in participation at the most selective institutions between the top and bottom SES quintile groups in percentage point terms.

- As was the case for overall differences in participation at the most selective institutions by ethnic background, we are able to explain the majority of the ethnic differences in participation at the most selective institutions amongst different socio-economic groups through the addition of a rich set of measures of prior attainment. The remaining unexplained differences are positive but small – at most 1.4 percentage points – amongst those in the lowest socio-economic quintile group and not always significantly different from zero.

- They are generally larger for pupils from the highest SES quintile group, but for some groups – e.g. those of Other Black ethnic origin in 2008 – they are negative, suggesting that these groups are, on average, marginally less likely to attend a selective institution than otherwise identical White British pupils in the highest SES quintile group. It should be noted that very few of the conditional differences in participation at the most selective institutions by ethnic background are significantly different from zero, however, so one should not read too much into these results.

Conclusions (Chapter 9)

- As we have seen, there remain very large and statistically significant differences in participation between individuals from different ethnic backgrounds: amongst the cohort who sat their GCSEs in 2008, all ethnic minority groups are significantly more likely to go to university than their White British peers. These differences are larger for ethnic minorities who speak English as an additional language and for those who live in London. They have also been increasing over time.

- Unfortunately, it is not possible for us to explore what might be driving these remaining differences in HE participation by ethnic background using the administrative data at our disposal; but it seems plausible that aspirations and expectations might play a role.

- The fact that the remaining unexplained differences in HE participation by ethnicity are increasing over time also suggests that these other factors are playing an increasingly important role in driving participation rates amongst ethnic minorities. Further research could usefully explore the specific factors that underlie these differences.

1. INTRODUCTION

Education is an important driver of intergenerational mobility: that is, it is one of the key routes through which the socio-economic circumstances in which individuals are raised affect their own socio-economic circumstances in adulthood. This arises because there are substantial observed returns to higher educational qualifications, but very large differences in the likelihood of acquiring those qualifications according to the socio-economic circumstances in which individuals were raised. For example, there are substantial differences in the proportion of individuals from different backgrounds who acquire a university degree: Blanden and Macmillan (2014) show that, amongst a sample of individuals graduating from university in the late 1990s, 46% of those from the fifth of families with the highest incomes have completed a degree by age 23, compared with just 9% of those from the fifth of families with the lowest incomes.

Previous research has suggested that socio-economic gradients exist in both university entry and participation at "high status" institutions (variously defined). For example, using a cohort who sat their GCSEs in 2002, Chowdry et al. (2013) showed that males (females) from the bottom fifth of an index of socio-economic status were 40.1 (44.2) percentage points less likely to go to university than males (females) from the top fifth of the index; they also showed that, amongst those who went to university, males (females) from the bottom fifth of their socio-economic index were 31.2 (31.9) percentage points less likely to attend a selective institution than males (females) from the top fifth of their index.

Previous research has also indicated that both university entry and participation at high status institutions varies by ethnic background. For example, Chowdry et al. (2008) found that, amongst the cohort sitting their GCSEs in 2002 all ethnic minority groups other than those of Black Caribbean and Other Black ethnic origin were more likely to go to university than White British pupils – and sometimes substantially more likely to do so. For example, Indian males (females) are 34.2 (36.3) percentage points more likely to go to university than White British males (females) respectively. Amongst those that did go to university, however, White British pupils were often more likely to attend high status institutions. For example, Indian males (females) were 5.0 (5.3) percentage points less likely to attend one of these institutions than their White British counterparts.

Previous research (e.g. Chowdry et al., 2013; Galindo-Rueda et al., 2004; Gayle et al., 2002) has shown that prior attainment – particularly at Key Stage 4 and Key Stage 5 – plays a key role in helping to explain why young people from more advantaged backgrounds are more likely to go to university than those from less advantaged backgrounds. This suggests that what happens earlier in an individual's life – particularly during secondary school – is likely to be a crucial determinant of subsequent educational choices and progress.

The extent to which prior attainment plays an equally important role in explaining ethnic differences in higher education (HE) participation is less clear, however. Recent evidence from England suggests that otherwise-identical ethnic minorities make greater progress during secondary school than White pupils (Wilson et al., 2011), suggesting that higher prior attainment may be one potential explanation for their higher participation rates. However, previous research has also suggested that the aspirations of parents and families and the expectations about the economic gain from going to university are significantly higher amongst individuals from ethnic minority backgrounds (Connor et al., 2004). For example, pupils from minority ethnic groups are more likely to state that they "always assumed [they] would go to HE", had higher encouragement from their family, and that participation would "help career options" than White pupils (Connor et al., 2004). Modood (2003) also suggests that social class does not constrain educational aspirations for some ethnic minority groups. We might therefore expect the role of prior attainment in explaining differences in HE participation to be smaller when looking by ethnic background than when looking by socio-economic background.

Our contribution

We have access to rich individual-level linked administrative data, which allows us to follow the population of pupils taking their GCSEs in England between 2002-03 and 2007-08 through to participation at any UK university.[1] We document the differences in HE participation overall and at a set of selective institutions (defined below) between individuals from different socio-economic and ethnic backgrounds, and of different genders, who were educated in state schools in England. We also explore the interaction between ethnic group and socio-economic background in order to see whether the socio-economic gradient that exists in access to higher education (and in particular to the most selective institutions) is similar amongst different ethnic groups.

The rich individual-level data to which we have access enables us to explore in detail what is driving the raw differences in HE participation overall and at the most selective institutions, and the extent to which these drivers have changed over time. In particular, we investigate how much of the gap we can explain using pupils' other background characteristics, characteristics of the secondary school they attend, plus a rich set of measures of prior attainment, including attainment at the end of primary school (Key Stage 2), attainment at the end of secondary school (Key Stage 4), and post-compulsory education participation and attainment (Key Stage 5).

When investigating ethnic differences in HE participation, we also investigate the extent to which:

[1] It would also be possible to include pupils taking their GCSEs in England in 2001-02. We exclude this cohort, however, as measures of ethnic group are inconsistent with later academic years.

a) the gaps are larger amongst those who arrived in the country more recently and who might plausibly have higher aspirations for their children. We do this by using an indicator of whether English is an additional language in the household as a proxy for more recent immigrant status;

b) the relationships are different inside London, which has seen dramatic improvements in performance in its schools in recent years (e.g. Greaves et al., 2014) and also has a large number of universities compared to other areas of the country, some of which are very selective.

This report now proceeds as follows: Section 2 and 3 discuss the data and methods that we use; Sections 4, 5 and 6 document the differences in HE participation overall and at the most selective institutions by socio-economic group, gender and ethnic group respectively; Section 7 explores the extent to which the gaps in HE participation by ethnic background differ for those who do and do not speak English as an additional language and for those living inside and outside London; Section 8 explores the interaction between socio-economic status and ethnic group in the patterns of HE participation overall and at the most selective institutions; Section 9 concludes.

2. DATA

We use linked individual-level administrative data from schools, colleges and universities: specifically, from the National Pupil Database (NPD), the Individual Learner Records (ILR) and National Information System for Vocational Qualifications (NISVQ) databases, and the Higher Education Statistics Agency (HESA) data. The NPD comprises an annual census of pupils attending state schools in England, together with the results of national achievement tests for all pupils in England who sat them. The ILR and NISVQ data together provide an annual census of those attending further education colleges and those studying for qualifications outside the compulsory education system in England, including details of the qualifications achieved. The HESA data provides an annual census of all students attending higher education institutions throughout the UK. Together, these datasets enable us to follow pupils in England through the education system, from age 11, through secondary school and further education, and on to potential higher education (HE) participation anywhere in the UK at age 18 (when first eligible) or age 19 (after a single gap year).

The data at our disposal provide us with a census of pupils taking (or eligible to take) GCSEs in England between 2002–03 and 2007-08 – totalling over half a million pupils per cohort.[2] Table 1 outlines the expected progression of our cohorts through the education system.

Figure 1 Expected progression of our cohorts through the education system

Outcome	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	Cohort 6
Born	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92
Sat Key Stage 1 (age 7)					1997-98	1998-99
Sat Key Stage 2 (age 11)	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Sat GCSEs / Key Stage 4 (age 16)	2002–03	2003–04	2004–05	2005–06	2006–07	2007-08
Sat A levels / Key Stage 5 (age 18)	2004–05	2005–06	2006–07	2007–08	2008–09	2009-10
HE participation (age 18)	2005–06	2006–07	2007–08	2008–09	2009–10	2010-11
HE participation (age 19)	2006–07	2007–08	2008–09	2009–10	2010–11	2011-12

We focus on state school pupils in our analysis, as we do not observe ethnicity or socio-economic background for all private school students. For these individuals, we observe a range of background characteristics during the last year of compulsory schooling (around age 16), including gender, month of birth, ethnicity, special educational needs (SEN) status, eligibility for free school meals (FSMs), whether English is an additional language (EAL) and the pupil's home postcode. We also observe Key Stage test results (at ages 11, 16 and 18) for those who sat them. We

[2] We could, in principle, also examine outcomes for the cohort who sat their GCSEs in 2001-02. However, the definition of ethnic group used in the 2001-02 NPD data is inconsistent with the definition used in later years, which might bias our assessment of any changes occurring over time. We therefore instead focus on the cohorts sitting their GCSEs between 2003 and 2008.

restrict our sample to individuals for whom we observe FSM eligibility, home postcode, ethnicity and whether English is an additional language (as these define our main samples of interest in this report; see below for more details).

The number of pupils educated in independent schools in England has increased slightly, but not substantially, over time.[3] Independent school pupils make up about one fifth of those at university (both overall and at the most selective institutions), a figure which has risen slightly amongst the cohorts covered by our study (from 17%).

The proportion of boys and girls attending private schools is approximately equal, so it seems unlikely that the evidence we present on gender differences in HE participation and their determinants will be biased by our focus on state school pupils. Unfortunately we do not observe (and hence cannot make assumptions about) the ethnic composition of independent schools, thus it is not clear what effect the omission of private school students may have on the ethnic differences in participation that we observe.

Pupils from independent schools are more likely to go to university than state school pupils (e.g. Crawford, 2014). If we assume that the highest SES pupils are, on average, most likely to attend an independent school and most likely to participate in higher education at age 18 or 19, then we may underestimate the magnitude of the raw differences in HE participation between the top and bottom SES quintile groups. Other work (e.g. Crawford, 2014; Chowdry et al., 2013) suggests that the gaps that remain after accounting for other observable characteristics are largely unaffected by the inclusion of private school students, however, thus their omission should not affect our conclusions regarding the magnitude of any remaining unexplained differences by socio-economic background.

Outcomes

We define higher education (HE) participation as enrolling on any course in a UK higher education institution included in the HESA data at age 18 or 19.[4] Figure 2 shows that 32.6% of our sample of state school students who sat their GCSEs between 2003 and 2008 went to any UK university, rising just over 5 percentage points over this period, from just over 30% to 35.5%.

We follow guidance from the Department for Business, Innovation and Skills (BIS) to define the top third of HE institutions (HEIs) with the highest average UCAS tariff score amongst entrants as the most 'selective' institutions. This gives a total of 52 'selective' institutions (out of 170). We define an individual as attending a 'selective'

[3] Source: http://www.isc.co.uk/research/Publications/annual-census. Pupil numbers in each academic year: 2003: 507,611; 2004: 508,027; 2005: 504,141; 2006: 505,450; 2007: 509,093; 2008: 511,677.

[4] We do not put any restrictions on the types of institutions at which individuals are studying, the qualifications for which they are studying, nor on whether they are studying full- or part-time. The vast majority of those participating (85%) are studying full-time for a first degree.

institution if they attend one of these institutions in the first year in which they go to university.

Figure 2 shows that, using this definition, 10.3% of our sample of state school students (31.4% of HE participants) attend a 'high-status' university in their first year. This figure first increased and then decreased slightly over our sample period, peaking at 10.6% for the cohort taking their GCSEs in 2006 before falling back. This coincides with the introduction of the cap on student numbers by institution in 2010-11. (The same pattern appears if we additionally include private school students.) The size of the cohort has also increased slightly over this period, meaning that the number of pupils attending these institutions has risen from around 54,500 amongst the cohort who sat their GCSEs in 2003, peaking at 62,500 amongst the cohort who sat their GCSEs in 2006, before falling back slightly to around 61,000 amongst the cohort who sat their GCSES in 2008.

This definition of 'selective' institutions differs slightly from our previous work on this topic (e.g. Chowdry et al., 2013), where we classified an institution as 'high status' if it is a member of the Russell Group[5] or had an average institution-level score from the 2001 Research Assessment Exercise (RAE) – a measure of research quality – exceeding the lowest found among the Russell Group.[6] This definition gave a total of 41 'high-status' institutions. All 41 of these institutions are included in the definition used in this report, plus an additional 11 others.[7]

Our final outcome is only defined amongst state school pupils who went to university at age 18 or 19. It is an indicator that is equal to one if the student in question attends a university in the same government office region in which they live at age 16, and zero if they attend a university in a different region. Just under half of the students in our sample attend a university in the same region.

[5] See http://www.russellgroup.ac.uk/ for more details. There were 20 Russell Group institutions over the period covered by our data: Birmingham, Bristol, Cambridge, Cardiff, Edinburgh, Glasgow, Imperial College London, King's College London, Leeds, Liverpool, London School of Economics, Manchester, Newcastle, Nottingham, Oxford, Queen's University Belfast, Sheffield, Southampton, University College London and Warwick. A further four universities – Durham, Exeter, Queen Mary University of London and York – were added to the Russell Group in March 2012. These institutions are all included in our broader definition of 'more selective' institutions.

[6] These additional institutions are Aston, Bath, Birkbeck College, Courtauld Institute of Art, Durham, East Anglia, Essex, Exeter, Homerton College, Lancaster, Queen Mary and Westfield College, Reading, Royal Holloway and Bedford New College, Royal Veterinary College, School of Oriental and African Studies, School of Pharmacy, Surrey, Sussex, University of the Arts London, University of London and York.

[7] These additional institutions are: Royal Academy of Music, Royal College of Music, Royal Northern College of Music, Edinburgh College of Art, Glasgow School of Art, Royal Scottish Academy of Music and Drama, City University, University of Leicester, Goldsmiths College, St Georges Hospital Medical School, Loughborough University, University of Aberdeen, University of Dundee, University of St Andrews, Heythrop College, Guildhall School of Music and Drama.

Figure 2 Summary of outcomes

	Participation at age 18 or 19			Participation at a selective institution in first year			Attend university in same region as home in first year		
	2003-2008	2003	2008	2003-2008	2003	2008	2003-2008	2003	2008
Outcome = 1	32.6%	30.2%	35.5%	10.3%	9.7%	10.3%			
Outcome = 1, conditional on participation				31.4%	32.3%	29.0%	46.0%	46.8%	43.8%
Observations	3,493,992	5559,765	594,309	3,493,992	5559,765	594,309	1,139,727	169,000	661,069

We investigate differences in the likelihood of attending a university in the same region amongst those from different ethnic backgrounds in Section 7. It is also worth noting that females are slightly more likely than males to attend a university in the same region (47% vs. 44%), while there are very large differences by socio-economic background: amongst pupils who sat their GCSEs between 2003 and 2008 and who go to university at age 18 or 19, two thirds of those in the bottom quintile group defined using our index of socio-economic status (SES) attend a university in the same region as they live, compared to around one third of those in the top socio-economic quintile group. These differences are similar if we instead proxy socio-economic background using the POLAR index of local area participation in higher education. (See below for more details on these measures of SES.)

Key control variables

Socio-economic background

To better differentiate pupils at the top and middle of the distribution of socio-economic position, we combine the pupil's eligibility for free school meals (measured at age 16) with a variety of neighbourhood-based measures of socio-economic circumstances (linked in on the basis of home postcode at age 16) into an index and split state school pupils into five equally sized groups (quintile groups) on the basis of this index.[8] Chowdry et al. (2013) demonstrate the validity of this index as a measure of socio-economic position by comparing it to richer individual measures of socio-economic position from the Longitudinal Study of Young People in England.

[8] Specifically, we use information about each pupil's neighbourhood contained in their 2004 Index of Multiple Deprivation (IMD) score (see http://www.communities.gov.uk/communities/research/indicesdeprivation/deprivation10/ for more details), the classification of their neighbourhood according to ACORN (see http://www.caci.co.uk/acorn-classification.aspx) and three very local area-based measures from the 2001 Census – the proportion of individuals in each area: (a) who work in higher or lower managerial/professional occupations; (b) whose highest educational qualification is NQF Level 3 or above; and (c) who own (either outright or through a mortgage) their home. These measures are combined, using polychoric principal components analysis, into a single index of socio-economic status defined for all pupils for whom all of this information is non-missing. See Kolenikov and Angeles (2009) for more information on the merits of using polychoric correlations when combining discrete measures.

We also make use of an area-based measure of socio-economic position created by the Higher Education Funding Council for England (HEFCE), known as POLAR (Participation of Local Areas). POLAR measures the proportion of young people from a local area who entered a higher education course in a higher education institution in the UK or a further education college in Great Britain, aged 18 or 19.[9] For the purposes of this report, we use the POLAR2 measure of local HE participation, which utilises data on young people who turned 18 between 2000 and 2004 and entered university between academic years 2000-01 and 2005-06. Local areas are divided into quintiles on the basis of this proportion. This means that the proportion of young people in each quintile group may not be exactly equal to 20%. In fact, 22% of young people in our sample were allocated to the lowest participation quintile group and 17% to the highest.

In our models focusing on differences in HE participation by POLAR quintile groups, we also include eligibility for free school meals as a separate control. This is to make it more comparable with our SES index (described above) in which we combine individual and area-level measures of SES.

Ethnic group

We observe each pupil's ethnic group from the National Pupil Database (NPD). We look across all years in which pupils appear in the NPD in order to minimise the number of individuals for whom ethnic group is missing (as we omit these individuals from our analysis) and to help select a preferred group where more than one is reported in different years. (If there is a tie, we pick the most recent group reported.) We omit data from 2001-02 in this exercise, as the definition of ethnic group is inconsistent with the definition in later years.[10] Figure 3 shows the resultant breakdown by ethnic group, including how it varies by whether English is an additional language for these pupils.

Figure 3 shows that White British pupils are the predominant ethnic group amongst our cohorts (who finished compulsory schooling in England between 2003 and 2008), at around 84% of the sample as a whole. The largest ethnic minority groups are those from White but not White British (Other White) backgrounds, as well as those of Indian, Pakistani and Mixed backgrounds (each over 2% of the cohort). Appendix Table 2 shows that the percentage of White British students has decreased slightly over time, from around 85% for the first cohort to around 83% for the last cohort. The proportion of pupils from Other White, Black African, Pakistani and Mixed ethnic backgrounds has increased slightly, while those of Black Caribbean and Indian backgrounds have fallen slightly.

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[9] Further information can be found here: webarchive.nationalarchives.gov.uk/20120118171947/http://www.hefce.ac.uk/widen/polar/polar2/.

[10] The way in which ethnicity was recorded and coded differed between 2002 and subsequent years. This lead to the proportion of individuals recorded as being from Other Asian, Mixed and Other ethnic backgrounds differing substantially between the 2002 cohort and later cohorts because of measurement issues rather than underlying changes in ethnic composition.

Figure 3 Summary of ethnic groups and language status

	2003-2008 (% sample)	2003-2008 % with EAL
White British	84.0%	N/A
Other White	2.5%	37.6%
Black African	1.7%	64.6%
Black Caribbean	1.5%	5.1%
Other Black	0.5%	17.7%
Indian	2.4%	81.6%
Pakistani	2.4%	90.8%
Bangladeshi	1.0%	96.4%
Chinese	0.4%	76.7%
Other Asian	0.7%	74.8%
Mixed	2.2%	9.7%
Other	1.0%	67.0%

Figure 4 Summary of ethnic groups across SES groups

	2003						2008					
	Lowest SES group (%)	2nd lowest SES group (%)	3nd lowest SES group (%)	2nd highest SES group (%)	Highest SES group (%)	Row percentage (%)	Lowest SES group (%)	2nd lowest SES group (%)	3nd lowest SES group (%)	2nd highest SES group (%)	Highest SES group (%)	Row percentage (%)
White British	18.5	19.16	19.95	20.9	21.49	100	18.41	19.12	19.9	20.95	21.62	100
Other White	18.12	18.21	20.53	20.21	22.93	100	18.51	19.67	20.67	19.56	21.59	100
Black African	41.5	24.19	18.78	10.5	5.03	100	40.24	25.42	19.01	10.51	4.82	100
Black Caribbean	34.4	24.34	22.42	13.98	4.85	100	32.45	23.58	23.4	14.74	5.83	100
Other Black	34.89	23.93	20.04	14.07	7.07	100	34.39	23.43	20.92	13.92	7.34	100
Indian	11.64	27.47	28.04	19.46	13.4	100	11.52	24.9	26.27	20.99	16.32	100
Pakistani	36.28	34.25	15.76	8.89	4.82	100	34.56	32.28	17.09	9.76	6.3	100
Bangladeshi	58.15	23.21	10.22	5.79	2.63	100	51.5	24.56	13.53	6.86	3.55	100
Chinese	16.89	16.6	18.64	22.86	25	100	19.36	16.59	19.09	21.65	23.32	100
Other Asian	17.08	23.95	23.5	20.42	15.04	100	17.85	23.22	25.72	20.33	12.88	100
Mixed	27.64	20.91	18.57	17.15	15.73	100	25.24	21.22	19.43	17.52	16.58	100
Other	27.85	21.1	19.22	16.14	15.68	100	30.38	22.74	19.59	15.83	11.46	100

Figure 4 shows the relationship between ethnic group and socio-economic status. The patterns are largely similar in 2003 and 2008, although the percentage of Indian and Pakistani pupils in the higher socio-economic groups has increased slightly across cohorts. Just over one fifth of White British pupils are in the highest SES quintile, which is unsurprising given the large proportion of pupils in this ethnic group in England. Other White pupils have a similar distribution across SES quintiles, but there are striking differences between other ethnic minority groups. For example, in 2008, under 5% of Black African pupils were in the highest SES quintile, with around 40% in the lowest SES quintile. Bangladeshi pupils are also disproportionately found in the lowest SES quintiles, with over half in the lowest quintile, three quarters in the lowest two quintiles and under 4% in the highest SES quintile group. By contrast, Chinese pupils are most likely to be in the highest SES quintile.

It is clear that socio-economic disadvantage affects different ethnic groups to varying extents. But what impact does this have on higher education participation? The presence of ethnic minority groups in each SES quintile allows us to explore whether socio-economic gradients in participation are replicated across ethnic groups, and if not, to what extent other characteristics limit or exacerbate the detrimental impact of socio-economic disadvantage for different groups.

Prior attainment

We have access to scores from national achievement tests taken at age 11 (Key Stage 2), plus rich measures of attainment for all pupils who sat the relevant qualifications at Key Stages 4 and 5 (GCSEs and A-levels and equivalents).

We use the marks from tests in English, Maths and Science to calculate continuous Key Stage test levels in each subject at Key Stage 2. We split pupils into five equally sized groups (quintile groups) based on their achievement in each subject and include the top four quintile groups in our model.

We use a rich set of measures to account for differences in subjects, qualifications and grades at Key Stage 4 and Key Stage 5. The measures we include are set out in detail in Appendix Table 1. In summary: at Key Stage 4, we account for grades in English and Maths; the number of GCSEs at grades A*, A, B, C and D-G in subjects included as part of the English Baccalaureate and separately in other subjects; the number of GNVQs at grades A, B, C and D-G, quintiles of Level 2 points, and some information about vocational qualifications from the ILR/NISVQ data. At Key Stage 5, we account for the number of A-levels at grades A* or A, B, C, D and E in “facilitating” subjects[11], quintiles of Level 3 points, and some information about vocational qualifications from the ILR/NISVQ data.

Pupils for whom some or all of this information is missing are included in our analysis through the use of dummy (binary) variables that indicate missing values.

[11] See pg 25 of http://russellgroup.org/InformedChoices-latest.pdf.

Figure 5 shows the average academic attainment of pupils from each socio-economic quintile group (defined using our SES index) for a select few measures, for the cohorts who sat their GCSEs in 2003 and 2008. Key Stage 1 attainment is available only for the 2007 and 2008 cohort, so we are unable to make the same comparison over time for this early measure of attainment.

The socio-economic gradient in attainment is large, evident at all Key Stages, and for both the earliest and latest cohorts of pupils. For example, amongst those who sat their GCSEs in 2008, 57% of those in the lowest socio-economic quintile group reached the expected level of attainment in all subjects at the end of Key Stage 1, compared to 82% of those in the highest socio-economic quintile group. These gaps persist across Key Stages, but, given the variation in measures of attainment, it is difficult to compare the change across age groups explicitly.

It is more straightforward to compare changes in the socio-economic gaps over time (across cohorts). Figure 5 presents a somewhat mixed picture, with the differences at Key Stage 4 changing relatively little between 2003 and 2008 (or, if anything, showing a small increase), while the level and point score measures at Key Stage 2 and Key Stage 5 respectively suggest a slight narrowing. This is consistent with other evidence showing that young people from more deprived backgrounds are "catching up" with their better-off peers over time (e.g. Blanden & Macmillan, 2014).

Figure 5 Academic attainment of socio-economic groups (2003, 2008)

	Key Stage 1 (% achieving Level 2 in all subjects)	Key Stage 2 (average level achieved)	Key Stage 4 (total point score)	5 A*-C EBACC (% achieving)	Key Stage 5 (total point score)
	2003 cohort				
Lowest quintile		3.90	28.06	11%	591.17
2nd lowest quintile		4.07	34.74	20%	642.88
Middle quintile		4.24	41.18	32%	690.46
2nd highest quintile		4.38	46.30	43%	736.52
Highest quintile		4.55	52.18	57%	789.29
Difference between highest and lowest		0.65	24.12	46ppts	198.12
	2008 cohort				
Lowest quintile	57%	4.20	28.65	12%	627.52
2nd lowest quintile	65%	4.38	35.24	21%	671.88
Middle quintile	73%	4.54	41.48	32%	714.44
2nd highest quintile	78%	4.68	46.92	43%	756.90
Highest quintile	82%	4.83	53.64	57%	818.77
Difference between highest and lowest	25ppts	0.63	24.99	45ppts	191.25

Note: the measure of attainment at Key Stage 1 is a binary indicator for whether the pupil achieved at least Level 2 (the expected level of attainment) in reading, writing, and maths. The measure of attainment at Key Stage 2 is a continuous level of attainment achieved across English, maths and science. The measure of attainment at Key Stage 4 is a total point score coded such that 8 points are awarded for each A*, 7 points for each A and so on down to 1 point for each G grade and 0 points for each U grade. The measure of attainment at Key Stage 5 is a total point score at Key Stage 5, calculated using the QCA points system (see www.gov.uk/government/uploads/system/uploads/attachment_data/file/160734/performance_points.pdf).

Figure 6 shows differences in attainment by gender amongst the cohorts who sat their GCSEs in 2003 and 2008. It shows that girls outperform boys at every Key Stage, and that, in most cases, these differences have fallen slightly over time (across cohorts). For

example, amongst the cohort who sat their GCSEs in 2008, girls are 9 percentage points more likely than boys to reach the expected level in reading, writing and maths at Key Stage 1, and 6 percentage points more likely to achieve 5 A*-C grades in subjects that count towards the English Baccalaureate, down slightly from 7 percentage points amongst the cohort who sat their GCSEs in 2003.

Figure 6 Academic attainment by Gender (2003, 2008)

	Key Stage 1 (% achieving Level 2 in all subjects)	Key Stage 2 (average level achieved)	Key Stage 4 (total point score)	5 A*-C EBACC (% achieving)	Key Stage 5 (total point score)
	2003 cohort				
Females		4.26	43.35	36%	739.20
Males		4.20	37.7	29%	700.86
Difference		0.06	5.65	7ppts	38.34
	2008 cohort				
Females	81%	4.55	44.12	36%	755.58
Males	72%	4.51	38.36	30%	720.03
Difference	9ppts	0.04	5.76	6ppts	35.55

See notes to Figure 5.

Figure 7 presents a similar picture by ethnic group. Attainment at Key Stage 1 (according to this metric) is highest for White British pupils; 75% reach the expected level of attainment in all subjects, compared to 66% of Indian pupils, 53% of Chinese pupils, and only 35% of Black African pupils.

The difference in attainment at this early stage of compulsory education may be explained in part by the presence of English as an additional language (EAL), as some ethnic groups are particularly likely to speak English as a second language. This is shown in Appendix Table 4, where, amongst those who sat their GCSEs in 2008, 65% of Black African pupils are EAL, compared to 4% of Black Caribbean pupils, and over 95% of Bangladeshi pupils. EAL is not necessarily a barrier to high attainment at this age, however; around 80% of Indian pupils have English as an additional language, and pupils from this ethnic group had the highest level of attainment at Key Stage 1, on average, behind White British pupils. Appendix Table 5 shows that English as an additional language is associated with lower attainment for some ethnic groups, and to a lesser extent for others. The differences in attainment become lower across Key Stages, presumably as a result of increased exposure to English.

Previous research has suggested that all ethnic minority groups make greater progress, on average, than White British pupils between Key Stages 2 and 4 (e.g. Wilson et al., 2011), and this is born-out by the improvement in performance of ethnic minority pupils relative to their White British peers by the end of secondary school in Figure 7: White British pupils are out-scored by pupils from Other White, Indian, Chinese, Other Asian, Mixed and Other ethnic backgrounds at Key Stage 4.

The socio-economic gradient in attainment for each ethnic group is shown in Appendix Table 3. Amongst the cohort who sat their GCSEs in 2008, 10% of White British pupils in the lowest socio-economic quintile group achieve 5 A*-C in EBACC subjects at GCSE, compared to 57% of those in the highest socio-economic quintile group. For this cohort,

the average attainment of all ethnic minority groups in the lowest socio-economic quintile was above that of White British pupils (although very similar for Black Caribbean pupils), with around 40% of Chinese pupils in the lowest socio-economic quintile achieving this benchmark of attainment at the end of compulsory schooling.

In general, this means that the socio-economic differences in academic attainment are lower for ethnic minority groups, which may influence socio-economic differences in higher education participation. Higher attainment and higher participation may also be correlated due to unobservable attributes, however, such as higher expectations and aspirations for achievement in education.

This report will seek to shed light on the extent to which socio-economic and ethnic differences in prior measures of attainment can help to explain the differences in HE participation overall and at the most selective institutions that we observe.

Figure 7 Academic attainment of ethnic groups (2003, 2008)

	Key Stage 1 (% achieving Level 2 in all subjects)	Key Stage 2 (average level achieved)	Key Stage 4 (total point score)	5 A*-C EBACC (% achieving)	Key Stage 5 (total point score)
	2003 cohort				
White British		4.25	40.46	0.33	731.61
Other White		4.29	42.75	0.36	735.07
Black African		3.99	36.99	0.22	609.75
Black Caribbean		3.98	32.76	0.14	573.82
Other Black		3.99	32.87	0.17	600.60
Indian		4.20	48.04	0.43	683.49
Pakistani		3.81	37.40	0.21	618.05
Bangladeshi		3.90	39.26	0.20	602.06
Chinese		4.47	55.98	0.56	808.03
Other Asian		4.28	46.71	0.42	724.12
Mixed		4.22	40.13	0.31	713.27
Other		4.18	39.18	0.29	701.92
	2008 cohort				
White British	0.75	4.55	41.16	0.33	742.74
Other White	0.45	4.55	42.77	0.35	771.05
Black African	0.35	4.30	38.61	0.26	666.33
Black Caribbean	0.60	4.30	35.20	0.18	638.01
Other Black	0.55	4.35	36.25	0.21	657.88
Indian	0.66	4.58	49.69	0.46	766.28
Pakistani	0.51	4.18	37.39	0.23	685.04
Bangladeshi	0.51	4.29	39.55	0.23	656.49
Chinese	0.53	4.81	56.68	0.55	899.66
Other Asian	0.37	4.52	43.94	0.38	750.11
Mixed	0.68	4.55	40.96	0.32	731.21
Other	0.34	4.36	38.67	0.29	733.08
See notes to Figure 5.					

3. METHODOLOGY

We model the relationship between socio-economic background, gender, ethnicity and HE participation decisions, and explore the extent to which differences in other characteristics can help to explain the relationships that we observe.

Because all the outcomes we consider are binary (taking value 0 or 1), we use probit regression models to undertake our analysis and present the marginal effects estimated at the mean of all characteristics included in the model. These effects can be interpreted as the percentage point change in participation associated with the variable in question (conditional on all others in the model).

Our first specification includes only the characteristic of interest (socio-economic quintile group[12], gender or ethnic group), separately for each cohort. This provides a baseline estimate of the relationship between gender, socio-economic or ethnic group and the outcome of interest.[13]

To investigate the potential drivers of this relationship, we adopt a sequential modelling approach, successively adding different groups of characteristics to our baseline model. The extent to which the relationship between gender, socio-economic or ethnic group and our outcome of interest changes when we include these additional characteristics in our model provides an indication of the likely importance of their role in explaining the baseline relationships that we observe.

Our second specification adds factors that are largely fixed by the end of primary school. Specifically, we include month of birth, language status, region, and special educational needs status – plus whichever of gender, ethnicity or socio-economic status[14] were not included in our first specification. We also include a set of measures designed to capture the young person's attainment on entry to secondary school (from English, maths and science tests at Key Stage 2).[15] The remaining differences between our groups of interest at this point can be interpreted as the differences that cannot be accounted for by family and neighbourhood context, and early academic attainment.

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[12] Where we use POLAR quintile groups as our main measure of socio-economic background, we additionally control for the pupil's eligibility for free school meals at age 16 in order to make it more comparable with our SES index, which includes both individual and local-area measures of SES.

[13] It should be noted that the raw differences estimated using this approach can differ slightly from the raw differences estimated using simple descriptive statistics. In most cases these differences are small and do not materially affect any of our conclusions.

[14] In models which focus on gender and ethnicity, we always use quintile groups based on our SES index rather than POLAR as our measure of socio-economic status.

[15] Because our interest is primarily in comparing how these relationships and their determinants change over time, we do not include Key Stage 1 results in our analysis, as they are only available for the latest cohorts. These additional controls for early measures of attainment do not materially affect the differences in participation that remain after accounting for all of the characteristics at our disposal. Results are available from the authors on request.

Our third specification adds a small set of controls designed to capture the type and quality of secondary school attended. These variables include:

- A set of binary indicators representing the type and selectivity of the school: whether a selective or non-selective community school, a selective or non-selective other maintained school, an academy or a special school;

- A binary indicator for whether the school has an attached sixth form;

- A set of binary indicators for the overall performance of the school, as measured by the percentage of pupils achieving 5 A*-C grades at GCSE. We split schools into five equally sized groups on the basis of this measure and omit schools with the lowest performance as the reference category.

This should enable us to understand whether the fact that pupils from different socio-economic or ethnic backgrounds attend different types of schools can help to explain why some pupils are more likely to go to university than others.

Our fourth specification adds a detailed set of measures indicating the young person's qualifications, subjects and grades at Key Stage 4 (GCSEs and equivalents).

Finally, our fifth specification adds a rich set of measures designed to capture the young person's qualifications, subjects and grades at Key Stage 5 (A-levels and equivalents).

The remaining differences between our groups of interest after adding all of these measures can be interpreted as the differences that are not accounted for by family, neighbourhood and school context, and detailed measures of academic attainment (which we acknowledge may be influenced by the young person's aspirations and desire to participate in higher education).

The final estimated relationship between gender, socio-economic or ethnic group and our outcome of interest should thus be regarded as descriptive rather than causal, as other factors that we are not able to observe may be associated with gender, socio-economic or ethnic group and the outcome of interest. Similarly, comparisons between our second and third, third and fourth or fourth and fifth specifications should not be interpreted as the causal effect of particular covariates on participation outcomes. In each case the estimated relationships could be capturing the influence of other unobserved pupil or school characteristics that are correlated with both the particular pupil characteristic of interest (gender, socio-economic status or ethnicity) and the pupils' university participation decisions.

We run our analysis at the individual level, but account for the fact that the outcomes of pupils at particular schools will be correlated (because they have been taught by the same teachers, had the same peer groups, and so on) by clustering our standard errors at the secondary school level.

Due to the very large number of models we run, we do not systematically comment on the relationship between HE participation and any of our control variables other than gender, socio-economic or ethnic group. It is worth noting, however, that a number remain significant even after accounting for a rich set of measures of attainment up to and including Key Stage 5. For example, *holding all else constant*, pupils born in August, those who speak English as an additional language and those with special educational needs are significantly more likely to go to university than those born in September, those who do not speak English as an additional language and those without special educational needs respectively; pupils from the North East and the North West are also significantly more likely to go to university than pupils from other regions. These relationships are estimated using models in which we additionally account for other individual and school characteristics, and a rich set of measures of prior attainment; in some cases, therefore, they are very different from the raw relationships observed between these characteristics and the likelihood of going to (a more selective) university.

It is also worth noting that a number of measures of earlier prior attainment (especially those from Key Stage 4) remain significantly associated with HE participation decisions, even after accounting for a rich set of measures of Key Stage 5 performance.

4. RESULTS: DIFFERENCES BY SOCIO-ECONOMIC STATUS

OVERALL HE PARTICIPATION

Raw differences

- Figures 8 and 9 present trends in HE participation rates by socio-economic status (SES) for the cohorts taking their GCSEs between 2003 and 2008. Figure 8 focuses on quintile groups defined using an index of socio-economic status combining free school meal eligibility and various local neighbourhood proxies for SES; Figure 9 on quintile groups defined using the POLAR index of local HE participation rates. Both figures also highlight the difference in participation between those in the highest and lowest quintile groups and how this has changed over time.

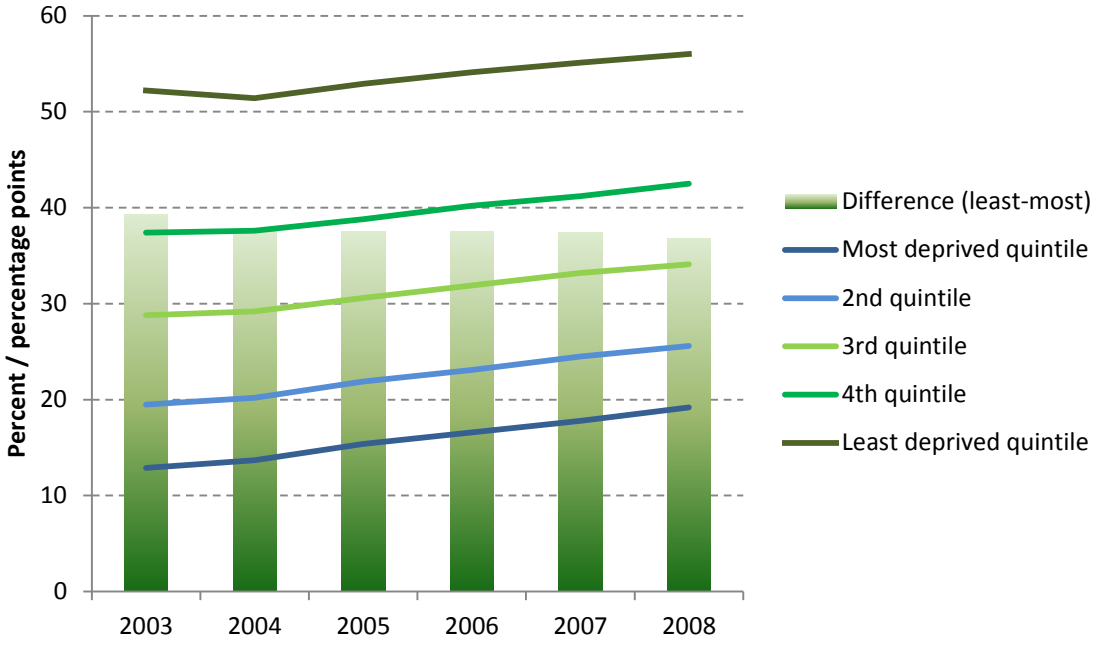
- There are large SES differences in HE participation. Amongst those who sat their GCSEs in 2003, pupils in the top quintile group are around 39 percentage points more likely to go to university than those in the bottom quintile group when defining SES using FSM eligibility and various neighbourhood measures (see Figure 8), and around 35 percentage points more likely to go when we proxy SES using local participation rates (POLAR) (see Figure 9).

- The difference in participation rates between SES quintile groups is not linear: the gap between the highest and second highest quintile groups (of more than 10 percentage points using either measure of SES) is larger than it is between any other adjacent quintile groups.

- Participation has increased among all SES groups over time, but more rapidly for those in the lowest SES quintile group. For example, comparing the cohorts who sat their GCSEs in 2003 and 2008, participation has increased by 6.3 percentage points in the lowest socio-economic quintile group, compared to 3.8 percentage points in the highest socio-economic quintile group. This means that the difference between the top and bottom quintile groups has fallen slightly over time, from 39 percentage points amongst the cohort who sat their GCSEs in 2003, to 37 percentage points amongst the cohort who sat their GCSEs in 2008.

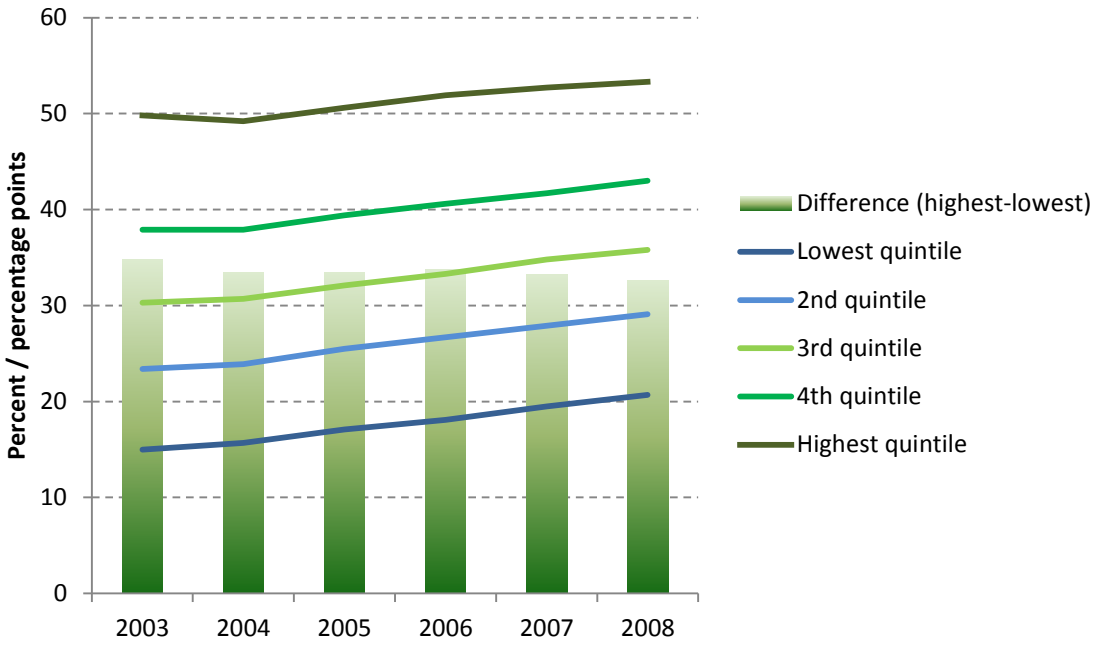
- The picture is very similar regardless of which SES measure we use, although the distribution of participation rates is generally more compressed when measured using POLAR quintiles rather quintiles defined using both individual and neighbourhood characteristics.

Figure 8: SES differences in HE participation at age 18 or 19 amongst cohorts taking their GCSEs 2003 to 2008: quintiles defined using SES index combining FSM eligibility and area-level measures



Notes: all differences are statistically significantly different from zero at the 5% level.

Figure 9: SES differences in HE participation at age 18 or 19 amongst cohorts taking their GCSEs 2003 to 2008: quintiles defined using POLAR 2 local area participation quintiles

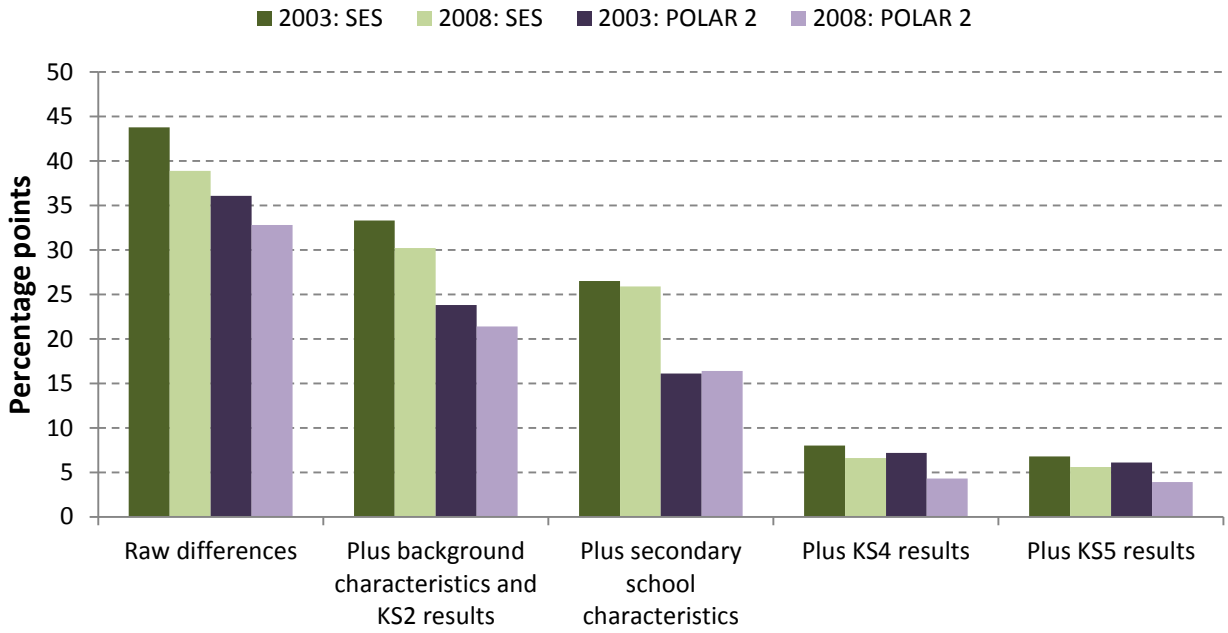


Notes: all differences are statistically significantly different from zero at the 5% level.

Conditional differences

- Do these differences in participation reflect differences in the other characteristics of pupils from different socio-economic backgrounds, the schools they attend or their prior attainment? Figure 10 shows what happens to the raw differences in participation between the top and bottom SES quintile groups (defined using both our SES index and local HE participation rates) when we account for other background characteristics, school characteristics and rich measures of attainment earlier in the education system for cohorts sitting their GCSEs in 2003 and 2008.

Figure 10: What explains the differences in HE participation between the most and least deprived quintile groups (defined using our SES index and POLAR 2 quintiles) in 2003 and 2008?



Notes: all differences are statistically significantly different from zero at the 5% level. The models showing differences in participation by POLAR local area participation rates additionally include controls for an individual's own eligibility for free school meals.

- The addition of controls for individual background characteristics (including gender, ethnicity, month of birth, whether English is an additional language, special educational needs status and region), attainment at the end of primary school and secondary school characteristics are together able to explain a substantial proportion of the difference in participation rates between pupils from the highest and lowest quintile groups (30-40% amongst quintile groups defined using our SES index and 50-55% amongst quintile groups defined using POLAR).

- However, it is the addition of a rich set of measures of performance at the end of secondary school that reduces the socio-economic differences substantially. As shown in Figure 5, individuals from lower socio-economic backgrounds have substantially lower attainment than their more advantaged peers. Given that prior attainment is also strongly associated with the likelihood of going to university, once

we compare individuals from different socio-economic backgrounds with the same prior attainment, the socio-economic differences in HE participation are substantially reduced. For example, we are able to explain over four fifths of the gap between the most and least deprived groups once we include a rich set of measures of Key Stage 4 attainment (in addition to other individual and school characteristics and Key Stage 2 results).

- In fact, we are able to explain an even larger proportion of the raw gap in HE participation if we only account for differences in attainment at Key Stage 4 (and do not additionally control for other individual or school characteristics, or attainment at Key Stage 2). For example, the third set of bars in Appendix Figure 1 shows that, amongst the cohort who sat their GCSEs in 2008, the difference in participation rates between young people from the most and least deprived socio-economic quintile groups is eliminated (no longer significantly different from zero) by controlling for a rich set of measures of attainment at Key Stage 4. By contrast, the main results discussed in this section suggest that it remains over 6 percentage points if we additionally account for individual and school characteristics, as well as attainment at Key Stage 2.

- The fact that we can explain a larger proportion of the socio-economic gap in HE participation if we do not control for additional characteristics suggests that young people from different socio-economic backgrounds may differ in other ways which affect their likelihood of participating in higher education, over and above their level of attainment. Appendix Figure 1 explores which factors seem to be the most relevant, illustrating the differences in attainment that remain after accounting for all characteristics up to and including Key Stage 4 results, just Key Stage 4 results, Key Stage 4 and Key Stage 2, Key Stage 4 and ethnicity and whether English is an additional language, and Key Stage 4 and other background characteristics.

- The fourth set of bars in Appendix Figure 1 shows that the gap in HE participation between young people from the most and least deprived socio-economic quintile groups remains small and not significantly different from zero when we control for Key Stage 2 results in addition to Key Stage 4 results. This suggests that the socio-economic differences in HE participation amongst those with similar Key Stage 4 results do not arise because different socio-economic groups make different rates of progress during secondary school. This is good news for interventions designed to "widen" participation by increasing attainment for low SES pupils during secondary school (between Key Stages 2 and 4).

- What seems to make the most difference is controlling for ethnicity and whether English is an additional language in addition to Key Stage 4 results: once we do this (in the fifth set of bars in Appendix Figure 1), the socio-economic difference in HE participation rises to close to the level that we see in our main results, when we control for a full set of individual and school characteristics, as well as attainment at Key Stages 2 and 4. This suggests that ethnicity and language status – and unobserved factors associated with ethnicity and language status – are likely to play

a key role in explaining differences in HE participation, including amongst young people from different socio-economic backgrounds (with which ethnicity is strongly correlated). We examine these factors in more detail in Chapters 6 and 7.

- Appendix Table 8 presents the coefficient estimates underlying the conditional analysis for the cohorts who sat their GCSEs in 2008.[16] We would caution against placing significant weight on the coefficient estimates associated with specific measures of prior attainment, as we include a large number of correlated measures in our models. However, it is worth noting that the measures designed to capture high GCSE grades in EBACC subjects are strongly associated with HE participation. For example, amongst the cohort who sat their GCSEs in 2008, when we include individual and school characteristics, plus measures of attainment at Key Stage 2 and Key Stage 4, obtaining an additional GCSE at grade A* in an EBACC subject is associated with an increase in participation of 4.2 percentage points and an additional A grade in an EBACC subject is associated with a rise in participation of 2.2 percentage points.

- Interestingly, accounting for performance at Key Stage 5 (on top of all the other factors in the model) does not substantially reduce the remaining socio-economic differences in HE participation: the gaps fall by up to a further 1.2 percentage points. This suggests that the attainment of pupils at Key Stage 4 is virtually sufficient to predict whether they will stay in school beyond age 16 and how well they will do once they are there, and hence that increasing attainment during secondary school is key to widening HE participation amongst those from lower socio-economic backgrounds.

- Even once we account for a rich set of individual and school characteristics and measures of prior attainment, we estimate that, amongst the cohort who sat their GCSEs in 2008, those from the lowest SES quintile group remain 5.6 percentage points less likely to go to university than those from the highest SES quintile group (3.9 percentage points if we use POLAR to proxy socio-economic status). These estimates are significant at the 5% level and are similar in magnitude to those reported in Chowdry et al. (2008), albeit using a different sample and model specification.

- A final point highlighting the continuing and important role played by attainment at Key Stage 4 in driving HE participation decisions is that the associations between high GCSE grades in EBACC subjects and HE participation decrease (as we might expect) but remain significant even after controlling for a rich set of Key Stage 5 controls. For example, amongst the cohort who sat their GCSEs in 2008, Appendix Table 8 shows that an additional A* grade in an EBACC subject at GCSE is associated with a 2.0 percentage point increase in HE participation, and an additional A grade is associated with a 1.8 percentage point rise. This again

[16] The results for the cohort who sat their GCSEs in 2003 are available from the authors on request.

highlights the importance of secondary schooling as a period during which to intervene to widen HE participation.

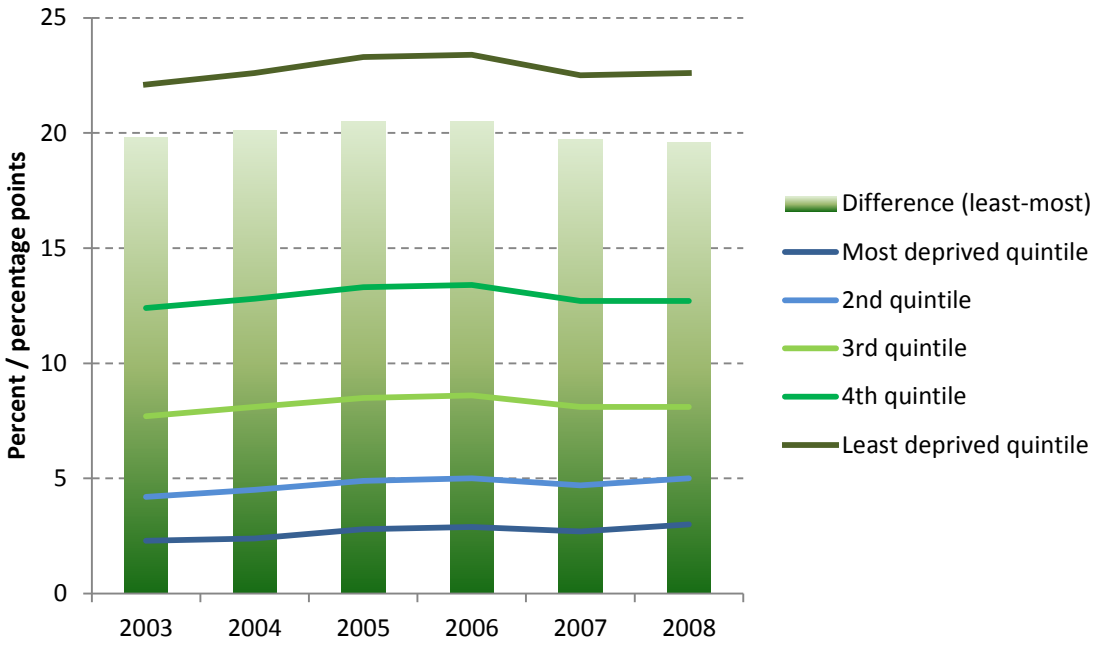
PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences

- Figure 11 and Figure 12 show the percentage of each cohort attending a selective institution, how this has changed over time and how it varies by socio-economic background: Figure 11 uses our SES index to define the quintile group while Figure 12 uses the POLAR participation rate.

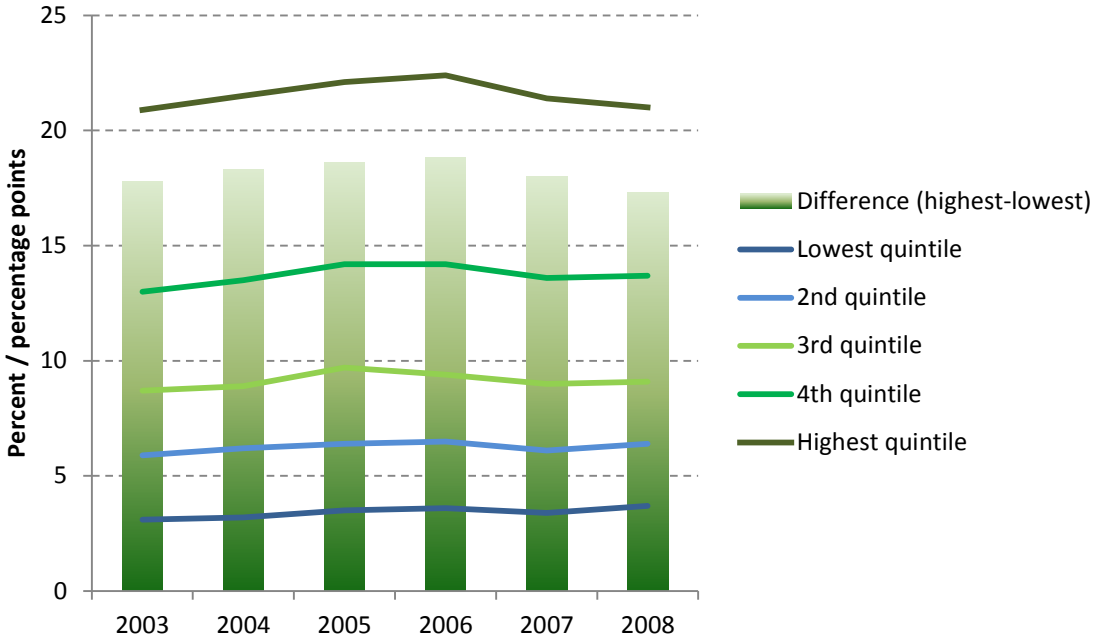
- The gap in terms of participation at a selective institution between those in the top and bottom SES quintile groups is smaller in absolute terms than the gap in terms of overall participation, but larger in relative terms: amongst the cohort who sat their GCSEs in 2008, those in the highest SES group (defined using our SES index) are around 20 percentage points (7 times) more likely to go to a selective institution than those in the lowest SES group ; the relevant figure for participation overall is 37 percentage points (3 times more likely).

Figure 11: SES differences in participation at the most selective institutions at age 18 or 19 amongst cohorts taking their GCSEs 2003 to 2008: quintile groups defined using our SES index



Notes: all differences are statistically significantly different from zero at the 5% level.

Figure 12: SES differences in participation at the most selective institutions at age 18 or 19 amongst cohorts taking their GCSEs 2003 to 2008: quintile groups defined using POLAR 2 local area participation



Notes: all differences are statistically significantly different from zero at the 5% level.

- Again, the difference between the top and second SES groups is larger than that between other adjacent groups: at around 10 percentage points, it is as large as the gap between the second and bottom SES quintile groups. While this difference is only slightly smaller than the absolute difference between the top and second SES quintile groups in terms of overall participation, it is much larger in relative terms: amongst the 2008 cohort, those in the top quintile group are about 1.8 times more likely to go to a selective institution than those in the second SES quintile group (compared to around 1.3 times more likely for participation overall).

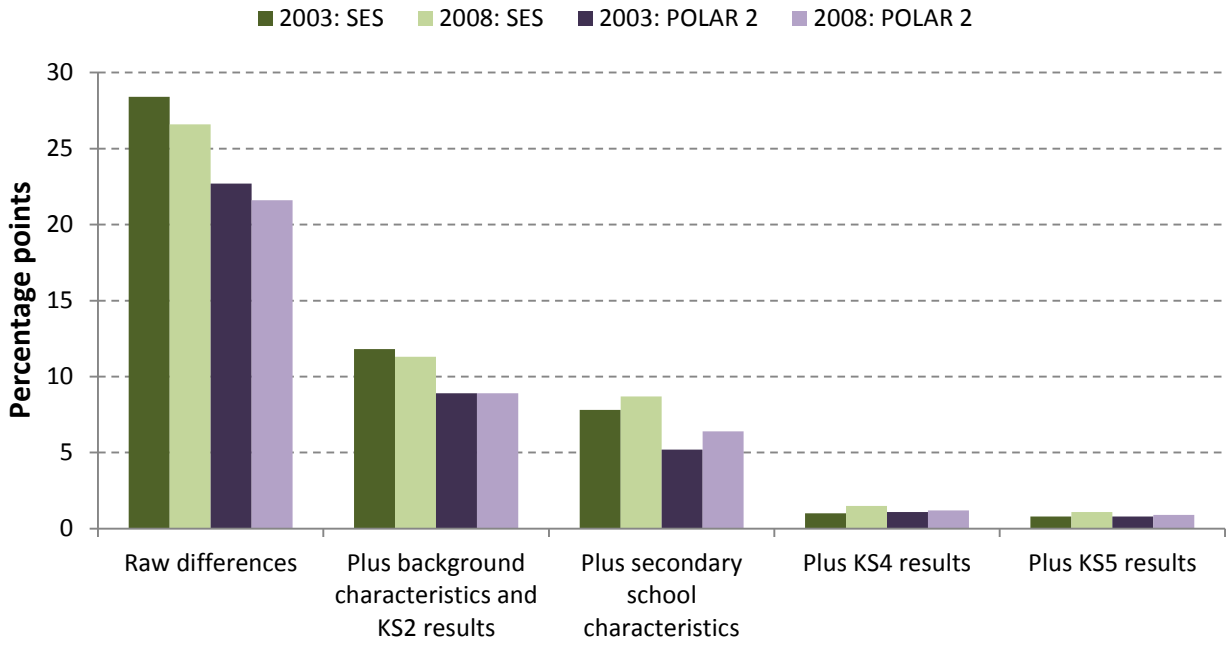
- The proportion participating increased marginally among all SES groups, meaning that the difference between the top and bottom quintile groups was roughly stable over this period.

- The picture is very similar when SES is defined using POLAR quintiles, but as was the case for total participation, the distribution is somewhat compressed.

Conditional differences

- Figure 13 illustrates the factors that help to explain these large raw differences in participation at the most selective institutions between individuals from the top and bottom SES groups.

Figure 13: what explains the differences in participation at the most selective institutions between the most and least deprived quintile groups (defined using our SES index and POLAR 2 quintiles) in 2003 and 2008?



Notes: all differences are statistically significantly different from zero at the 5% level. The models showing differences in participation by POLAR local area participation rates additionally include controls for an individual's own eligibility for free school meals.

- We can explain a substantially larger proportion of the raw difference in participation at the most selective institutions between pupils from different socio-economic backgrounds than we were able to in terms of participation overall. For example, we are able to explain 65-75% of the gap in participation at the most selective institutions using individual and school characteristics and Key Stage 2 results, while we were able to explain at most 55% in terms of participation overall.

- What is clear is that prior attainment again seems to play a crucial role in explaining the socio-economic gaps in participation at the most selective institutions that we see. Indeed, the role of prior attainment appears even more important here than it was when considering participation at any UK university. For example, once we add a rich set of controls for attainment at Key Stage 4 (plus background characteristics and Key Stage 2 scores), the difference in HE participation rates between the top and bottom SES quintiles (defined using our SES index) for the cohort who sat their GCSEs in 2008 falls to 1.5 percentage points (around 6% of the raw difference).

- Appendix Figure 1 shows what happens to the socio-economic gap in participation at more selective institutions if we just control for Key Stage 4 results (and selected other characteristics). It shows that we can explain approximately the same proportion of the raw socio-economic gap in participation at more selective institutions by just controlling for Key Stage 4 attainment as we can if we additionally control for individual and school characteristics, and Key Stage 2 results. This again highlights the key role played by prior attainment in explaining socio-economic differences in participation at more selective institutions. It also suggests that – in contrast to the results for participation overall – unobserved factors correlated with ethnicity or language status (as well as socio-economic

background) are less likely to affect HE participation decisions over and above attainment at Key Stage 4. We discuss this issue further in Chapters 6 and 7.

- The addition of a rich set of measures of performance at Key Stage 5 reduces the remaining socio-economic difference in participation at a more selective institution marginally further, enabling us to explain almost 96% of the gap in participation at the most selective institutions using the full range of characteristics at our disposal, compared to at most 88% of the gap in HE participation overall.

- The remaining differences in participation at the most selective institutions by socio-economic backgrounds are very small – at most 1.1 percentage points – but remain significantly different from zero. These differences are slightly smaller than our previous published results (e.g. Chowdry et al., 2013), which we attribute largely to the richer measures of prior attainment we use here.[17] Our sample and model specification are also different and our definition of "high status" (most selective) is slightly wider in this report, however, so one should not read too much into these differences.

- Appendix Table 9 presents the coefficient estimates underlying the conditional analysis for the cohorts who sat their GCSEs in 2008.[18] High grades at GCSE in EBACC subjects are less strongly associated with participation at a selective institution than with HE participation overall, but even after conditioning on attainment at Key Stage 5, obtaining an additional A* grade in an EBACC subject at GCSE is still associated with a 0.8 percentage point increase in participation at a selective institution, and an additional A grade is associated with a 0.7 percentage point increase amongst the 2008 cohort. Again, we would caution against placing undue weight on individual coefficient estimates on prior attainment covariates, however, as our model contains a large number of correlated measures.

[17] In particular, our previous research primarily relied on Key Stage 4 scores (including both GCSEs and equivalents), whereas here we are accounting for the fact that different qualifications and different subjects do not necessarily have the same influence on HE participation decisions.

[18] The results for the cohort who sat their GCSEs in 2003 are available from the authors on request.

5. RESULTS: DIFFERENCES BY GENDER

OVERALL HE PARTICIPATION

Raw differences

- Figure 14 plots the trends in HE participation rates for males and females – and the difference between the two – for the cohorts who sat their GCSEs between 2003 and 2008. It shows that girls are around 8 percentage points more likely to go to university at age 18 or 19 than boys, a gap which has remained relatively constant over this period.

Conditional differences

- Figure 15 explores what drives these gender differences in HE participation. The inclusion of controls for other background characteristics and Key Stage 2 results helps to explain a small proportion of the gap: as shown in Figure 6, boys have worse Key Stage 2 results, on average, than girls; they are also more likely to be labelled as having special educational needs. As both of these factors are associated with lower HE participation, holding these factors constant helps to explain why girls are, on average, more likely to go to university than boys.

- The addition of controls for secondary school characteristics makes very little difference to the gender differences in HE participation. This is perhaps unsurprising, as there is little evidence of differential selection into schools on the basis of gender: girls are no more likely to attend high performing schools than boys, thus the addition of controls for the quality of school attended has little effect on the estimated differences.

- By contrast, the addition of a rich set of controls for Key Stage 4 attainment substantially reduces the estimated gender difference in HE participation: once we account for a limited set of background and school characteristics, plus Key Stage 2 and Key Stage 4 results, the difference in HE participation rates between males and females is reduced to less than one percentage point. The fact that – as shown in Figure 6 – boys tend to achieve poorer GCSE and equivalent results than girls plays a key role in explaining why they are also less likely to go to university.

- These conditional relationships have changed slightly over time. For example, amongst the cohort who sat their GCSEs in 2003, boys with the same background characteristics and Key Stage 2 results, attending similar schools and with the same Key Stage 4 results as girls were, on average, slightly less likely to go to university, while amongst the cohort who sat their GCSEs in 2008, they were, on average, slightly more likely to go.

- As was the case for socio-economic differences in HE participation, the addition of controls for Key Stage 5 attainment makes relatively difference to the estimated gender differences in HE participation, highlighting the strong predictive power of Key Stage 4 attainment for subsequent education choices and performance.

Figure 14: Gender differences in HE participation at age 18 or 19 amongst the cohort taking their GCSEs in 2003 to 2008

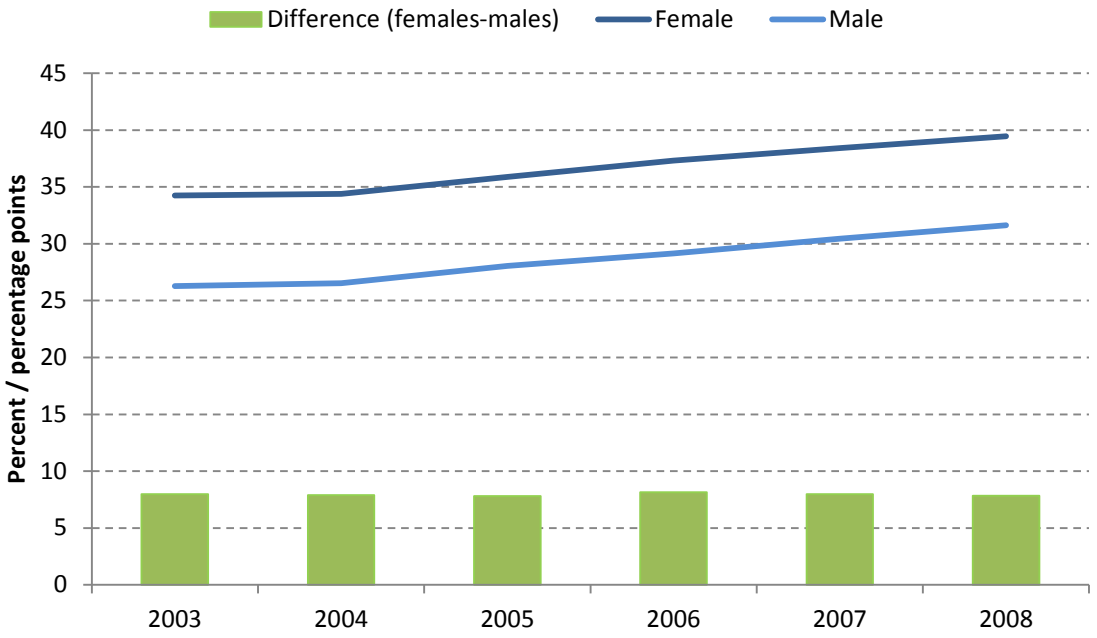
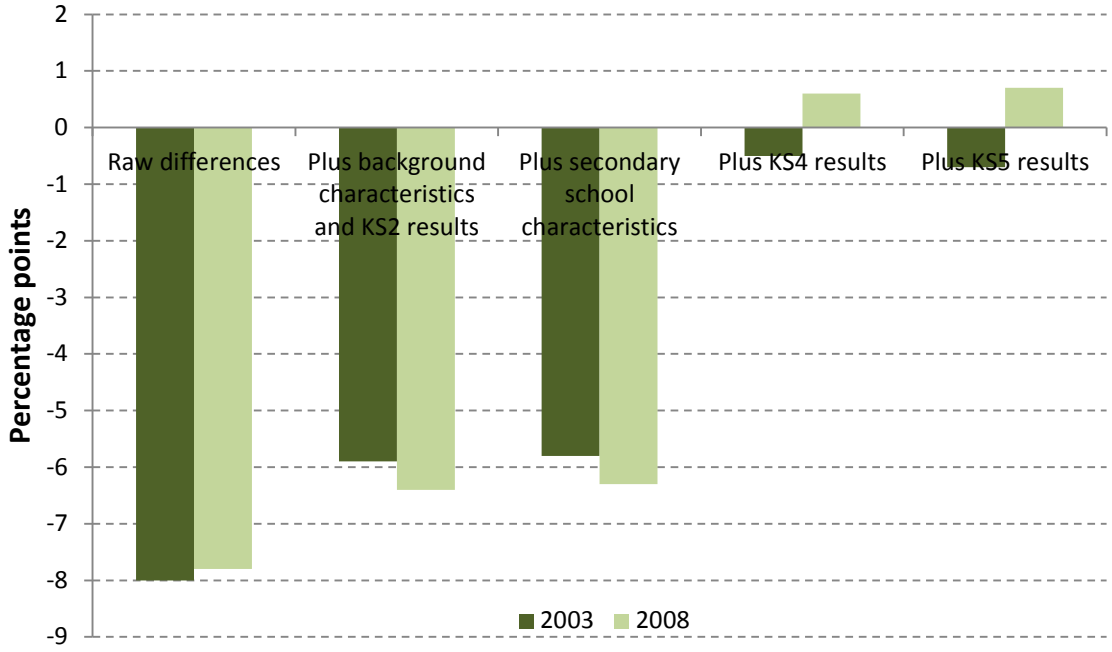


Figure 15: What explains the differences in HE participation between males and females in 2003 and 2008?



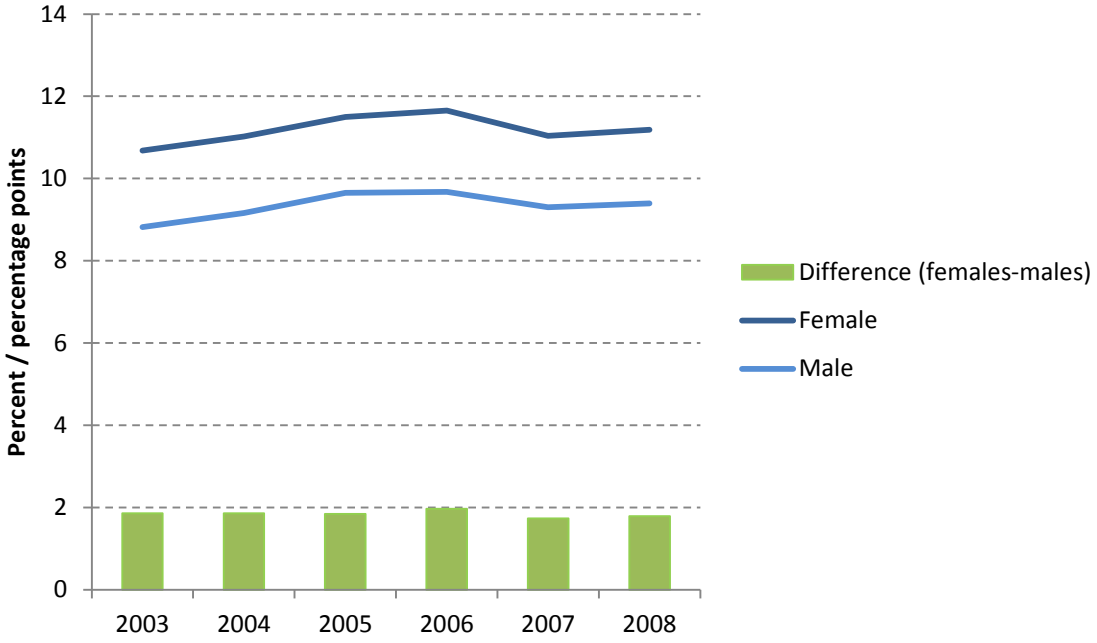
Notes: all differences are statistically significantly different from zero at the 5% level.

PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences

- Figure 16 plots the trends in participation at the most selective institutions at age 18 or 19 for males and females – and the difference between the two – for the cohorts who sat their GCSEs between 2003 and 2008. It shows that girls are just under 2 percentage points more likely to attend a selective institution than boys, a difference that has remained reasonably stable over the period of interest.

Figure 16: gender differences in HE participation at age 18 or 19 amongst the cohort taking their GCSEs in 2003 to 2008



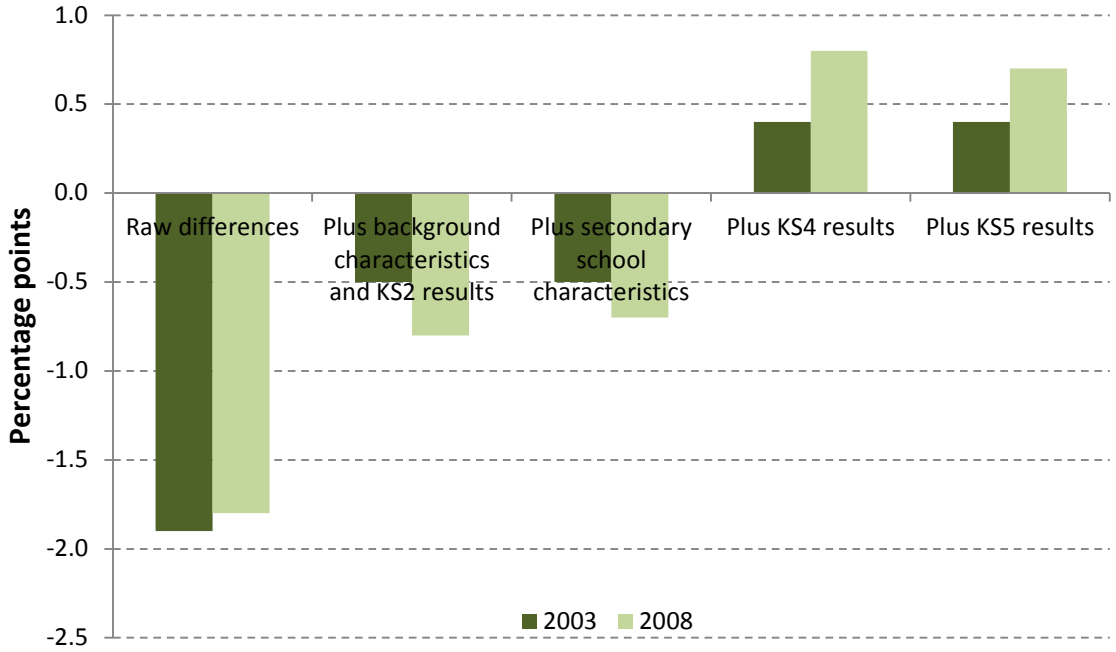
Conditional differences

- Figure 17 shows how the relationship between gender and participation at the most selective institutions changes once we account for the other ways in which boys and girls differ. The patterns are very similar to those described above for participation overall amongst those taking their GCSEs in 2008, with the gap reduced once we account for other individual characteristics and Key Stage 2 attainment and turning positive once we additionally account for Key Stage 4 and 5 attainment.

- These results suggest that, if we compare boys and girls from similar backgrounds and schools and with similar prior attainment, boys are actually slightly more likely to go to university and attend a selective institution than girls. Moreover, this pattern holds for both the 2003 and 2008 cohorts in terms of participation at the most selective institutions – compared to just the 2008 cohort for participation overall – suggesting that the relatively better performance of boys compared to girls with similar qualifications and from similar backgrounds and schools in terms of where

they go to university is a longer-run phenomenon. It may be worth investigating the reasons behind this pattern further in future.

Figure 17: What explains the differences in participation at the most selective institutions between males and females in 2003 and 2008?



Notes: all differences are statistically significantly different from zero at the 5% level.

6. RESULTS: DIFFERENCES BY ETHNICITY

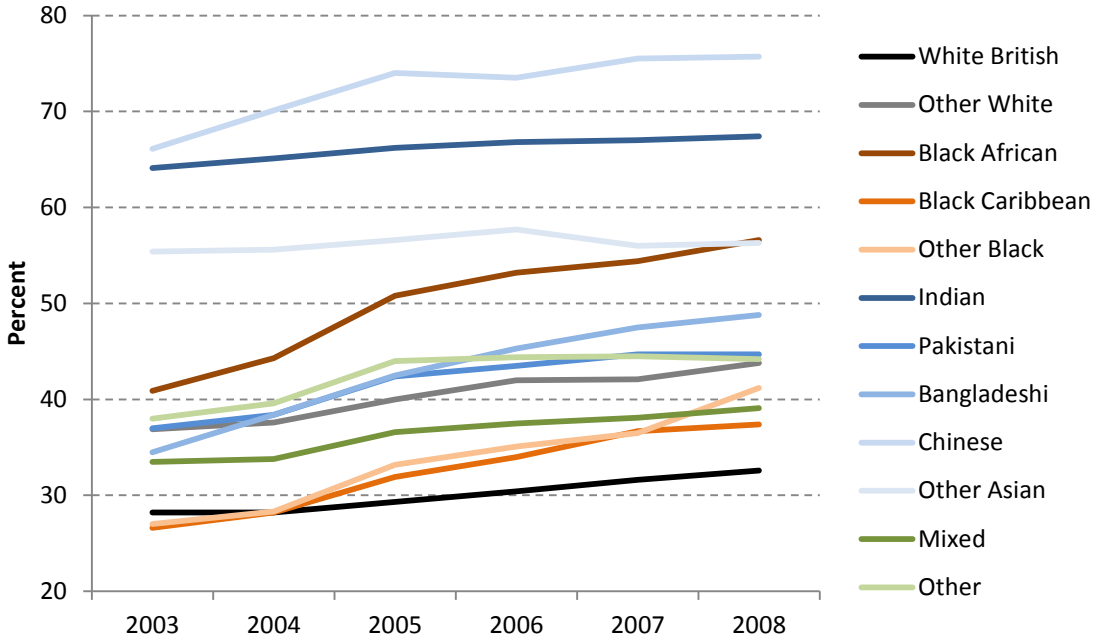
OVERALL HE PARTICIPATION

Raw differences

- Figure 18 presents the trend in participation rates for different ethnic groups, for the cohorts who sat their GCSEs between 2003 and 2008. Figure 19 summarises the differences in participation rates for all ethnic minority groups relative to the White British majority for the earliest and latest cohorts (those who sat their GCSEs in 2003 and 2008).

- Both figures highlight that there are some very large differences in participation by ethnic background. In the 2003 cohort, all ethnic minority groups except those from Black Caribbean and Other Black ethnic origins had higher participation rates than White British pupils. For example, around 28% of White British pupils participated at age 18 or 19, compared to around 66% of Chinese and 64% Indian pupils, a difference very similar in magnitude to that between the top and bottom socio-economic quintile groups seen in the previous section.

Figure 18: HE participation at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group

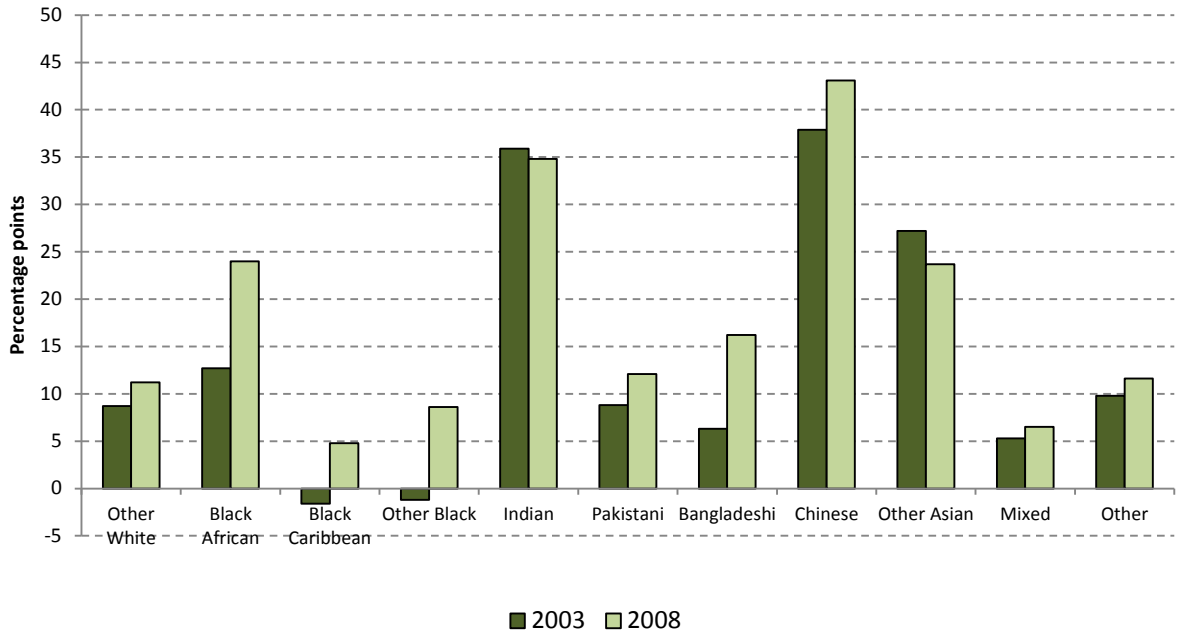


- Participation amongst all ethnic groups has risen over time, with most ethnic minority groups seeing larger increases in participation than White British pupils.

For example, participation amongst White British pupils increased by around 4 percentage points over this period, but all other ethnic groups (except for Other Asian and Indian ethnic groups) had more rapid increases in participation, and so the gap relative to White British pupils generally rose over time. For example, the gap in participation rates between White British and Black African pupils rose by 11 percentage points over this period (from 13 to 24 percentage points). Meanwhile, the participation of Black Caribbean and Other Black pupils overtook that of White British pupils.

- This means that, amongst the cohort who sat their GCSEs in 2008, all ethnic minority groups were at least 5 percentage points more likely to go to university than White British pupils.

Figure 19: Difference in HE participation at age 18 or 19 relative to White British pupils amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group

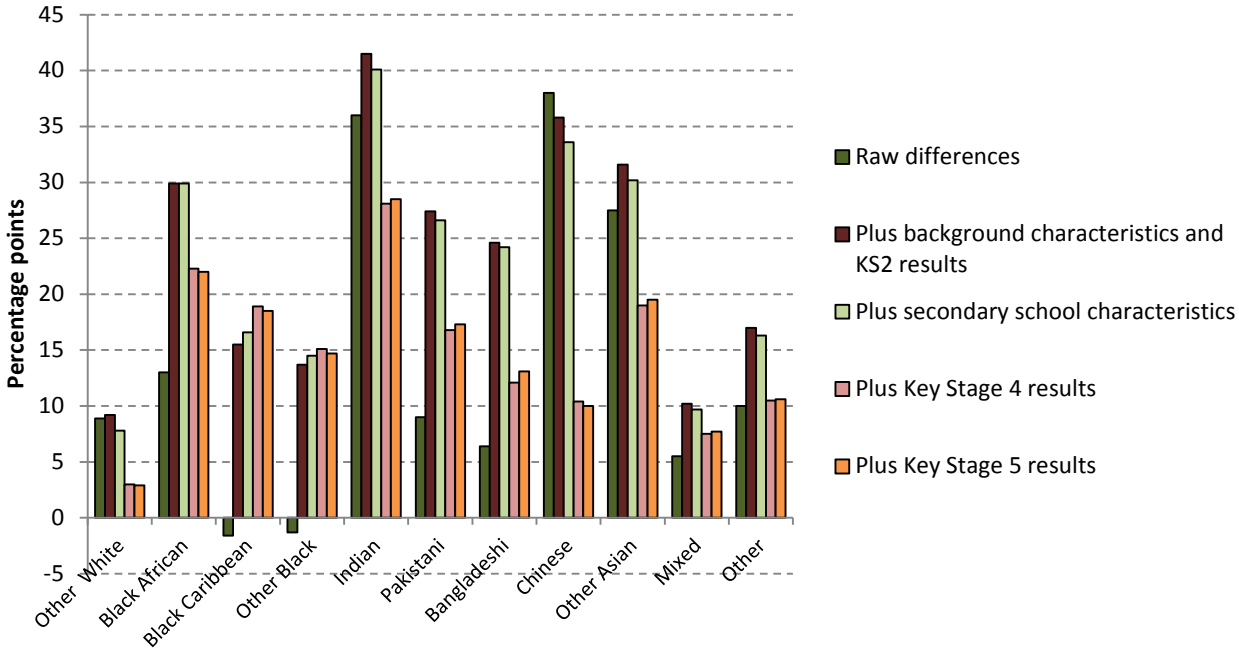


Notes: all differences are significantly different from zero at the 5% level, with the exception of the difference between Other Black and White British pupils in 2003, which is not statistically significant at this level.

Conditional differences

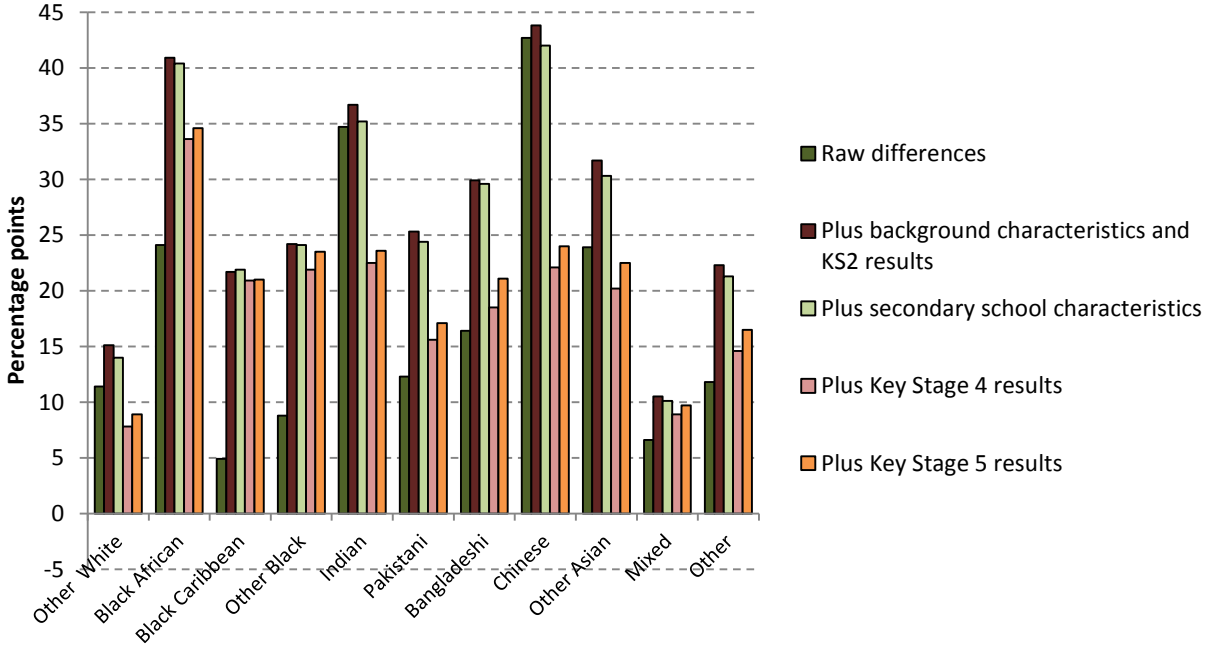
- Do these differences in participation reflect differences in the socio-economic circumstances or prior attainment of pupils from different ethnic groups? Figures 20 and 21 show what happens to the raw differences in participation when we account for other background characteristics, a limited set of secondary school characteristics and rich measures of prior attainment for the cohorts sitting their GCSEs in 2003 and 2008 respectively.

Figure 20: Difference in HE participation at age 18 or 19 by ethnic group for the cohort taking their GCSEs in 2003 (relative to White British)



Notes: all differences are significantly different from zero at the 5% level, with the exception of the raw difference between Other Black and White British pupils, which is not statistically significant at this level.

Figure 21: Difference in HE participation at age 18 or 19 by ethnic group for the cohort taking their GCSEs in 2008 (relative to White British)



Notes: all differences are significantly different from zero at the 5% level.

- These figures show that, for both cohorts, the differences in participation relative to White British pupils increase for some ethnic minority groups – including those of

Black, Pakistani and Bangladeshi ethnic origin – once we account for other background characteristics and Key Stage 2 results. Section 2 highlighted that pupils from these ethnic groups are heavily concentrated in lower socio-economic quintiles. For example, Figure 4 shows that 35-40% of pupils from Black and Pakistani backgrounds (and nearly 60% of pupils from Bangladeshi backgrounds) from the 2003 cohort are in the lowest socio-economic group, compared to 18.5% of White British pupils. Figure 6 shows that they also tend to have lower Key Stage 2 attainment, on average, than their White British counterparts. As socio-economic background and prior attainment are strongly associated with HE participation, the participation rates for these ethnic minority groups look relatively better once we take account of differences in these factors.

- The addition of controls for type of secondary school attended make relatively little difference to the estimated gaps in participation between young people from different ethnic backgrounds, suggesting that the selection of pupils into different schools is not a key part of the story.

- The addition of controls for attainment at the end of secondary school matters rather more. For most ethnic minority groups, we see a reduction in the remaining gap in participation relative to White British pupils once we account for performance at Key Stage 4. This reduction is particularly large for Chinese pupils, who tend to outperform their White British peers at the end of compulsory schooling.[19] For example, Figure 7 shows that Chinese pupils are 22 percentage points more likely to achieve 5 A*-C grades in EBacc subjects at GCSE than White British pupils.

- The addition of Key Stage 5 results does not change the estimated differences between White British pupils and all other ethnic groups very much, although there is some evidence that the gaps increase slightly for most ethnic minority groups amongst the cohort who sat their GCSEs in 2008.

- This is not the only interesting change across cohorts. Figure 16 showed that the advantage in terms of HE participation relative to White British pupils increased for pupils from most ethnic minority groups between 2003 and 2008. Comparing Figures 20 and 21, it is clear that the gap that remains after accounting for differences in individual and school characteristics and a rich set of measures of attainment at Key Stage 2, 4 and 5 also increases for most groups between 2003 and 2008. For example, amongst the cohort who sat their GCSEs in 2003, Chinese pupils were, on average, 10 percentage points more likely to go to university than White British pupils from the same backgrounds, attending similar schools and with

[19] It is less straightforward to interpret the reduction in the gap between White British pupils and other ethnic groups with lower attainment at Key Stage 4, but our interpretation is that it is driven by the fact that ethnic minority pupils tend to make faster progress than White British pupils between Key Stage 2 and Key Stage 4 (e.g. Burgess et al., 2011), and so, conditional on Key Stage 2 attainment, pupils from all ethnic groups have higher Key Stage 4 attainment, on average, than their White British peers.

the same history of prior attainment; by 2008, this gap had more than doubled to 24 percentage points.

- These conditional differences are approximately proportional to the changes in the raw gaps that we see: that is, the gaps do not appear to be increasing because the explanatory power of the characteristics at our disposal is falling. This suggests that the increase in participation rates relative to White British pupils must be driven by factors that we can't account for in our model – perhaps things like the attitudes or aspirations of ethnic minorities and their parents, or differential effects of the economic environment on ethnic minorities compared to whites.

- The magnitude of the remaining unexplained differences in HE participation between pupils from different ethnic backgrounds suggests that such factors potentially have a key (and increasing) role to play. For example, amongst the cohort who sat their GCSEs in 2008, Black African pupils from similar backgrounds, attending similar schools and with similar attainment trajectories as White British pupils are almost 35 percentage points more likely to go to university. Most other ethnic minority groups are 15-25 percentage points more likely to participate.

- Chapter 7 explores some of the potential drivers of these remaining gaps in participation, including higher aspirations amongst recent immigrants (proxied by differences between those with and without English as an additional language) and the concentration of ethnic minorities in London (with its recent dramatic rise in school performance and multiple HE institutions).

PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences

- Figure 22 presents the trends in participation at the most selective institutions rates for different ethnic groups, for the cohorts who sat their GCSEs between 2003 and 2008. Figure 23 summarises the differences in participation at the most selective institutions rates for all ethnic minority groups relative to the White British majority for the 2003 and 2008 cohorts.

- As was the case for participation overall, these figures highlight some very large differences in participation at the most selective institutions by ethnic background. Three groups have notably higher participation rates than most other groups: those of Chinese, Indian and Other Asian ethnic origin. For example, amongst pupils who sat their GCSEs in 2008, around 34% of Chinese pupils, 23% of Indian pupils and 18% of pupils from Other Asian backgrounds go on to attend the most selective institutions at age 18 or 19. This means that the proportion of Chinese pupils who attend a selective institution (34.4%) is larger than the proportion of White British students who go to any type of university (32.6%). This is true for the other cohorts considered in this report as well. Moreover, it suggests that nearly half of all Chinese participants at university attend a selective institution, a much higher proportion than for any other ethnic group.

Figure 22: Participation at the most selective institutions at age 18 or 19 amongst cohorts taking their GCSEs 2003 to 2008, by ethnic group

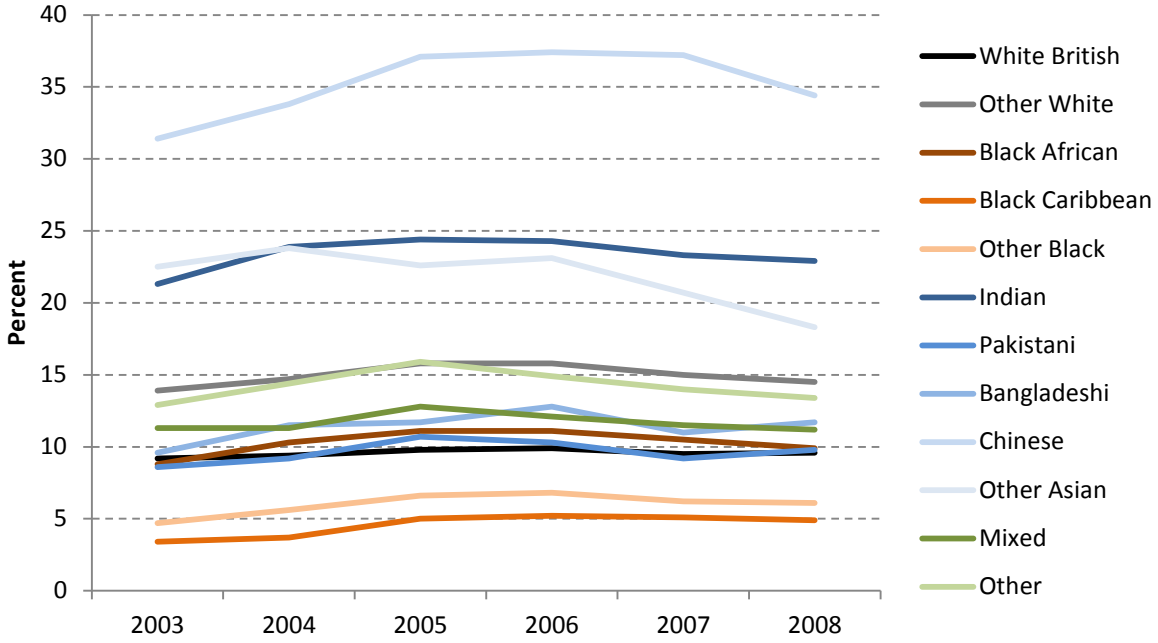
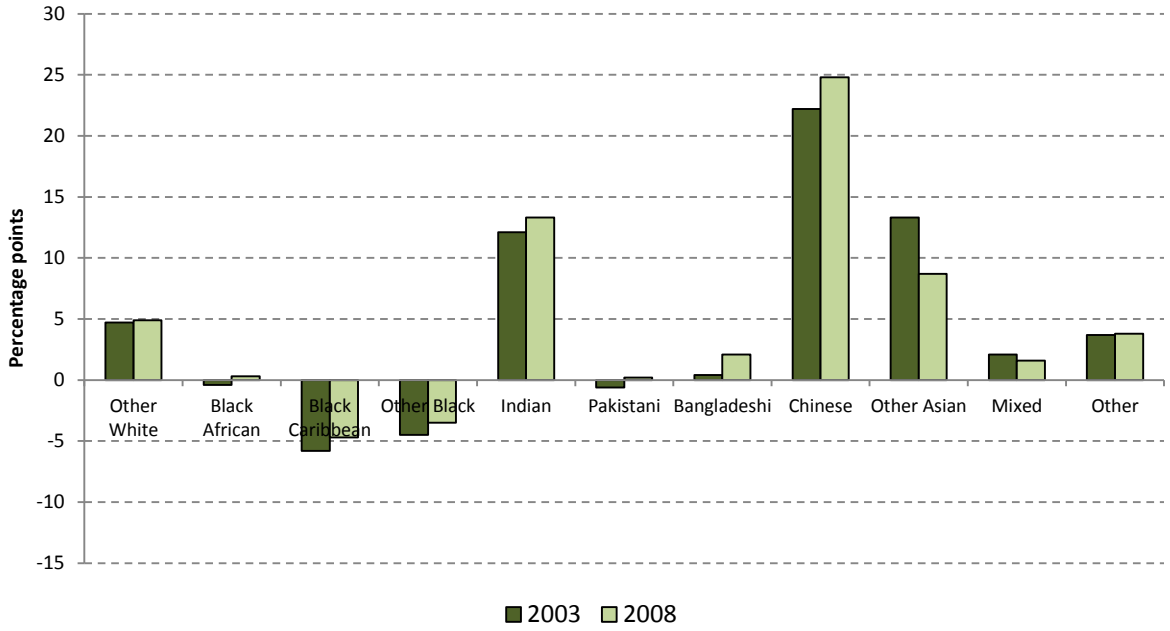


Figure 23: Difference in participation at the most selective institutions relative to White British pupils at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group



Notes: all differences are significantly different from zero at the 5% level, with the exception of the differences relative to White British pupils for Black African and Pakistani pupils in the 2003 and 2008 cohorts and Bangladeshi pupils in the 2003 cohort, which are not statistically significant at this level.

- In contrast to the overall patterns of participation – in which, amongst the cohort who sat their GCSEs in 2008, all ethnic minority groups were, on average, more likely to participate than White British pupils – White British pupils have higher participation rates at the most selective institutions (around 10%) than some other ethnic groups (particularly Black Caribbean and Other Black groups) and similar levels of participation to Black African, Pakistani and Bangladeshi groups.

- There has been no systematic change in the proportion of White British pupils going to the most selective institutions over this period. Most other ethnic groups have experienced small increases (of up to 3 percentage points, which was the case for Chinese pupils), although pupils of Other Asian ethnic origin are an exception: their participation rate fell by 4.2 percentage points over this period (although the size of the group also changed significantly). This, together with the fact that they make up an increasing proportion of the cohort, means that ethnic minorities comprise an increasing proportion of the participants at the most selective institutions over time.

Conditional differences

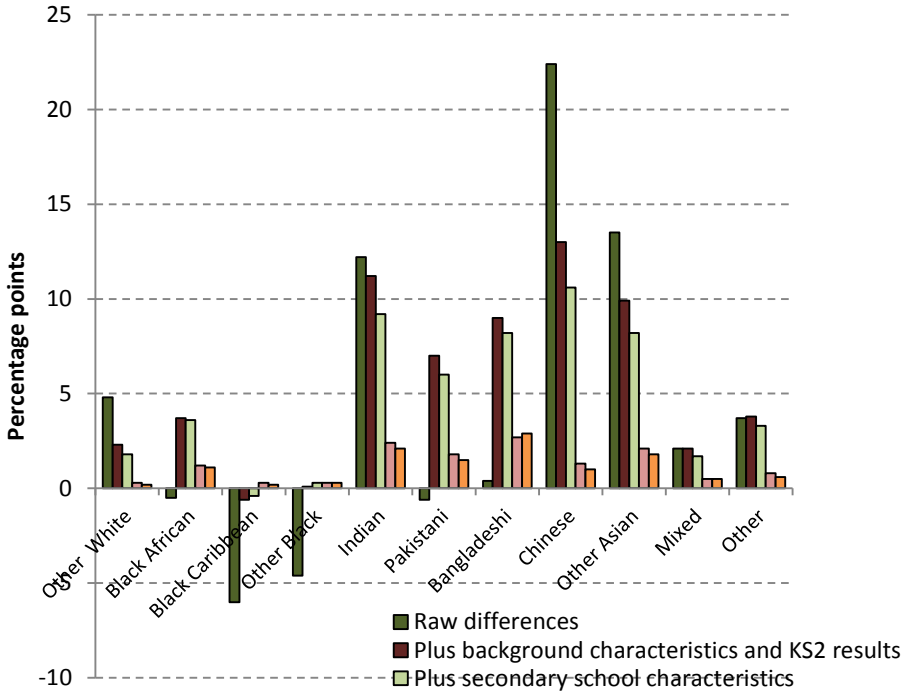
- We saw above that ethnic minorities tend to come from lower socio-economic backgrounds but have higher prior attainment, on average, than their White British counterparts. To what extent can these differences help to explain the patterns in participation at the most selective institutions that we see?

- Figure 24 and Figure 25 show what happens to the raw differences in participation when we account for individual and school characteristics and a rich set of measures of prior attainment at Key Stages 2, 4 and 5 for the cohorts sitting their GCSEs in 2003 and 2008 respectively.

- As was the case for participation overall, the differences in participation at the most selective institutions relative to White British pupils improve for some ethnic minority groups – specifically those of Black, Pakistani and Bangladeshi ethnic origin – once we account for other background characteristics and Key Stage 2 results. This is driven by the lower socio-economic status and Key Stage 2 scores of these groups, on average, compared to their White British peers. The addition of controls for the type of secondary school attended, however, makes little difference to the remaining gaps.

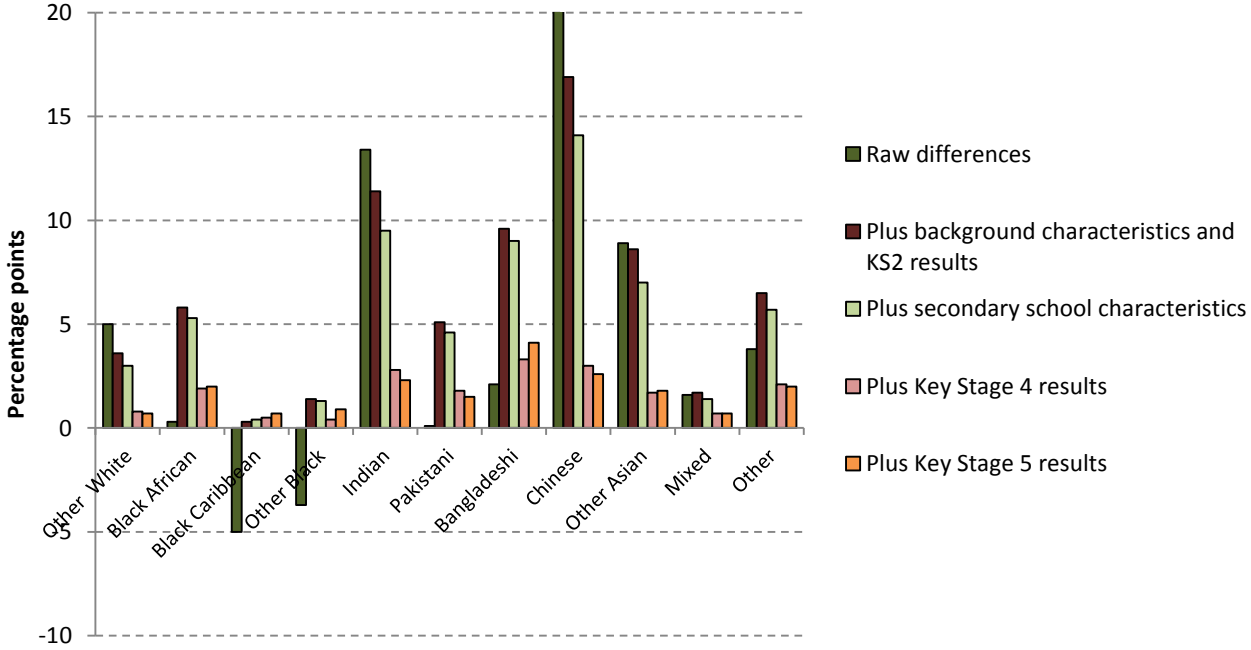
- For most ethnic minority groups, we see a reduction in the remaining unexplained difference in participation rates relative to White British pupils once we account for performance at Key Stage 4. As was the case for participation overall, this reduction is particularly large for Chinese pupils, who tend to significantly outperform their White British counterparts at this stage. Again, the addition of Key Stage 5 results to the conditional analysis does not change the estimated differences between White British pupils and all other ethnic groups dramatically.

Figure 24: Difference in participation at the most selective institutions at age 18 or 19 by ethnic group for the cohort taking GCSEs in 2003 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Black African, Pakistani and Bangladeshi pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of the differences for Black Caribbean and Other Black pupils.

Figure 25: Difference in participation at the most selective institutions at age 18 or 19 by ethnic group for the cohort taking GCSEs in 2008 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Black African and Pakistani pupils. All estimates of the differences

relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

- For most ethnic groups, we are able to explain a substantial proportion of the differences in participation at the most selective institutions using our rich measures of prior attainment. These results stand in stark contrast to the findings for participation overall by ethnicity, for which very large and significant differences remained, even after conditioning on background characteristics and attainment up to and including Key Stage 5.

- The remaining (conditional) differences in participation at the most selective institutions by ethnicity are slightly larger than those by socio-economic status that we saw in Chapter 4. They are also slightly larger amongst the cohort who took their GCSEs in 2008 than they are amongst the cohort who took their GCSEs in 2003: the maximum is 4.1 percentage points for Bangladeshi pupils in the 2008 cohort, compared to 2.9 percentage points for the same group in the 2003 cohort. These changes are of a similar magnitude to the increases in the raw gap in participation at the most selective institutions that we saw over this period, suggesting – as was the case for participation overall – that the increases that we have seen cannot be accounted for by improving socio-economic circumstances or increasing educational attainment of ethnic minorities over this period.

- Chapter 7 will address possible reasons for these persistent differences in participation between ethnic groups, conditional on attainment and other background attributes.

7. RESULTS: WHAT EXPLAINS THE DIFFERENCES BY ETHNICITY?

HIGH ASPIRATIONS? RECENT IMMIGRATION AND HE PARTICIPATION

It is hypothesised that recent migrants have higher aspirations and expectations for their children, perhaps because the types of individuals that choose to migrate tend to have higher ambitions than the general population (Czaika and Vothknecht, 2014). Indeed, Conner et al. (2004) find that ethnic minority pupils are more likely to report that their family have high expectations of them, and less doubt about the path they will pursue after compulsory education, than White pupils. This may help to explain why participation rates are higher for ethnic minorities than for White British pupils, conditional on other background characteristics and prior attainment.

Unfortunately we are not able to observe parents' aspirations and expectations for their children in our data, but we instead explore whether recent immigration (and hence higher expectations) might play a role in explaining the differences that we see, by investigating the extent to which participation rates relative to White British pupils are larger amongst pupils from households in which English is spoken as an extra language (which is highly correlated with recent immigration).[20]

It is worth noting at the outset that there are very large differences in the proportion of different ethnic minority groups for whom English is spoken as an additional language (EAL). For example, Figure 3 shows that 91% of Pakistani pupils and 96% of Bangladeshi pupils are reported to speak English as an additional language, compared to just 5% of Black Caribbean pupils. Appendix Table 4 shows that there are also some changes over time, with the proportion of Other White pupils speaking English as an additional language rising from 33% amongst the cohort who sat their GCSEs in 2003 to 48% amongst those who sat them in 2008. These differences should be borne in mind when interpreting these results.

OVERALL HE PARTICIPATION

Raw differences

- Figure 26, 27 and 28 show how the participation rates of White British pupils compare to those of ethnic minorities for whom English is and is not an additional language respectively. Figures 26 and 27 show how participation rates have been changing over time, while Figure 28 summarises the participation rates for those with and without English as an additional language relative to White British pupils for the cohorts that sat their GCSEs in 2003 and 2008.

[20] In the Millennium Cohort Study, around 60% of households where the parents were born outside the UK have English as an additional language, compared to 3% of households where both parents were born inside the UK.

Figure 26: HE participation at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group with English as an additional language in the house (except for White British)

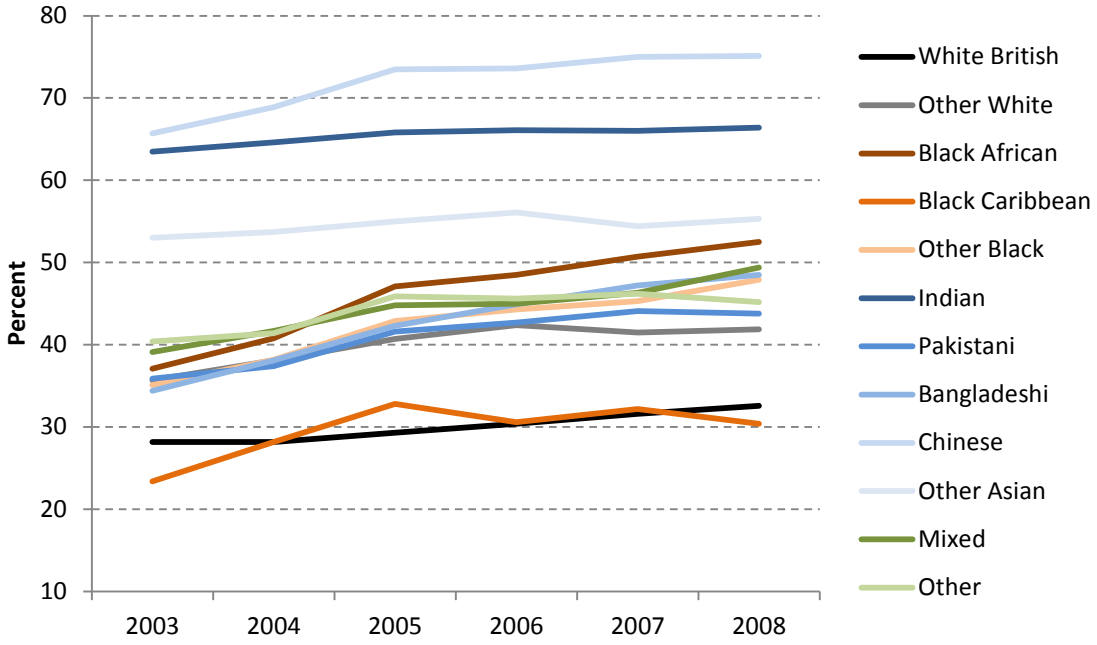


Figure 27: HE participation at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group without English as an additional language in the house

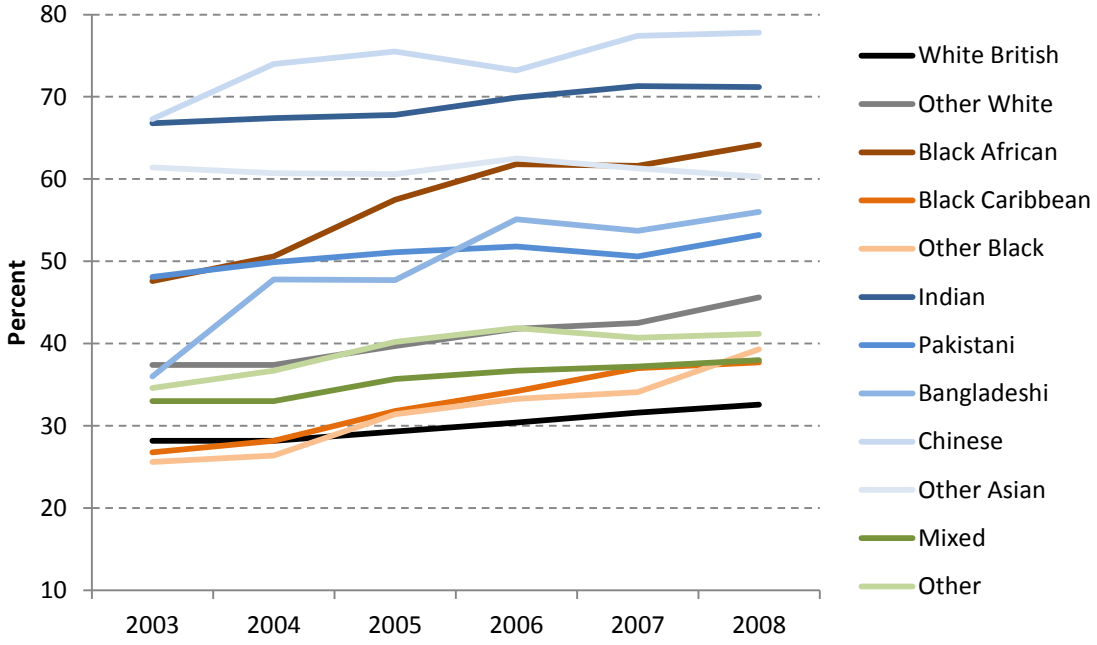
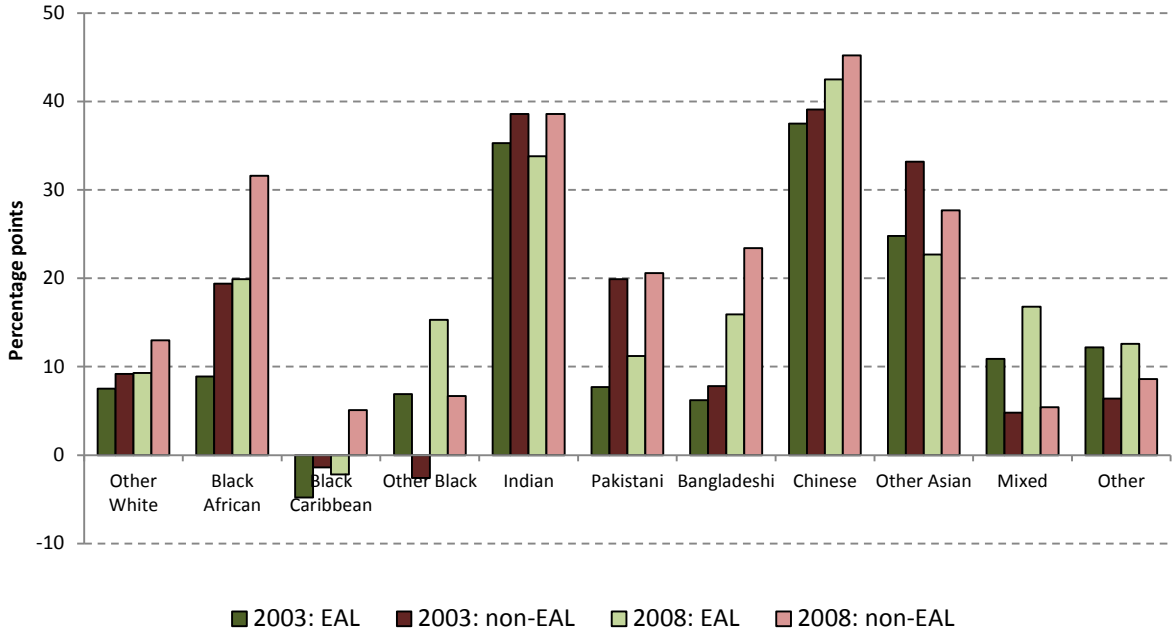


Figure 28: Difference relative to White British pupils in HE participation at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group with and without English as an additional language



Notes: all estimates are statistically significantly different from zero at the 5% level with the exception of the differences relative to White British pupils for Black Caribbean who do and do not speak English as an additional language in 2003 and Black Caribbean pupils who speak English as an additional language in 2008.

- The participation rates of ethnic minority groups without English as an additional language are generally higher than those of pupils with English as an additional language. For example, 65% of Black African pupils have English as an additional language. Amongst those who do, around 53% go to university compared to 64% of those who do not. (The exceptions are for pupils of Other Black, Mixed and Other ethnic origin, for whom the relationship is reversed.)

- These figures also show that participation rates have been increasing over time relative to White British pupils for most ethnic minority groups, regardless of whether or not English is an additional language. This is illustrated most clearly in Figure 28, which shows that the gaps in participation relative to White British pupils are, for most groups, rising between 2003 and 2008.

- There is, however, a more mixed picture in terms of whether pupils with or without English as an additional language have experienced the most rapid rises. For example, participation rates increased more quickly amongst pupils of Black African, Pakistani, Other Asian and Mixed ethnic backgrounds with EAL compared to the same ethnic groups without EAL, while the reverse was true for Other White, Black Caribbean, Other Black, Indian, Bangladeshi and Chinese pupils.

- A key question, of course, is the extent to which these differences can be explained by the other ways in which ethnic minorities with and without English as an additional language may differ from each other (and, more importantly, from their White British counterparts).

Conditional differences

- Figures 29 and 30 present the differences in participation between White British pupils and pupils from each ethnic group with and without English as an additional language respectively for the 2003 cohort, and show how these differences are mediated by the other ways in which these groups differ; Figures 31 and 32 present the same pictures for the 2008 cohort.

- With the exception of pupils from Other White and Chinese backgrounds who do not speak English as an additional language, accounting for other background covariates (including socio-economic status) and Key Stage 2 results increases the difference in participation rates relative to White British pupils for ethnic minority pupils who do and do not speak English as an additional language. In general, the addition of these characteristics makes a greater difference for EAL than non-EAL pupils, suggesting that EAL pupils are less affluent and have lower Key Stage 2 scores, on average, than their non-EAL counterparts. The latter is confirmed by Appendix Table 5, which shows that, amongst all ethnic minority groups, those who speak English as an additional language have lower Key Stage 2 scores, on average, than those who do not.

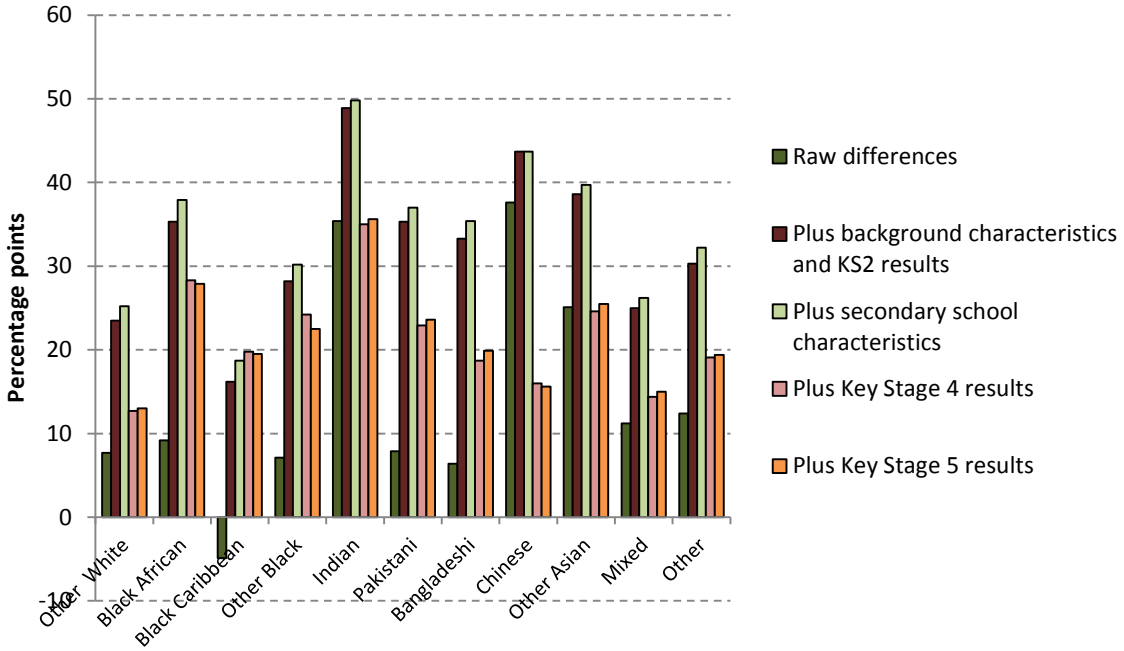
- The addition of controls for the type of secondary school attended makes very little difference to the gaps in between participation rates between EAL and non-EAL ethnic minority pupils and their White British counterparts. It is only when we add controls for a rich set of measures of performance at Key Stage 4 and 5 that we see the differences in participation relative to White British pupils start to decrease for most ethnic groups. As was the case for ethnic minorities overall, however, the remaining unexplained differences are, in most cases, large and significant.

- For most ethnic minority groups, the raw differences suggested that their participation rates relative to White British pupils are “better” (more positive or less negative) amongst non-EAL compared to EAL pupils. However, this general pattern is reversed when considering the differences relative to White British pupils that remain after controlling for other background characteristics, school characteristics and a rich set of measures of prior attainment between ages 11 and 18, which are, for most ethnic minority groups, larger for EAL than non-EAL pupils.

- This pattern is generally stronger amongst the cohort who sat their GCSEs in 2008 than amongst the cohort who sat their GCCSEs in 2003, and is particularly strong for those of Other White, Other Black, Other Asian, Mixed and Other ethnic origin in 2008. For example, amongst the 2008 cohort, Other Black (Other White) pupils with English as an additional language are 38.7 (22.7) percentage points more likely to go to university than White British pupils, while those without English as an additional language are 21.8 (4.7) percentage points more likely to do so. There does not seem to be any clear link between these relationships and the proportion of the group for whom English is an additional language: for example, Figure 3 shows that 9.7% of the Mixed ethnic group and 74.8% of the Other Asian ethnic group are EAL.

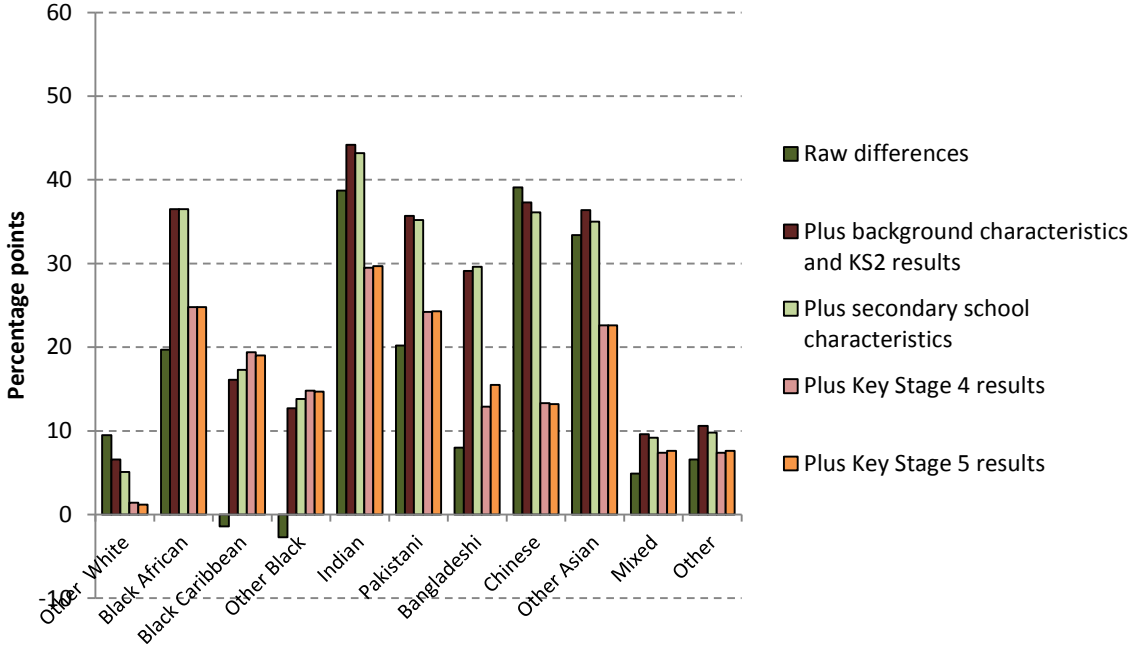
- These results suggest that other factors have a larger role to play in explaining the higher participation rates of EAL pupils relative to White British pupils than they do in explaining the higher participation rates of non-EAL pupils relative to White British pupils. This may provide some potential support for the hypothesis that more recent immigrants have higher expectations and aspirations than other ethnic minorities, which in turn might explain their higher participation rates. However, the data at our disposal do not lend themselves well to a full exploration of this hypothesis, as we are only able to imperfectly proxy recent immigration status using whether or not English is spoken as an additional language in the family, and the very substantial differences in the proportion of different ethnic minority groups who speak English as an additional language suggests that it is unlikely to be capturing whether or not someone is a recent immigrant alone. Moreover, we cannot say with any certainty that differences in attitudes are driving these results. Nonetheless, it is interesting to note that we are able to explain less of the gap in participation rates for EAL pupils than for non-EAL pupils.

Figure 29: Difference in HE participation at age 18 or 19 by ethnic group with English as an additional language for the cohort taking their GCSEs in 2003 (relative to White British)



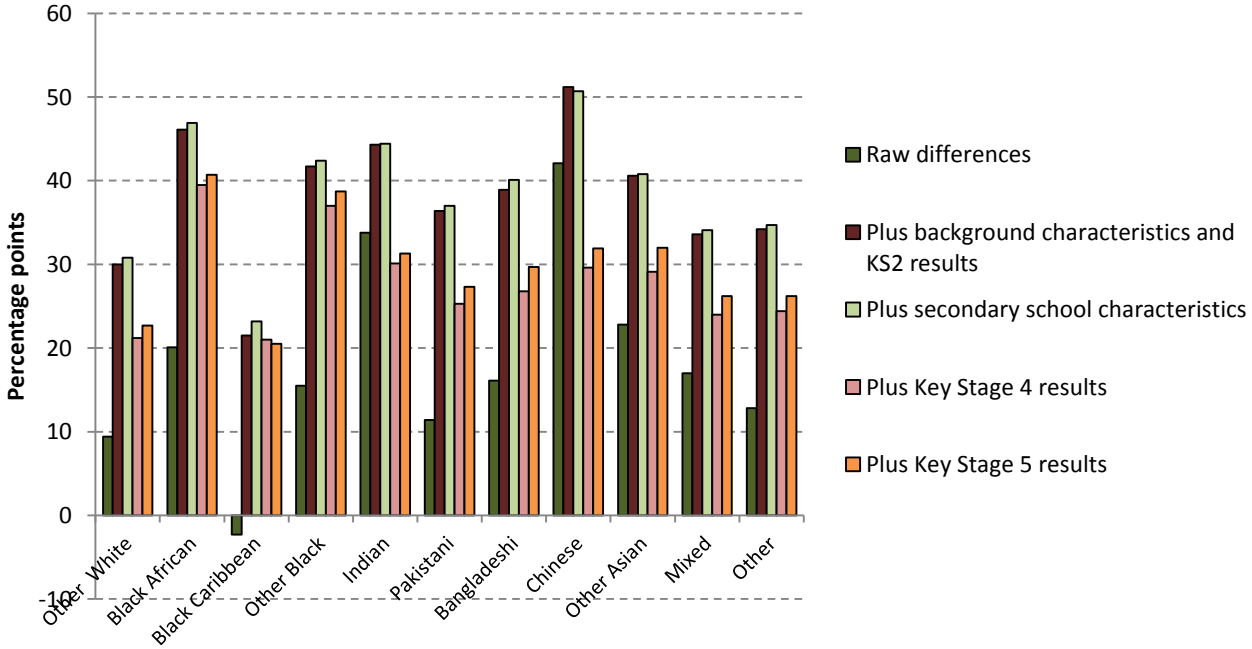
Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Black Caribbean pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 30: Difference in HE participation at age 18 or 19 by ethnic group without English as an additional language for the cohort taking their GCSEs in 2003 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Black Caribbean pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of the differences for Other White pupils.

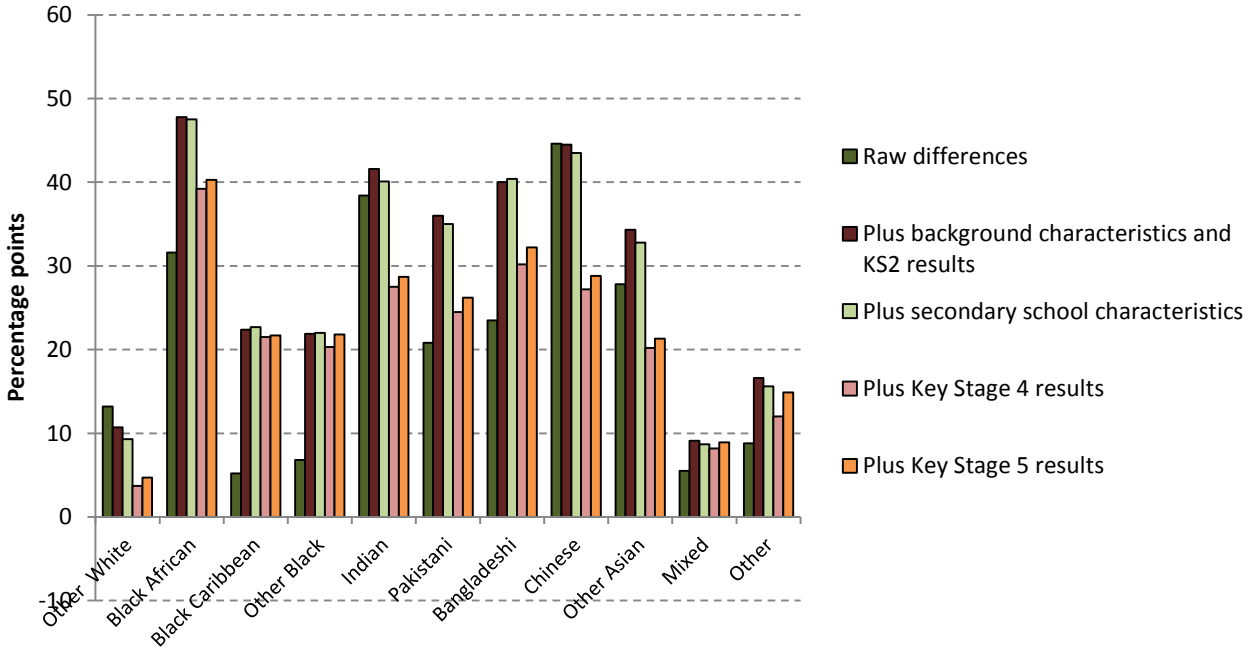
Figure 31: Difference in HE participation at age 18 or 19 by ethnic group with English as an additional language for the cohort taking their GCSEs in 2008 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Black Caribbean pupils. All estimates of the differences relative to

White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 32: Difference in HE participation at age 18 or 19 by ethnic group without English as an additional language for the cohort taking their GCSEs in 2008 (relative to White British)



Notes: all estimates of the raw differences and the differences accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences

- Figures 33 and 34 show the trends in participation at the most selective institutions rates for those with and without English as an additional language respectively for the cohorts who sat their GCSES between 2003 and 2008. Figure 35 summarises the differences relative to the participation rates at the most selective institutions of White British pupils for the 2003 and 2008 cohorts.

- While the participation rates of White British pupils at the most selective institutions have stagnated over this period, the average participation rates of most ethnic minority groups increased, regardless of whether they speak English as an additional language or not, albeit with some fluctuations for some groups over the intervening period. There is no clear pattern in terms of whether EAL or non-EAL pupils experienced faster rises, however. For example, Black Caribbean pupils who speak English as an additional language (the minority) saw their participation rates fall by around a percentage point (25%, from a base of 3.5 percentage points), while their non-EAL counterparts experienced increases of 1.6 percentage points on average (almost 50%, from a base of 3.4 percentage points). By contrast, Pakistani pupils who speak English as an additional language (the majority) saw their

participation rates increase by 16%, while they fell marginally for non-EAL Pakistani pupils. Participation rates also increased more quickly for EAL than non-EAL pupils of Black African and Chinese backgrounds, while the reverse is true for pupils of Other White, Other Black Bangladeshi and Other ethnic backgrounds.

- Despite these changes over time, it is still the case that participation at the most selective institutions is generally higher for ethnic minorities who do not speak English as an additional language than it is for those who do. For example, amongst the cohort who sat their GCSEs in 2008, 20% of Bangladeshi pupils without EAL attend the most selective institutions compared to 11% of Bangladeshi pupils with EAL. (The exception is for pupils of Other Black and Mixed ethnic origin, where EAL pupils have higher participation rates than non-EAL pupils.) These relationships are highlighted in Figure 35, where the differences relative to White British pupils are generally larger for pupils who do not speak English as an additional language than for those who do. We now explore the extent to which differences in the characteristics of pupils with and without EAL can help to explain the differences in participation relative to White British pupils.

Figure 33: Participation at the most selective institutions at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group with English as an additional language (except for White British)

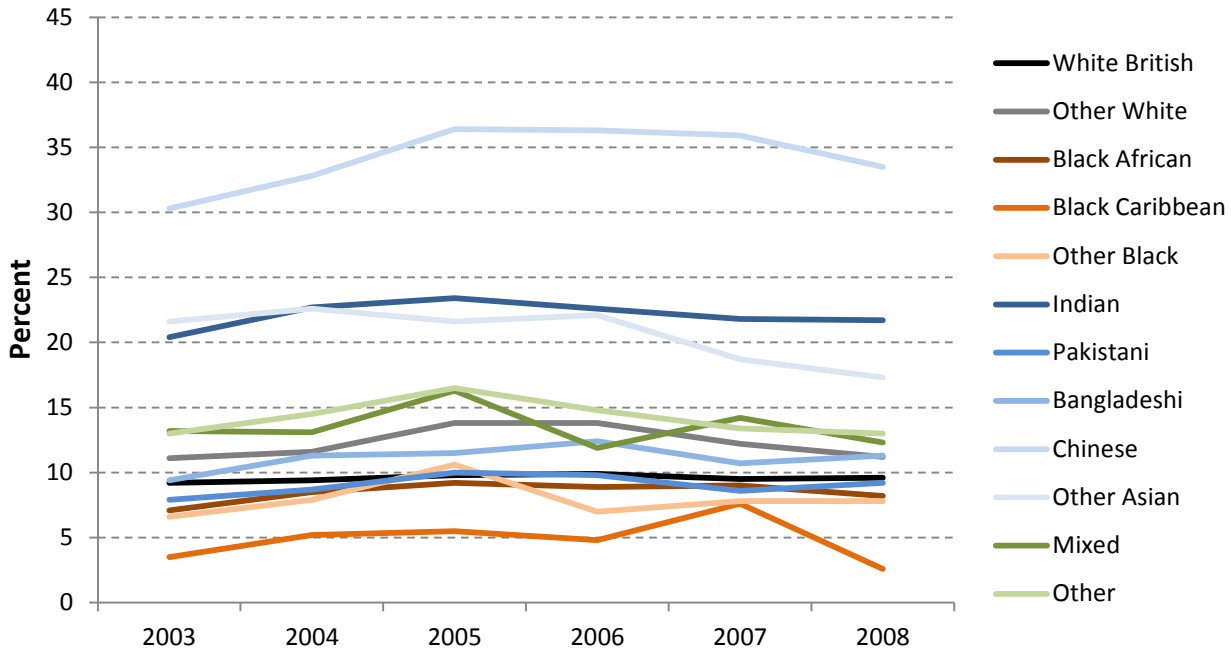


Figure 34: Participation at the most selective institutions at age 18 or 19 amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group without English as an additional language in the house

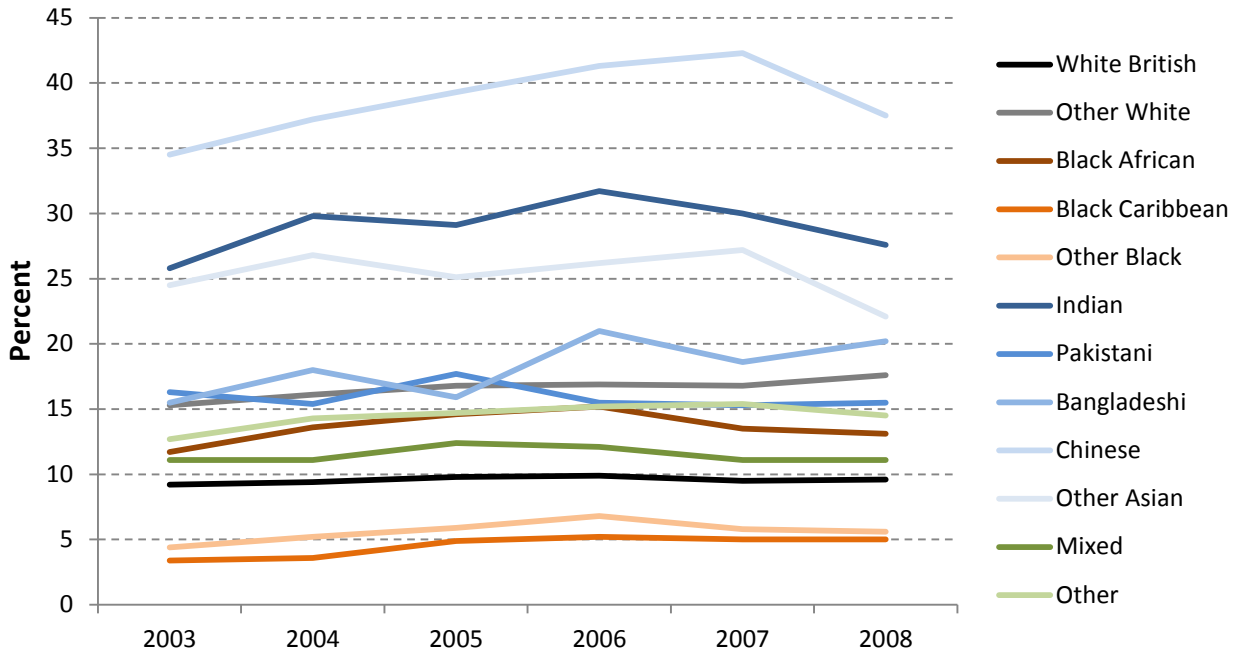
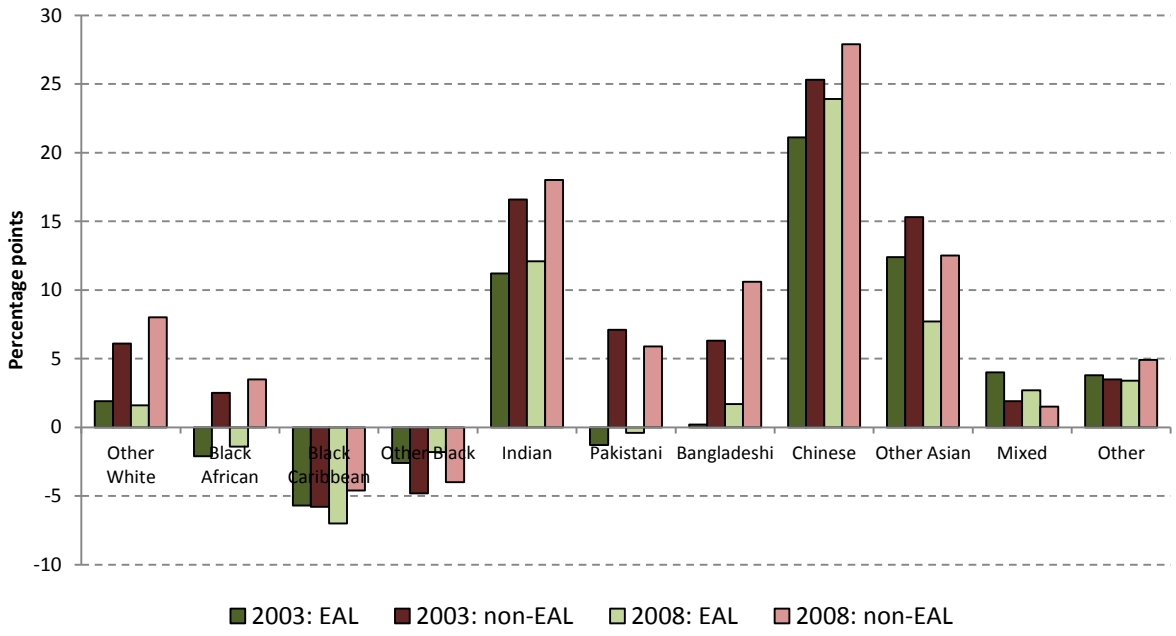


Figure 35: Difference in participation at the most selective institutions at age 18 or 19 relative to White British pupils amongst the cohorts taking their GCSEs 2003 to 2008, by ethnic group with and without English as an additional language in the house



Notes: all estimates are statistically significantly different from zero at the 5% level with the exception of the differences relative to White British pupils for pupils of Other Black and Bangladeshi ethnic origin who speak English as an additional language.

Conditional differences

- Figures 36 and 37 show which factors help to explain the differences in participation at the most selective institutions between White British pupils and those from each ethnic group with and without EAL respectively for the 2003 cohort; Figures 38 and 39 provide the same insight for the 2008 cohort.

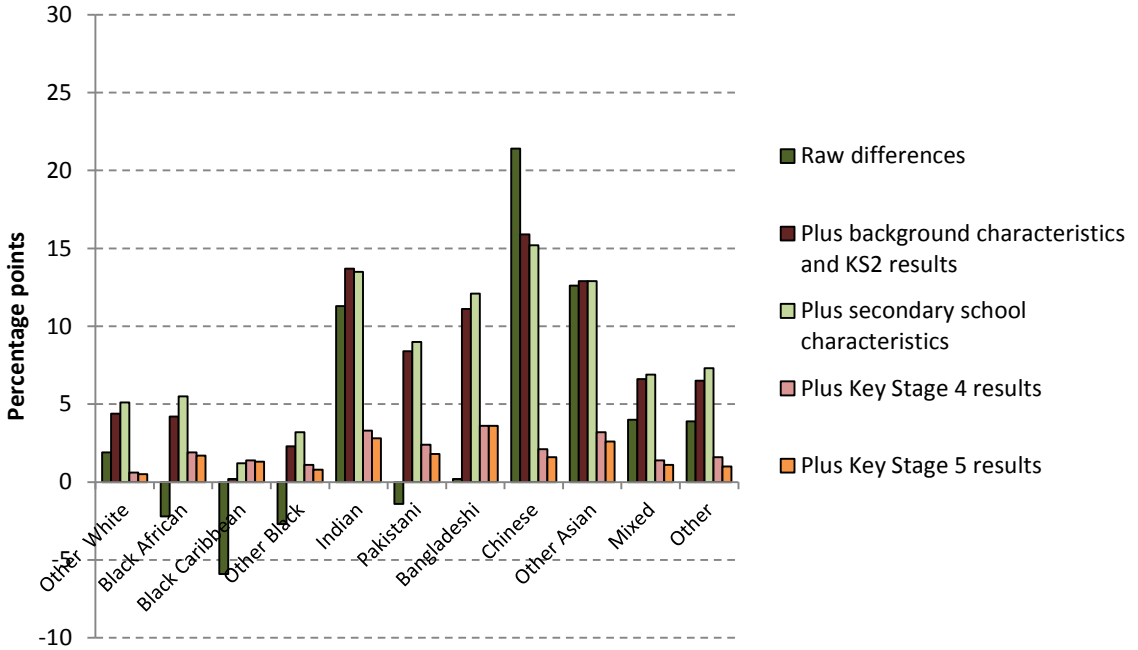
- In contrast to the results for overall participation, the differences in participation at the most selective institutions relative to White British pupils do not systematically increase once we account for individual characteristics, Key Stage 2 results and secondary school characteristics for both EAL and non-EAL groups. While accounting for these characteristics increases the differences in participation at the most selective institutions relative to their White British counterparts for all groups who speak English as an additional language (with the exception of Chinese pupils), the picture is more mixed for non-EAL groups, with Black, Pakistani and Bangladeshi pupils seeing the raw differences increase and all other groups seeing the raw differences fall after accounting for differences in these characteristics.

- What is similar to previous results, however, is the fact that accounting for a rich set of measures of attainment at Key Stage 4 plays a key role in understanding the differences in participation between individuals from different ethnic groups, both those who do and do not speak English as an additional language. This suggests that ethnic minorities from similar backgrounds and similar schools who did similarly well at Key Stage 2 as their White British counterparts outperform them, on average, at Key Stage 4. Once we account for this, we are able to explain part of the reason why ethnic minorities are more likely to attend the most selective institutions than their White British peers.

- Additionally accounting for Key Stage 5 attainment makes relatively little difference to the gaps in participation over and above the effects of including measures of attainment at Key Stage 4. This means that, even after accounting for individual and school characteristics and prior attainment at Key Stages 2, 4 and 5, ethnic minorities both with and without EAL are more likely to attend a selective institution than their otherwise identical White British peers, and for most groups these differences are significantly different from zero.

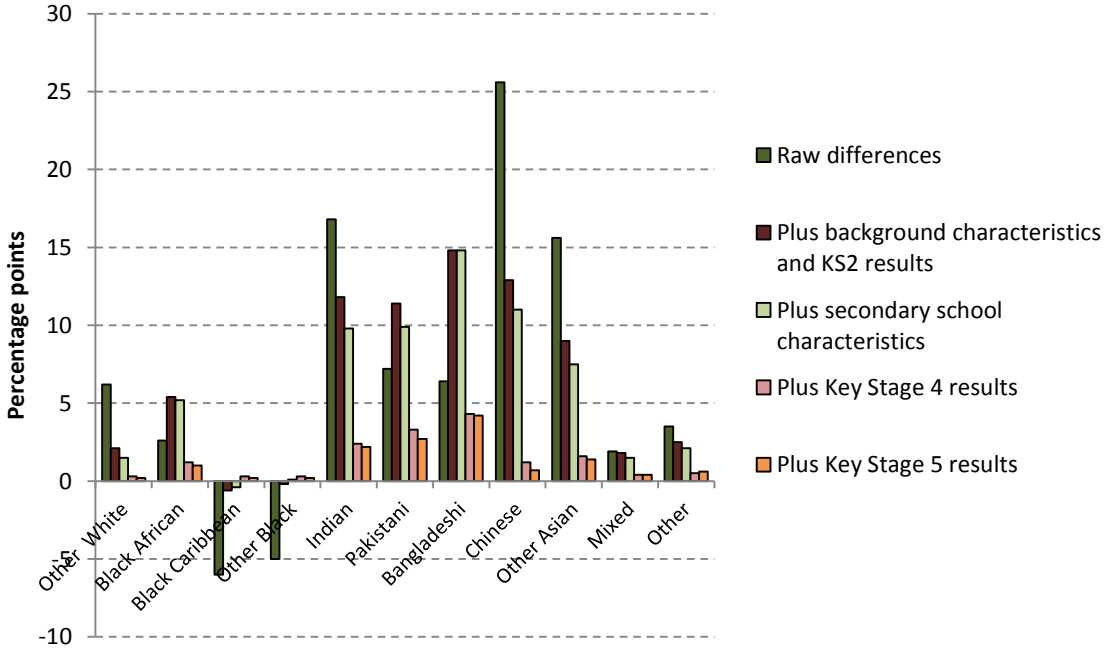
- In contrast to the results for participation overall, there is a more mixed picture in terms of whether these remaining conditional differences are larger for ethnic minority pupils who do or do not speak English as an additional language (although in most cases the estimates for the two groups would probably not be significantly different from each other). What is clear is that the differences are smaller – both in absolute terms and relative to the magnitude of the raw differences – than for participation overall. This suggests that whatever factors may be responsible for the remaining differences in participation rates between EAL and non-EAL pupils relative to their White British counterparts, they seem to play a smaller role in generating higher participation rates for EAL pupils at the most selective institutions.

Figure 36: Difference in participation at the most selective institutions at age 18/19 for those taking GCSEs in 2003 by ethnic group with EAL (relative to White British)



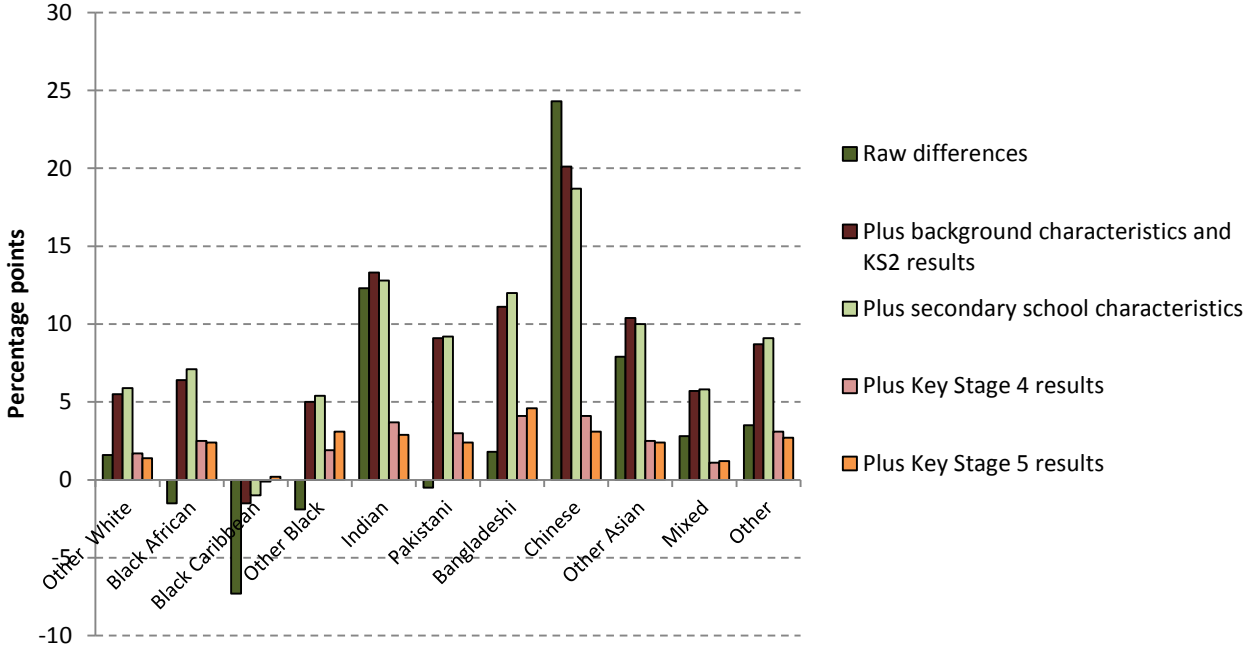
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for Other Black and Bangladeshi pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of the differences for Other Black and Black Caribbean pupils.

Figure 37: Difference in participation at the most selective institutions at 18/19 for those taking GCSEs in 2003, by ethnic group without EAL (relative to White British)



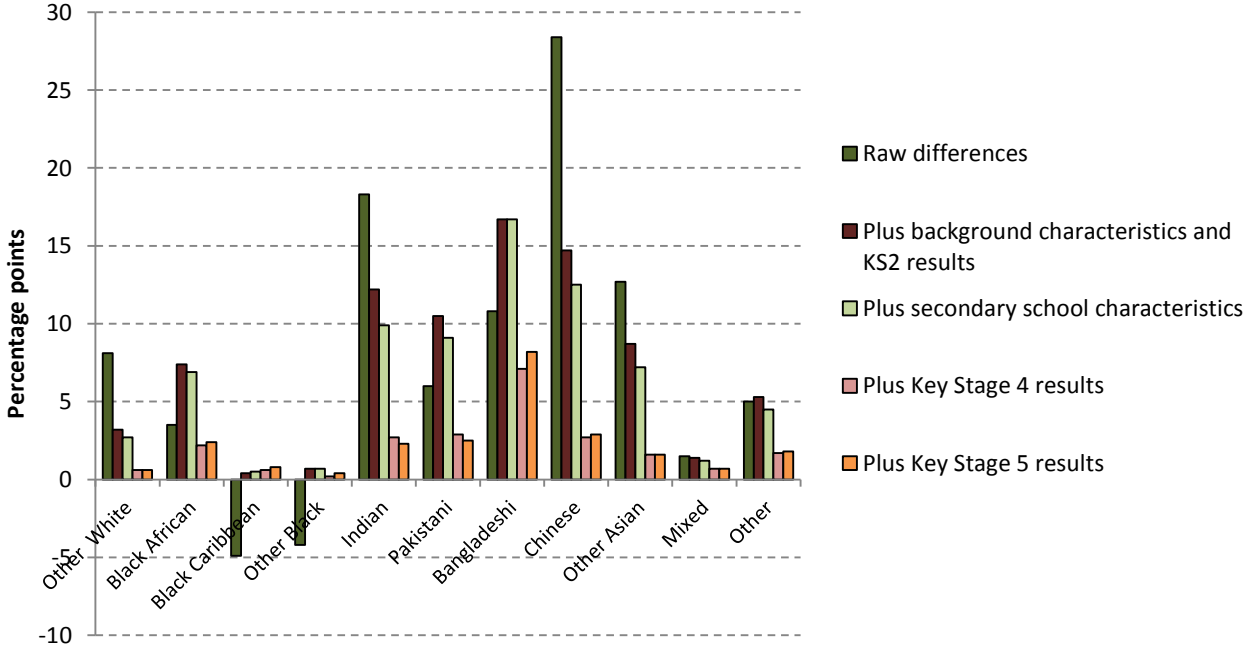
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level. All estimates of the differences relative to White British pupils including characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of the differences for Other White, Black Caribbean, Other Black, Bangladeshi and Chinese pupils.

Figure 38: Difference in participation at the most selective institutions at age 18 or 19 for the cohort taking their GCSEs in 2008, by ethnic group with English as an additional language (relative to White British)



Notes: all raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of differences for Other Black and Pakistani pupils. All differences relative to White British pupils including characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of differences for Black Caribbean pupils.

Figure 39: Difference in participation at the most selective institutions at age 18 or 19 for the cohort taking their GCSEs in 2008, by ethnic group without English as an additional language (relative to White British)



Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of the differences for pupils of Other Black ethnic origin.

THE LONDON EFFECT?

OVERALL HE PARTICIPATION

Being educated in London may have an impact on educational attainment and subsequent progression to higher education for a number of reasons, including the presence of multiple (selective) higher education institutions, the relatively better performance of London schools compared to other schools with similar pupil composition (e.g. Greaves et al., 2014), and the potential impact on perceived returns to education arising from high wages and good prospects for graduates in the local area.

A high proportion of ethnic minority groups live in London. For example, Appendix Table 6 shows that, amongst the cohort who sat their GCSEs in 2008, around two thirds of Black African pupils and around one third of Indian pupils go to school in London compared to around 6% of White British pupils. If being educated in London positively affected HE decisions directly (in ways that were not captured via higher prior attainment), then this might help to explain why ethnic minorities have higher participation rates than White British pupils, even conditional on background characteristics and prior attainment. This section therefore explores the extent to which the ethnic differences that we saw differ for individuals educated inside and outside London.

Raw differences

- Figures 40 and 41 present trends in the HE participation rates of different ethnic groups attending secondary school inside and outside London respectively. Figure 42 summarises the differences in participation of each ethnic minority group relative to White British pupils, for the cohorts taking their GCSEs in 2003 and 2008, differentially for those inside and outside London.

- Comparing Figures 40 and 41 shows that, for most groups, participation rates are higher for those who live in London. For example, amongst the cohort who took their GCSEs in 2008, 35.8% of White British pupils in London went to university compared to 32.4% of those outside London. These differences are much starker for some other ethnic groups: for example, Pakistani pupils living in London are nearly 14 percentage points more likely to go to university than those living outside London (56% vs. 42%).

- These figures also show that, for most ethnic groups – including those of White British, Other White and Black African ethnic origin – the “London premium” in terms of HE participation has been rising over time; that is, participation has been increasing more rapidly for pupils attending school inside London than it has for pupils attending school outside London. For example, the participation rate of Black African pupils educated in London increased by 41% between the earliest and latest cohorts, compared to 30% for Black African pupils educated outside London. Pakistani pupils are a notable exception to this pattern: the participation rates for these pupils increased by 11% inside London compared to 23% outside London.

Pakistani pupils attending school in London continue to have higher participation rates than those educated outside London but their relative advantage decreased over this period, from 16 percentage points in 2003 to 14 percentage points in 2008.

Figure 40: HE participation at age 18 or 19 amongst the cohort taking GCSEs 2003 to 2008 who go to school in London, by ethnic group

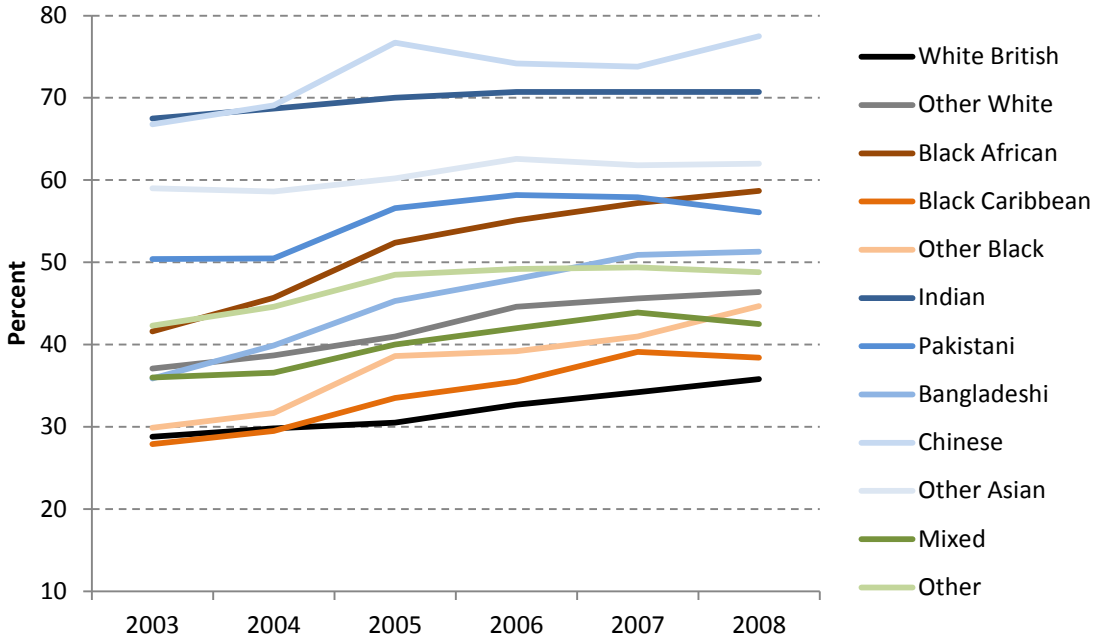
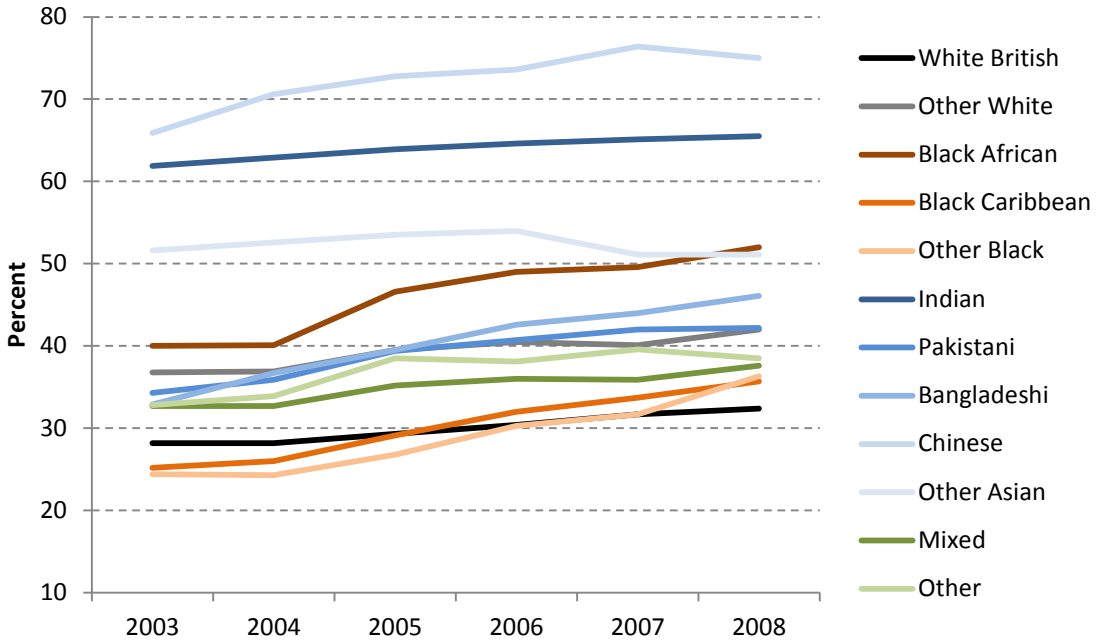


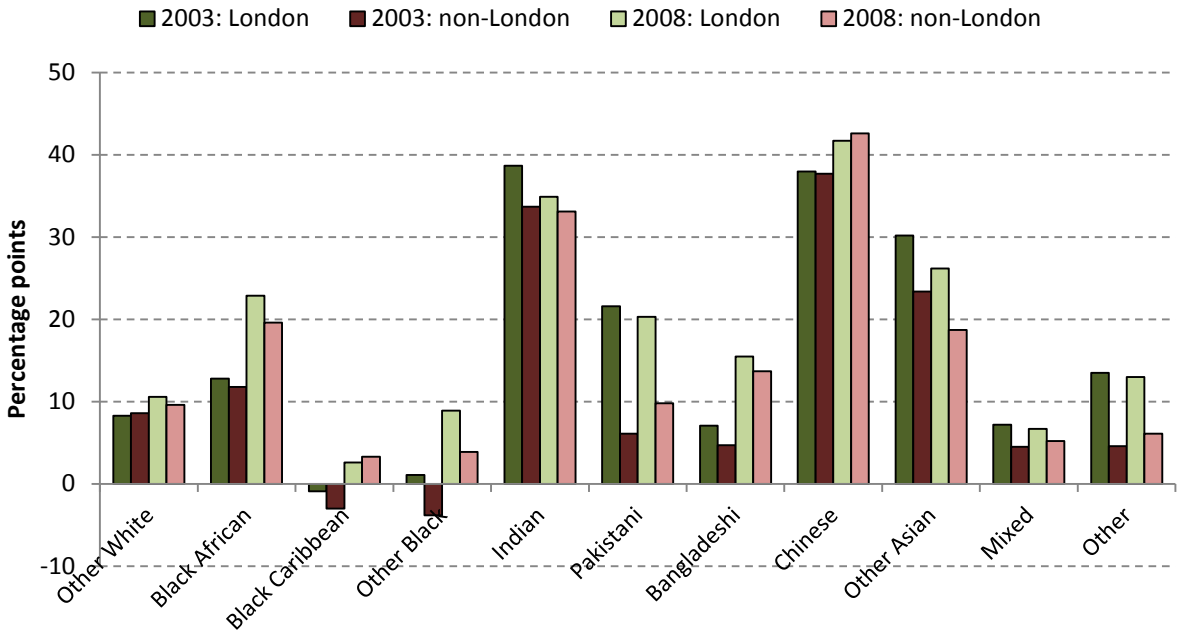
Figure 41: HE participation at age 18 or 19 amongst the cohort taking GCSEs 2003 to 2008 who go to school outside London, by ethnic group



- Figure 42 shows that the participation rates of most ethnic minority groups relative to White British pupils are at least as large amongst those going to school in London as those going to school outside London. For example, Indian and Chinese pupils are substantially more likely to go to university than White British pupils, whether they attended secondary school inside or outside London. On the other hand, the difference in participation rates relative to White British pupils amongst those taking their GCSEs in 2008 is substantially higher (around twice as large) for Pakistani and Other Black pupils living in London compared to those living outside London.

- This descriptive evidence suggests that there might be a "London effect" which gives rise to relatively higher HE participation rates for ethnic minorities relative to their White British peers living inside the city. The next section investigates the extent to which these relative differences in participation rates can be explained by differences in the characteristics and prior attainment of ethnic minorities and White British pupils living inside and outside London.

Figure 42: Difference in HE participation at age 18 or 19 amongst the cohorts taking GCSEs in 2003 and 2008 who go to school inside and outside London, by ethnic group (relative to White British)

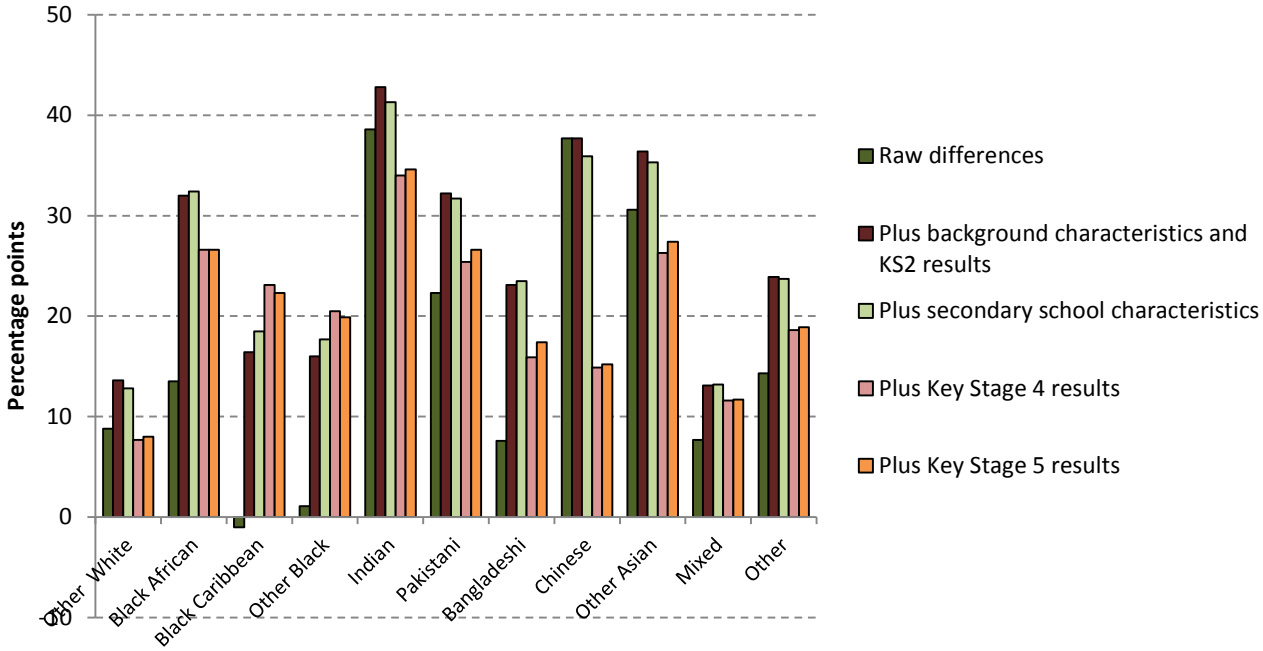


Notes: all estimates are statistically significantly different from zero at the 5% level with the exception of the differences relative to White British pupils for pupils of Black Caribbean and Other Black ethnic origin who go to school in London in 2003, and pupils of Black Caribbean ethnic origin who go to school in London in 2008.

Conditional differences

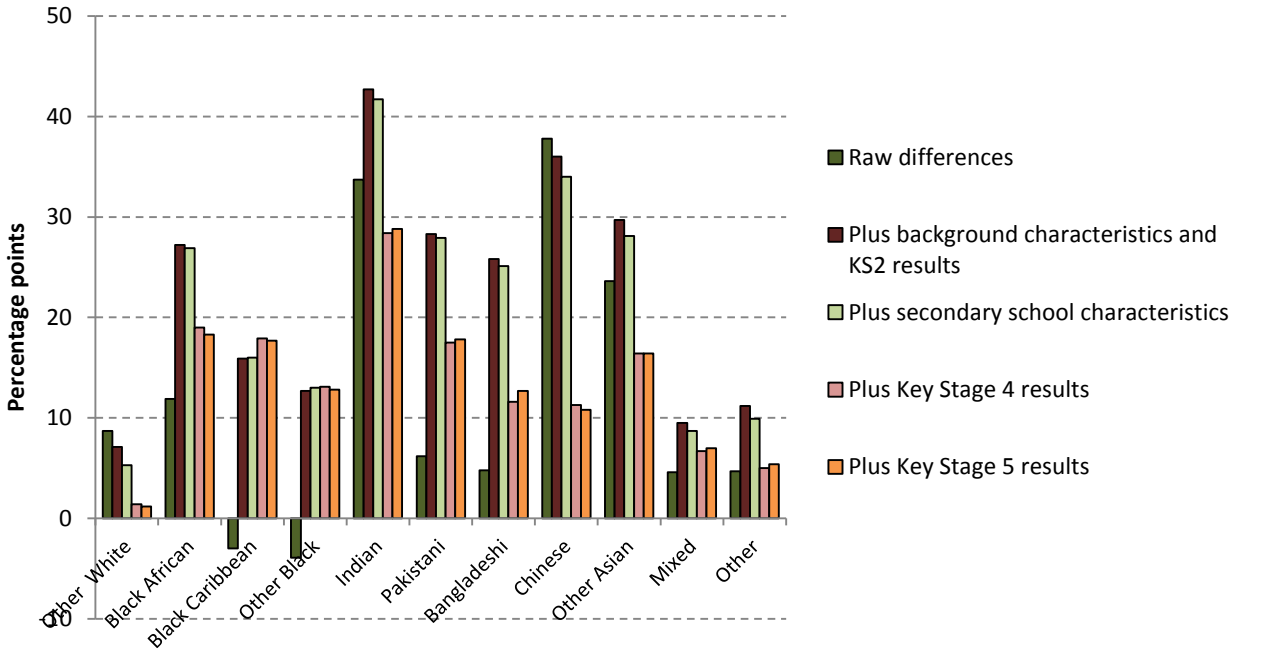
- Figures 43 to 46 show which factors help to explain the differences in participation between ethnic minorities and their White British counterparts. Figures 43 and 44 present differences for those taking their GCSEs in 2003, inside and outside London respectively; Figures 45 and 46 do the same for those taking their GCSEs in 2008.

Figure 43: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2003 and who go to school in London, by ethnic group (relative to White British)



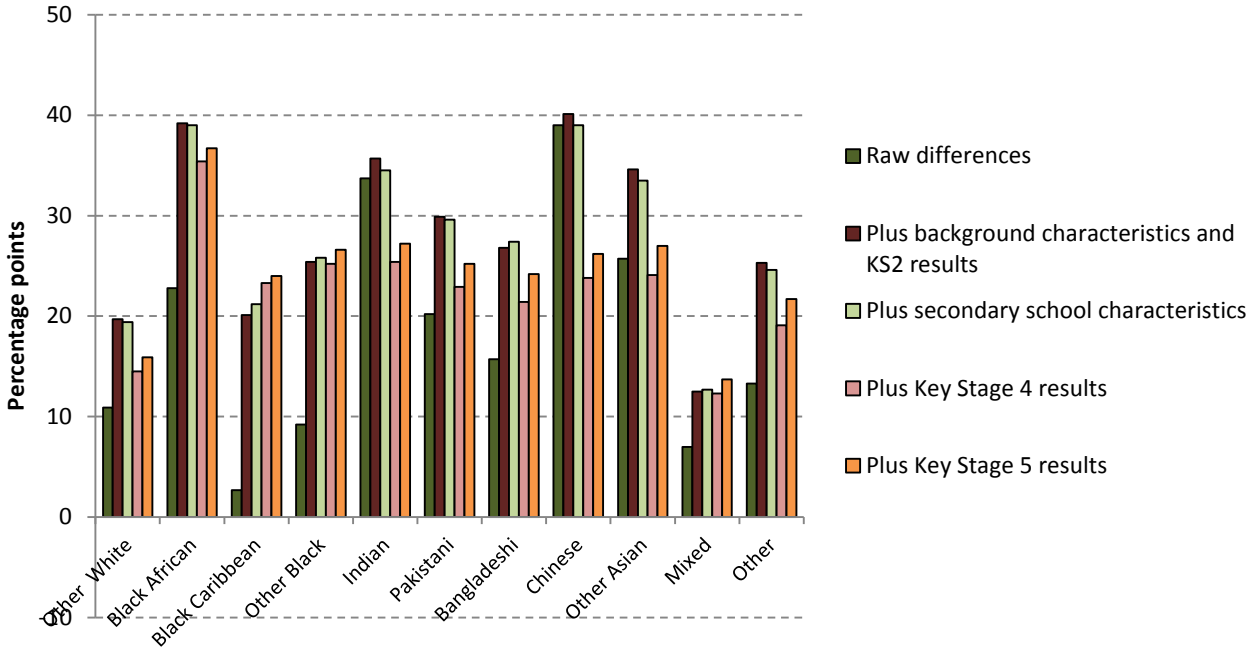
Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black Caribbean and Other Black ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 44: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2003 and who go to school outside London, by ethnic group (relative to White British)



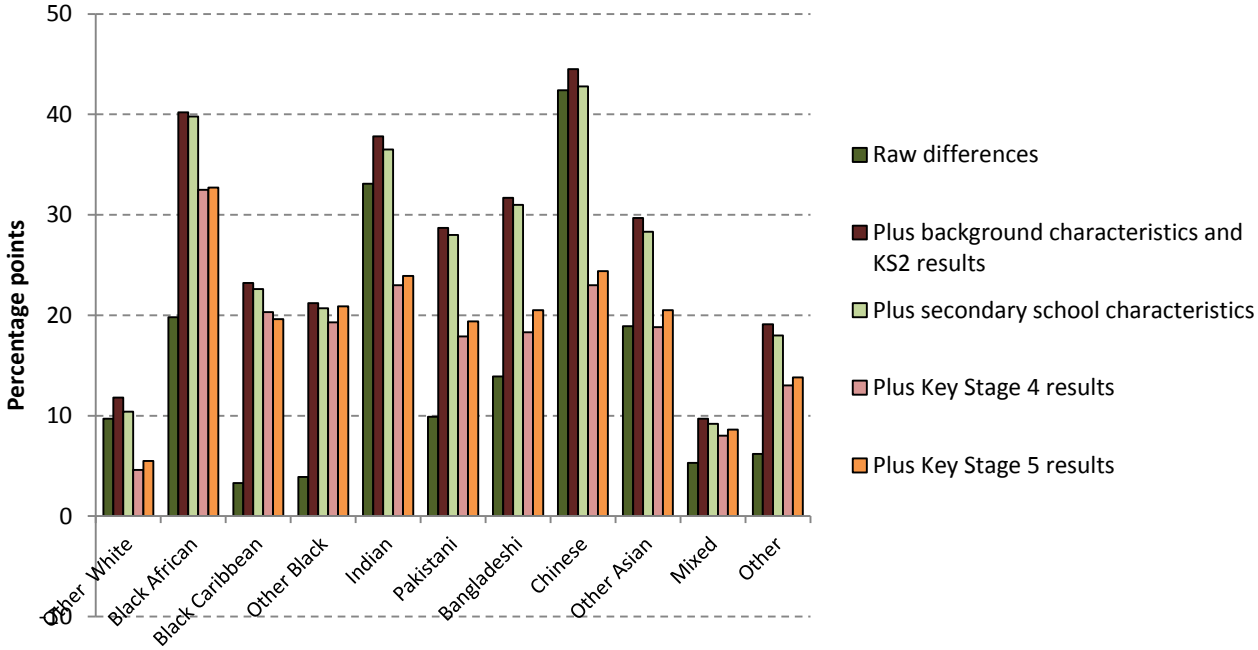
Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of the differences for pupils of Other White ethnic origin.

Figure 45: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2008 and who go to school in London, by ethnic group (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black Caribbean ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 46: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2008 and who go to school outside London, by ethnic group (relative to White British)



Notes: all estimates of the raw differences and the differences accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

- As was the case for the overall analysis by ethnic background, accounting for the other ways in which ethnic minority students differ from their White British peers in most cases increases their advantage (or reduces their disadvantage) in terms of HE participation. Moreover, even after accounting for background characteristics and a rich set of measures of prior attainment, there remain very large and significant differences in participation between minority ethnic groups and White British pupils. Both of these results are true for pupils inside and outside London.

- The conditional difference in participation rates between White British pupils and ethnic minority groups is, for all groups, higher for those that attended secondary school in London than for those that did not; and, for most groups, higher for the 2008 cohort than the 2003 cohort, both inside and outside London. For example, amongst the cohort who sat their GCSEs in 2008, the conditional gap in participation (after accounting for all background characteristics and measures of attainment at our disposal) is over 10 percentage points higher for Other White pupils (relative to their White British peers) living inside vs. outside London.

- This suggests that there are some characteristics of the pupil or their family or school that are correlated both with the likelihood of living in London and the likelihood of going to university; and, moreover, that the role played by these factors – which could include things like parents' aspirations and expectations, perceived returns to higher education, or the opportunity cost of attending university – has been increasing over time. It is worth noting that the higher average performance of London schools in recent years is unlikely to be the mechanism through which this occurs, as we condition on a rich set of measures of prior attainment.

- It is also worth noting that ethnic minorities are more likely to attend a university in the same region as they live than White British students, but that, for many groups, this relationship is driven by the relatively higher propensity of ethnic minority pupils living in London to go to a local university. This is shown in Appendix Figure 2. We do not have access to information on students' living arrangements in our data, but other research suggests that this may be because ethnic minority students – and those from disadvantaged backgrounds, in which ethnic minority students are over-represented – are more likely to live at home (e.g. Christie, 2007).

PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences

- Figures 47 and 48 show how participation rates at the most selective institutions have changed over time, differentially by ethnic group, for those attending secondary school inside and outside London respectively. Figure 49 summarises the differences relative to White British pupils for the cohorts who sat their GCSEs in 2003 and 2008 split according to whether they went to school in London or not.

Figure 47: Participation at the most selective institutions at age 18 or 19 amongst the cohort taking GCSEs 2003 to 2008 who go to school in London, by ethnic group

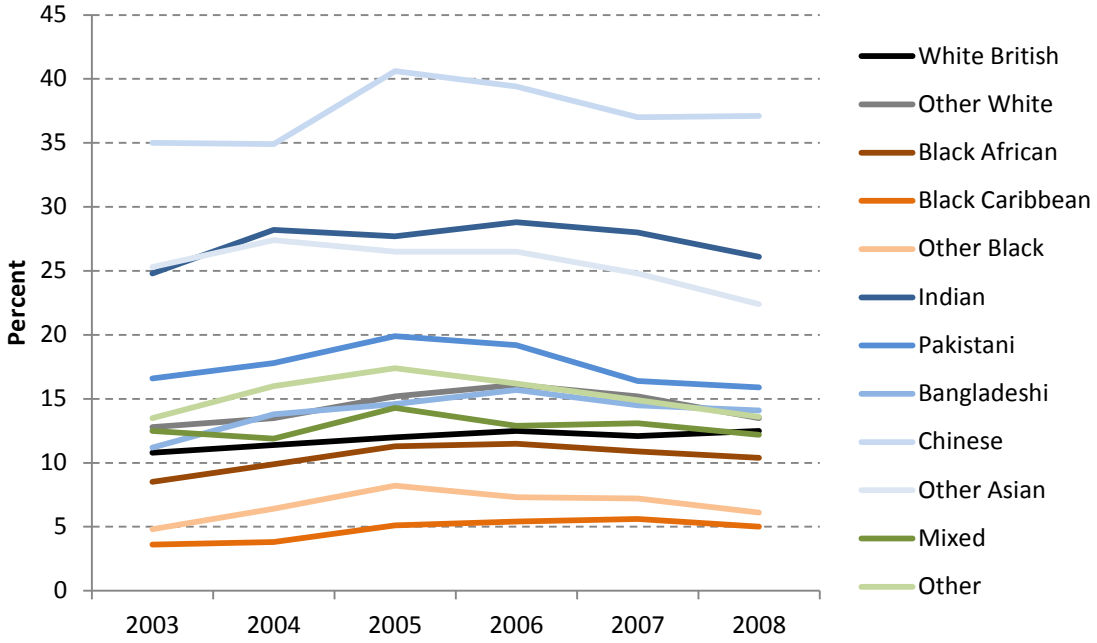


Figure 48: Participation at the most selective institutions at age 18 or 19 amongst the cohort taking GCSEs 2003 to 2008 who go to school outside London, by ethnic group

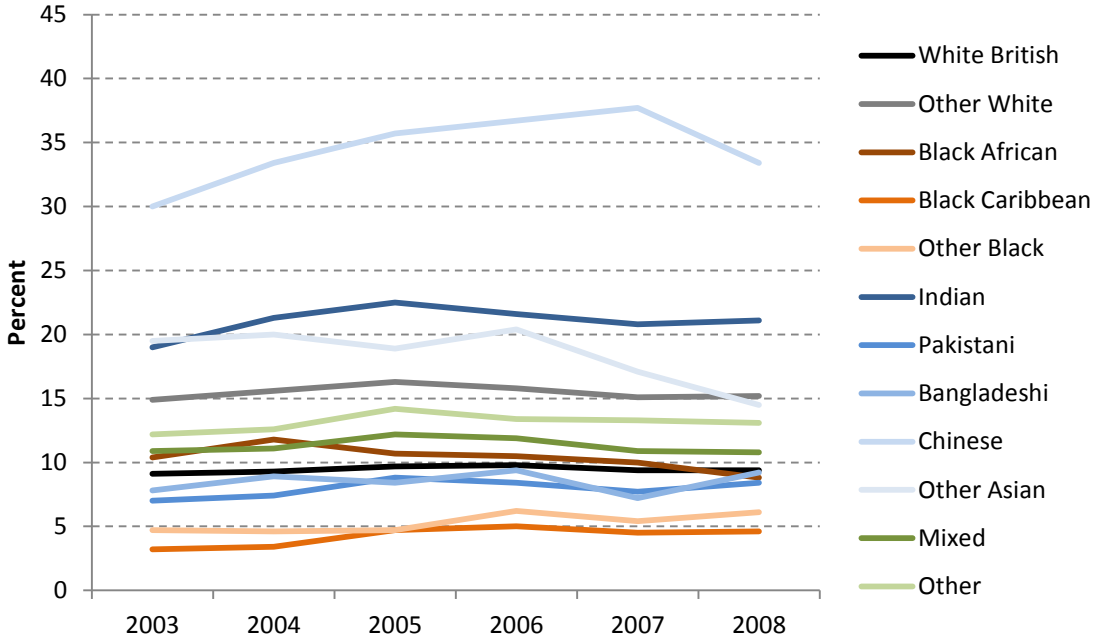
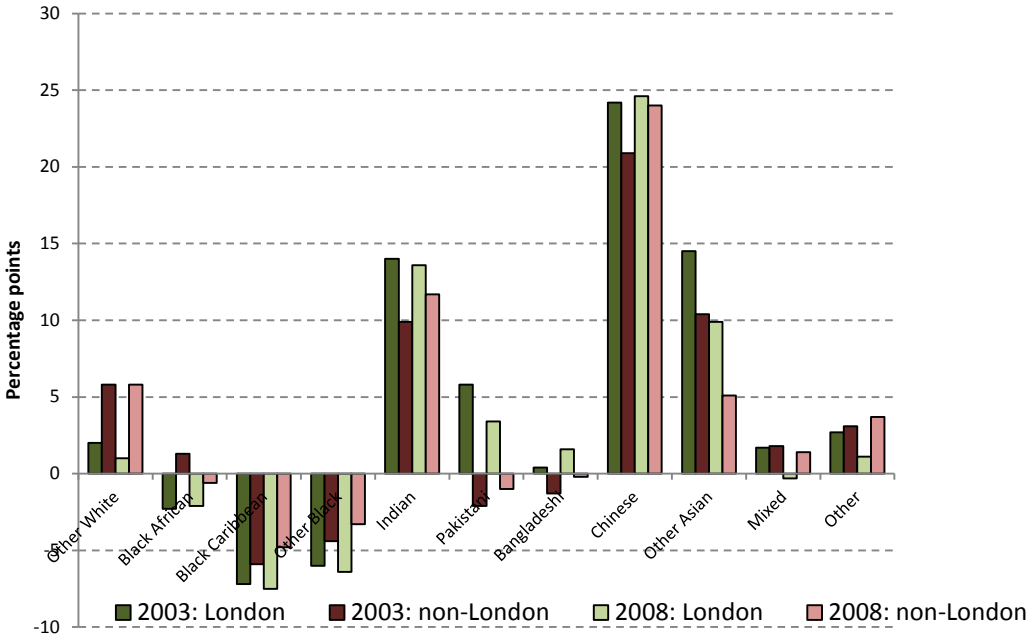


Figure 49: Difference in participation at the most selective institutions at age 18 or 19 amongst the cohorts taking GCSEs in 2003 and 2008 who go to school inside and outside London, by ethnic group (relative to White British)



Notes: all estimates are statistically significantly different from zero at the 5% level with the exception of the differences relative to White British pupils for pupils of Black African and Bangladeshi ethnic origin who go to school outside London, for pupils of Bangladeshi ethnic origin who go to school in London and for pupils of Other White, Mixed and Other ethnic origin who go to school in London in 2008.

- Participation rates at the most selective institutions are higher for most ethnic groups going to school inside London; the exceptions are for pupils from Other White, Black African and Other Black backgrounds. For some groups, these differences are very large indeed. For example, amongst the cohort who sat their GCSEs in 2008, Pakistani pupils going to school in London are almost twice as likely to attend a selective institution as Pakistani pupils attending school outside London (15.9 vs. 8.4 percentage points).

- Participation rates at the most selective institutions have been increasing over time for most ethnic groups, particularly for Black Caribbean, Other Black and Bangladeshi pupils. There is a mixed picture in terms of whether participation is rising faster inside or outside London, however; more mixed than was the case for participation overall. For example, between the cohorts who sat their GCSEs in 2003 and 2008, participation rates have risen more quickly amongst pupils attending school inside London for those of White British, Black African and Bangladeshi ethnic origin (and fallen more slowly for those of Other Asian ethnic origin), while they have risen more quickly for pupils attending school outside London amongst those from Black Caribbean, Indian, Pakistani and Chinese backgrounds.

- For Black African and Pakistani pupils, the trends have gone in opposite directions. While participation rates at the most selective institutions have risen by 22% for

Black African pupils attending school inside London, they have fallen by 15% amongst those going to school outside London. For Pakistani pupils, on the other hand, those attending school inside London saw their participation rates at the most selective institutions falling slightly between 2003 and 2008, while those outside London have seen their participation rates rise by 20%.

- The picture is similarly mixed in terms of participation rates at the most selective institutions relative to White British pupils. For example, Black Caribbean and Other Black pupils have lower participation rates – and Indian, Chinese and Other Asian pupils have markedly higher participation rates – than White British pupils regardless of whether they went to school inside or outside London. Black African pupils, on the other hand, have worse participation rates when educated in London, while Pakistani pupils have worse participation rates when educated outside London.

- The next section explores the extent to which differences in participation relative to White British pupils persist after accounting for differences in other observable characteristics and a rich set of measures of prior attainment, and whether these patterns differ according to whether pupils go to school inside or outside London.

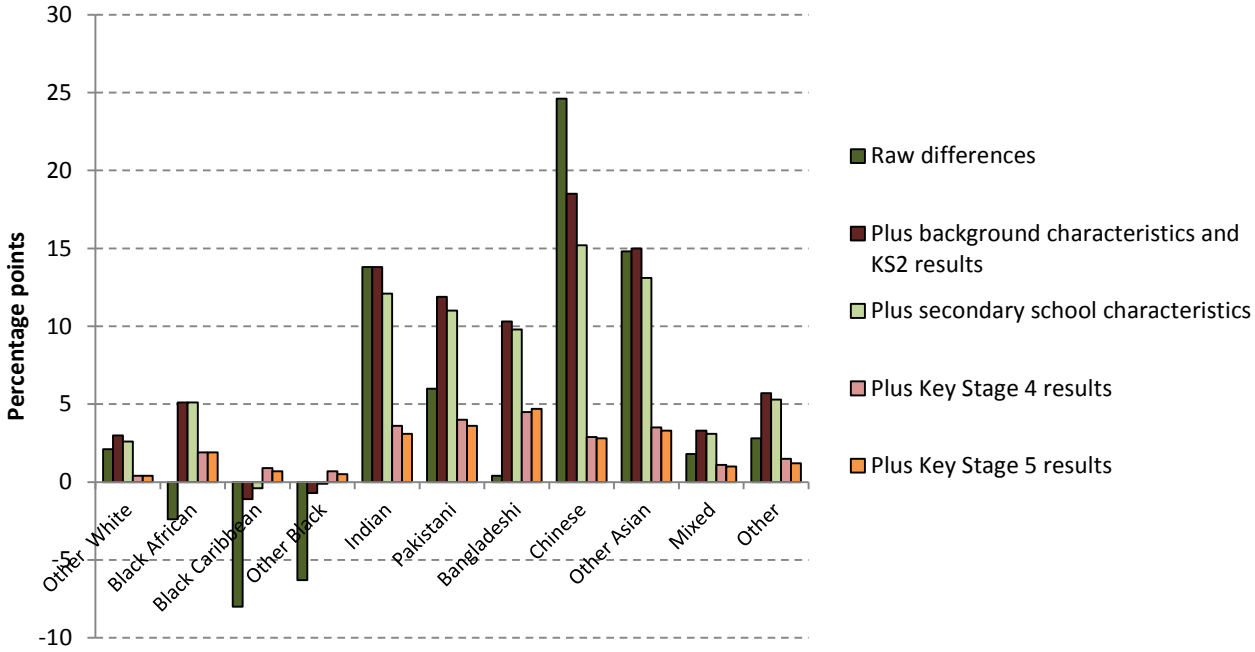
Conditional differences

- Figure 50 and 51 show what happens to the raw differences in participation at the most selective institutions when we account for background characteristics and prior attainment amongst the cohorts sitting GCSEs in 2003, inside and outside London respectively. Figure 52 and 53 present the equivalent figures for the 2008 cohort.

- The effects of accounting for differences in other characteristics and measures of prior attainment are similar to those seen for ethnic minorities overall (in Figures 24 and 25): for groups who tend to outperform White British pupils earlier in the school system – e.g. Indian or Chinese pupils – the addition of controls for these factors reduces the raw differences in participation at the most selective institutions relative to their White British counterparts; for other groups – e.g. Black Caribbean or Other Black pupils – the addition of these characteristics serves to increase their participation rates relative to White British pupils.

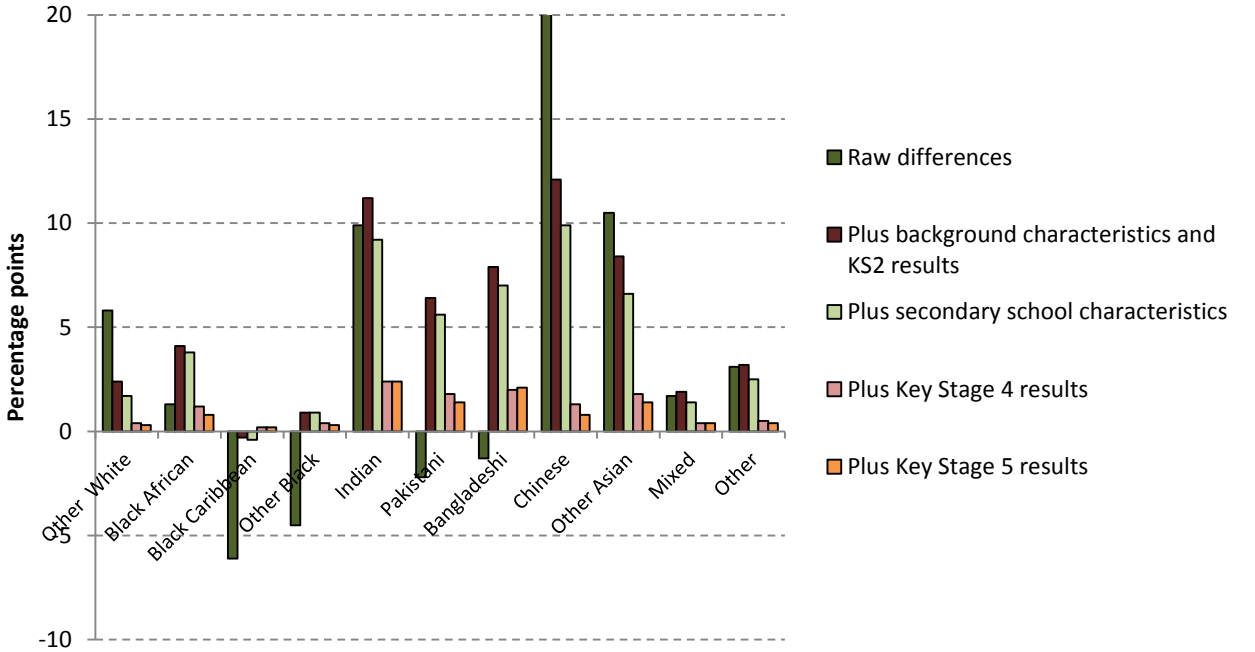
- As was the case for participation overall, the conditional differences in participation at the most selective institutions are at least as large for those educated inside London as for those educated outside London. This is true for all ethnic minority groups amongst the cohorts taking their GCSEs in both 2003 and 2008. For example, even after accounting for other background characteristics and a rich set of measures of prior attainment, pupils of Bangladeshi ethnic origin who sat their GCSEs in 2008 are 7 percentage points more likely than White British pupils to attend a selective institution if they go to school in London, compared to 2.7 percentage points more likely for those outside London.

Figure 50: Difference in participation at the most selective institutions at age 18/19 by ethnic group in London for those taking GCSEs in 2003 (relative to White British)



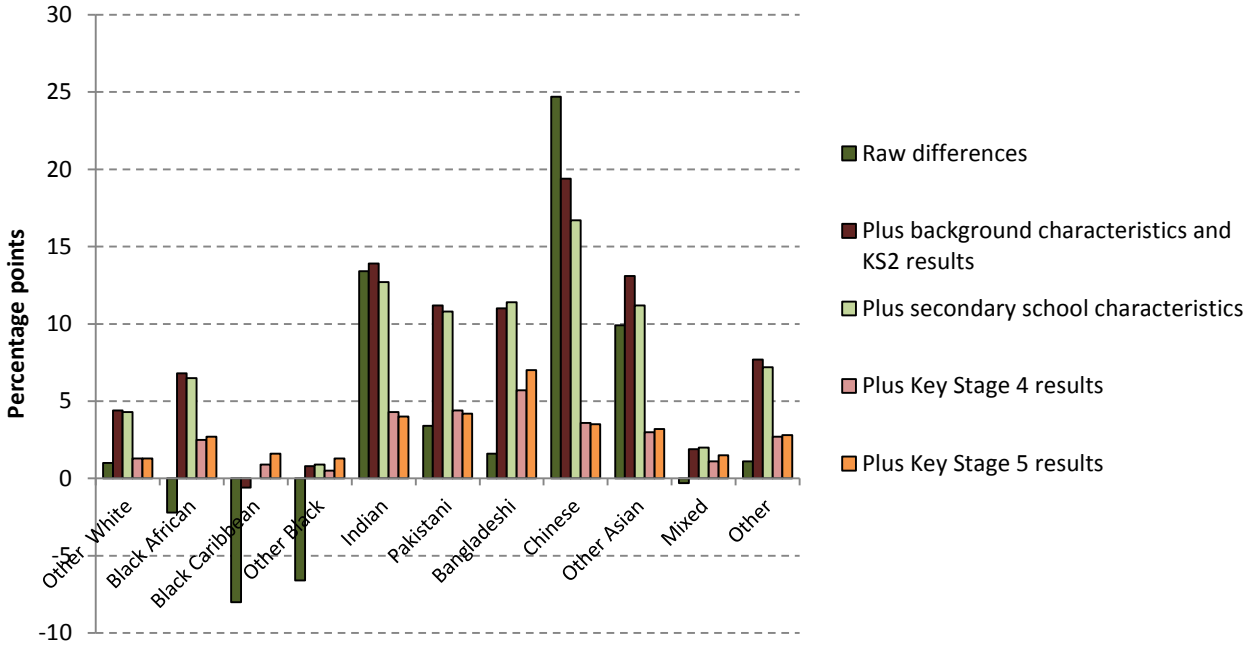
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level except the differences for Bangladeshi pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including KS5 results are significantly different from zero at the 5% level except differences for Other White and Other Black pupils.

Figure 51: Gap in participation at the most selective institutions at 18/19 by ethnic group outside London for those taking GCSEs in 2003 (relative to White British)



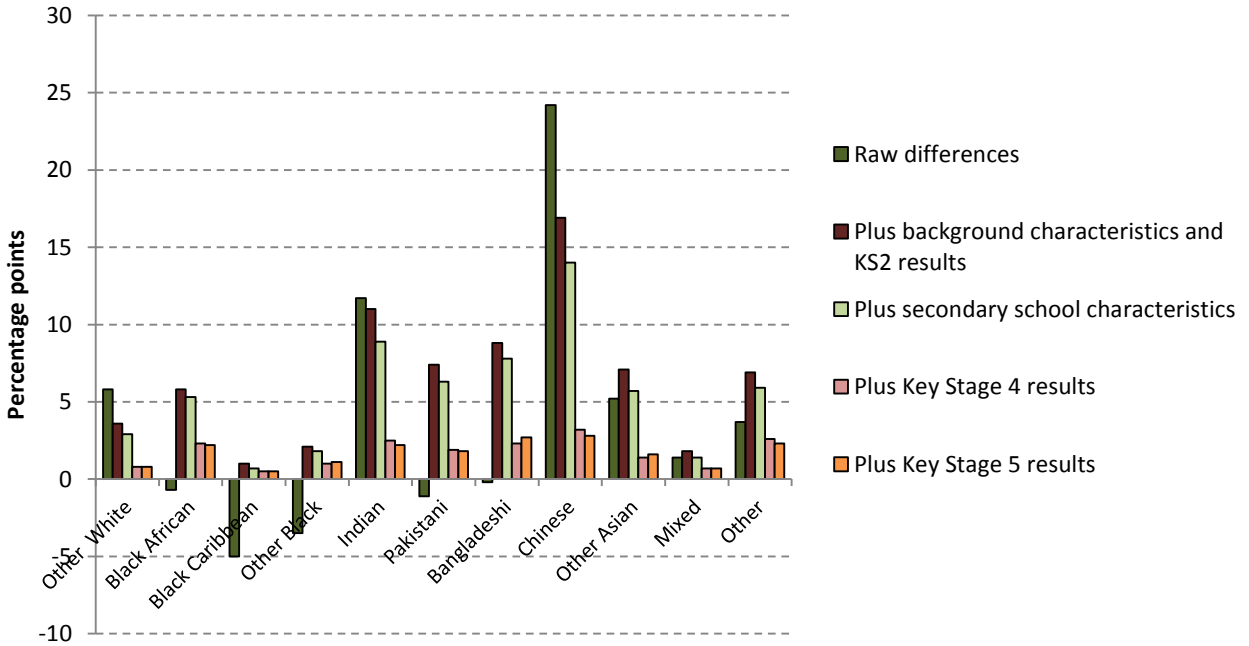
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level except the differences for Black African and Bangladeshi pupils. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level except differences for pupils of Black Caribbean, Other Black and Other ethnic origin.

Figure 52: Difference in participation at the most selective institutions at age 18/19 by ethnic group in London for those taking GCSEs in 2008 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Other White, Bangladeshi, Mixed and Other ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of differences for pupils of Other Black ethnic origin.

Figure 53: Gap in participation at the most selective institutions at 18/19 by ethnic group outside London for those taking GCSEs in 2008 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black African and Bangladeshi ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of differences for pupils of Black Caribbean and Other Black ethnic origin.

- While these conditional differences are much smaller than for participation overall, this still suggests that there are some aspects of the pupil or their family or school that we cannot observe that are positively correlated both with living in London and attending a more selective institution. As was the case for participation overall, higher attainment in London schools can be ruled out as the main explanation, as we condition on a rich set of measures of prior attainment. This therefore implies that aspirations or expectations about HE participation or the returns to education, greater access to institutions in the home region, or some other relevant factors may be more common amongst ethnic minorities living inside rather than outside London. Moreover, the influence of these factors seems to have increased between 2003 and 2008, as the gaps that remain after accounting for the characteristics at our disposal increase slightly over this period.

8. DIFFERENCES BY SOCIO-ECONOMIC STATUS AND ETHNICITY

In this section we investigate whether the differences in HE participation overall and at the most selective institutions by ethnic group hold for pupils from both low and high socio-economic backgrounds. We focus here on the top and bottom SES quintile groups (the lowest and highest 20% of state school students) defined according to our index of socio-economic status (created using a combination of free school meal eligibility and various local area measures of socio-economic background).

We present three different types of graphs as part of our analysis in this section:

- The first shows the participation rates of pupils in each ethnic and socio-economic quintile group for the cohort who sat their GCSEs in 2008. This provides an overall picture of how participation rates vary along these dimensions for the most recent cohort at our disposal. Figure 54 presents this type of graph for participation overall; Figure 61 for participation at the most selective institutions.

- The second is similar to the figures used in previous chapters to illustrate raw differences in participation, and shows the difference in participation rates between ethnic minority pupils and their White British counterparts. Each figure shows the differences for the cohorts who sat their GCSEs in 2003 and 2008. We produce separate figures to illustrate the differences for those in the lowest and highest socio-economic quintile groups. Figures 55 and 56 present the differences in terms of participation overall for the lowest and highest socio-economic quintile groups respectively; Figures 62 and 63 do the same for participation at the most selective institutions.

- The third is similar to the figures used in previous chapters to illustrate the factors that help to explain the raw differences in participation overall and at the most selective institutions between ethnic minorities and White British pupils. We produce these figures separately for the 2003 and 2008 cohorts and for those from the lowest and highest socio-economic quintile groups. Figures 57 and 58 show the results for those in the lowest socio-economic quintile group for the cohorts who sat their GCSEs in 2003 and 2008 respectively; Figures 59 and 60 do the same for the highest socio-economic quintile group; and Figures 64 to 67 do the same for differences in participation at the most selective institutions by cohort and socio-economic quintile group.

We discuss in the text how some of the raw differences in participation vary by gender, with the relevant figures included in the appendix. We do not discuss conditional differences by gender, not least because some groups – particularly ethnic minorities from

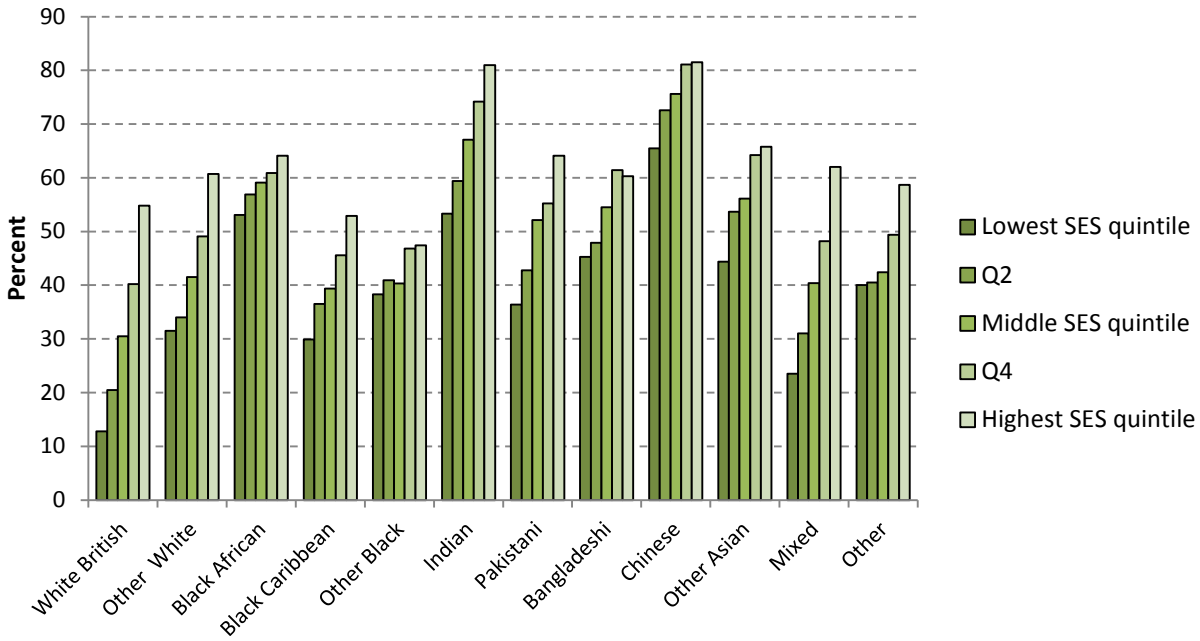
the highest socio-economic quintile group – are very small, even before we split them by gender. For example, amongst the cohort who sat their GCSEs in 2008, there are only around 200 pupils of Other Black and Bangladeshi ethnic origin in the highest SES quintile group. These sample sizes mean that the differences in participation rates between these groups and their White British counterparts are often not statistically significantly different from zero, and should be borne in mind when interpreting the results.

OVERALL HE PARTICIPATION

Raw differences: participation rates by ethnic and socio-economic quintile group

- Figure 54 shows the participation rates by ethnic and socio-economic quintile group for the cohort who sat their GCSEs in 2008. It can be used to compare socio-economic gradients within ethnic group, as well as the participation rates of ethnic groups from the same and different socio-economic quintile groups.

Figure 54: HE participation at age 18 or 19 for the cohort taking their GCSEs in 2008, by ethnic and socio-economic quintile groups



- It shows that White British pupils in the bottom two SES quintile groups have lower participation rates than any other groups, at 12.8% and 20.5% respectively. The participation rate of White British pupils in the lowest SES quintile group is more than 10 percentage points lower than the participation rate of any other ethnic group (the nearest is that of individuals of Mixed ethnic origin from the lowest socio-economic quintile group, at 23.5%).

- By contrast, Chinese pupils in the top two SES quintile groups have the highest participation rates of any groups, at 81.5% and 81.1% respectively, with 81.1% of Indian pupils in the top SES quintile group also going to university at age 18 or 19.

- In fact, participation rates amongst Chinese pupils are high across the board: 66% of Chinese pupils in the lowest SES quintile group go to university, more than 10 percentage points higher than the percentage of White British pupils in the highest SES group who go (55%). In fact, Chinese pupils in the lowest SES quintile group have higher participation rates than pupils from the highest socio-economic quintile groups of most other ethnic groups; the exceptions are Indian pupils in the highest three SES quintile groups (with participation rates starting at 67%) and Other Asian pupils in the highest SES quintile group (whose participation rates are marginally higher than Chinese pupils in the lowest SES quintile group: 65.8% vs. 65.5%).

- The socio-economic gradient is steepest for White British pupils: those in the top SES quintile group are 42 percentage points (just over four times) more likely to go to university than those in the bottom SES quintile group. It is shallowest for pupils from Other Black backgrounds (although – as discussed above – this is a small group), closely followed by Black African pupils: amongst this group, those in the highest socio-economic quintile group are 11 percentage points (1.2 times) more likely to go to university at age 18 or 19 than those in the lowest socio-economic quintile group.[21]

- Appendix Figures 5 and 6 replicate Figure 54 separately for males and females respectively. The participation rates of girls from all ethnic backgrounds and all socio-economic groups exceed those for boys in the same groups; however, there is substantial variation in the magnitude of their advantage across groups. For example, amongst the lowest socio-economic quintile group, Chinese girls are 5.9 percentage points (9%) more likely to go to university than Chinese boys, while girls from Other White backgrounds are nearly 15 percentage points (61%) more likely to go to university than boys from Other White backgrounds.

- The extent to which female participation rates exceed male participation rates is larger amongst those from the lowest socio-economic backgrounds for some ethnic groups, but amongst those from the highest socio-economic backgrounds for other ethnic groups. For example, girls of Black African ethnic origin from the lowest socio-economic quintile group are 11.7 percentage points (25%) more likely to go to university than Black African boys from the lowest socio-economic quintile group,

[21] Appendix Figures 2 and 3 show how participation rates have changed over time for different ethnic groups in the highest and lowest socio-economic quintile groups respectively. They show that, for most ethnic groups, participation rates have been increasing more rapidly for pupils from the lowest socio-economic quintile group than for pupils from the highest socio-economic quintile group. This suggests that the socio-economic gradients shown in Figure 54 (for the cohort who sat their GCSEs in 2008) are likely to be flatter than they were for the cohort who sat their GCSEs in 2003, mirroring the picture for the population overall shown in Chapter 4.

while the gap between Black African girls and boys from the highest socio-economic quintile group is 5.6 percentage points (9%). By contrast, the gender gap in participation rates between White British pupils from the highest SES group is 9.1 percentage points (18%), while it is 4.6 percentage points (44%) amongst those from the lowest socio-economic quintile group.

- The socio-economic gradient also differs for girls and boys from the same ethnic background. For example, the socio-economic gradient in HE participation is much flatter for boys from Other Black backgrounds than it is for girls, while the reverse is true for Black African pupils.

Raw differences: participation rates for ethnic minorities relative to White British pupils in the highest and lowest socio-economic quintile groups

- Figures 55 and 56 summarise the differences in participation rates between ethnic minority and White British pupils for the earliest and latest cohorts (those taking their GCSEs in 2003 and 2008) for the lowest and highest socio-economic quintile groups respectively.

- Figure 55 shows that, amongst the lowest SES quintile group, the participation rates of all ethnic minority groups are substantially higher than those of their White British counterparts; the gaps for most groups have also increased over time. For example, the difference in participation rates relative to White British pupils has increased for all ethnic minority groups (except pupils of Other Asian ethnic origin) between the cohorts who sat their GCSEs in 2003 and 2008, to over 10 percentage points in all cases (as we saw in Figure 54 above). In some cases, these changes over time have been substantial: for example, the participation rates of Black African pupils in the lowest SES quintile group increased by 12 percentage points relative to their White British counterparts over this period.
- Figure 56 compares the participation rates of ethnic minority groups in the highest SES quintile to their White British counterparts for the cohorts who sat their GCSEs in 2003 and 2008. It shows that, in contrast to the results for the low SES quintile group, not all minority ethnic groups are more likely to go to university than their White British counterparts. For example, those from Black Caribbean and Other Black backgrounds in the highest SES group are less likely to go to university than White British pupils from similar backgrounds.

- The advantage of other ethnic minority groups relative to White British pupils in terms of university participation rates is also lower amongst pupils in the highest SES quintile group than amongst pupils in the lowest SES quintile group. For example, amongst the cohort who sat their GCSEs in 2008, Black African pupils are over 40 percentage points more likely to go to university than their White British peers in the lowest SES quintile group, while they are less than 10 percentage points more likely to do so in the highest SES quintile group.

Figure 55: Difference in HE participation at age 18 or 19 amongst the cohorts taking their GCSEs in 2003 and 2008, by ethnic group (relative to White British): lowest SES quintile group only

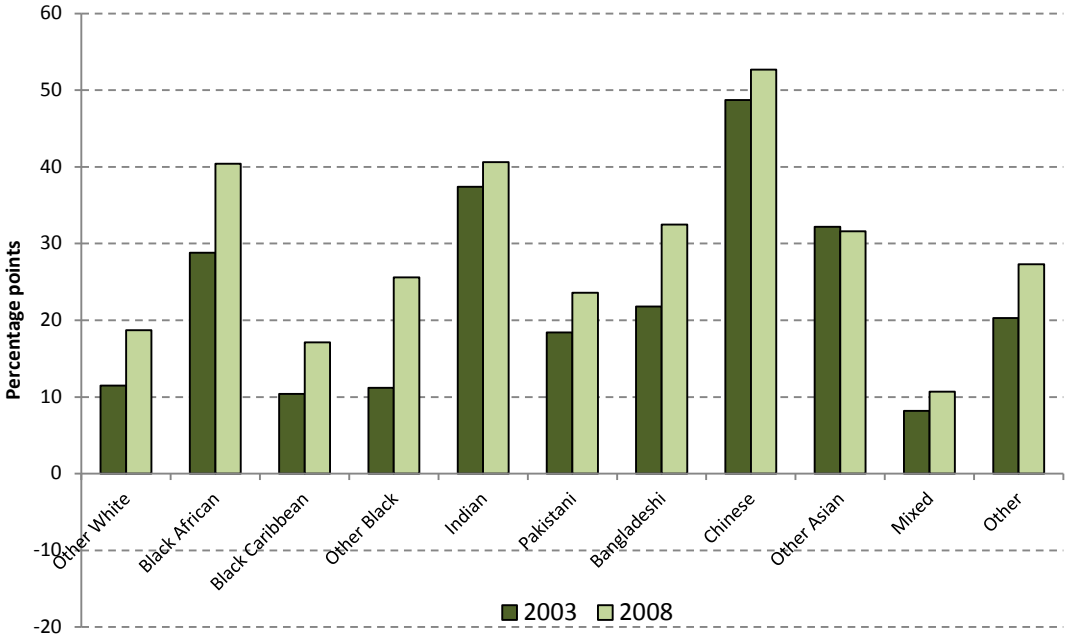
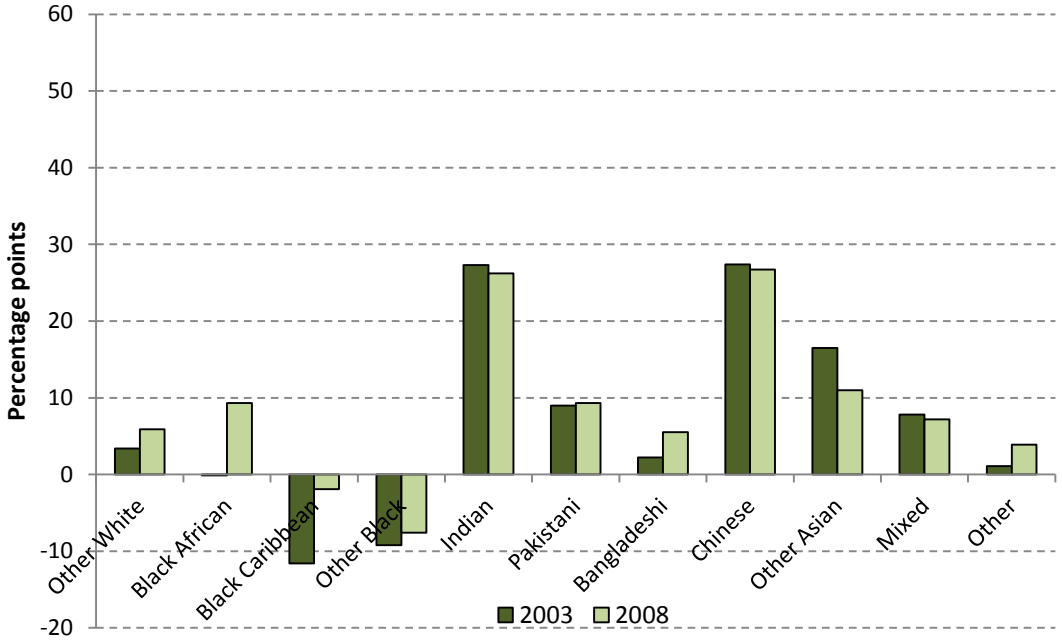


Figure 56: Difference in HE participation at age 18 or 19 amongst the cohorts taking their GCSEs in 2003 and 2008, by ethnic group (relative to White British): highest SES quintile group only



- The change in participation rates relative to White British pupils has also been rather more mixed for high SES pupils. In contrast to the results for low SES pupils, several ethnic minority groups from high socio-economic backgrounds have seen

their average participation rates fall relative to their White British counterparts over this period, with pupils of Other Asian ethnic origin seeing their advantage fall by 5.5 percentage points. Those who have seen their participation rates increase relative to White British pupils have also experienced smaller rises than their low SES peers. For example, while low SES pupils of Other Black ethnic origin increased their participation rates relative to White British low SES pupils by over 14 percentage points between 2003 and 2008, those from high SES backgrounds increased their relative participation rates by only 1.6 percentage points, and remained at a disadvantage relative to their White British peers.

- Appendix Figures 7 and 8 present the differences in HE participation for ethnic minorities relative to White British pupils amongst the cohort who sat their GCSEs in 2008 separately for males and females, for the lowest and highest SES quintile groups respectively. Appendix Figure 7 shows that both male and female ethnic minorities in the lowest SES quintile group have significantly higher participation rates than their White British counterparts, but that the differences are larger for girls in all groups. Appendix Figure 8 shows that female pupils of all minority ethnic groups in the highest SES group are at least as likely to participate in higher education at age 18 or 19, on average, than White British girls. The same is not true for boys, however; with those from Black Caribbean and Other Black backgrounds both less likely to go to university than White British boys from the highest socio-economic backgrounds. There is also a more mixed picture in terms of whether girls or boys experience the larger differences in participation relative to their White British counterparts – although the differences between the two are, in most cases, relatively small.

- The next section investigates the extent to which the other ways in which ethnic minority and White British pupils from low and high socio-economic backgrounds differ can help to explain these differences in participation, and whether these relationships have changed over time.

Conditional differences

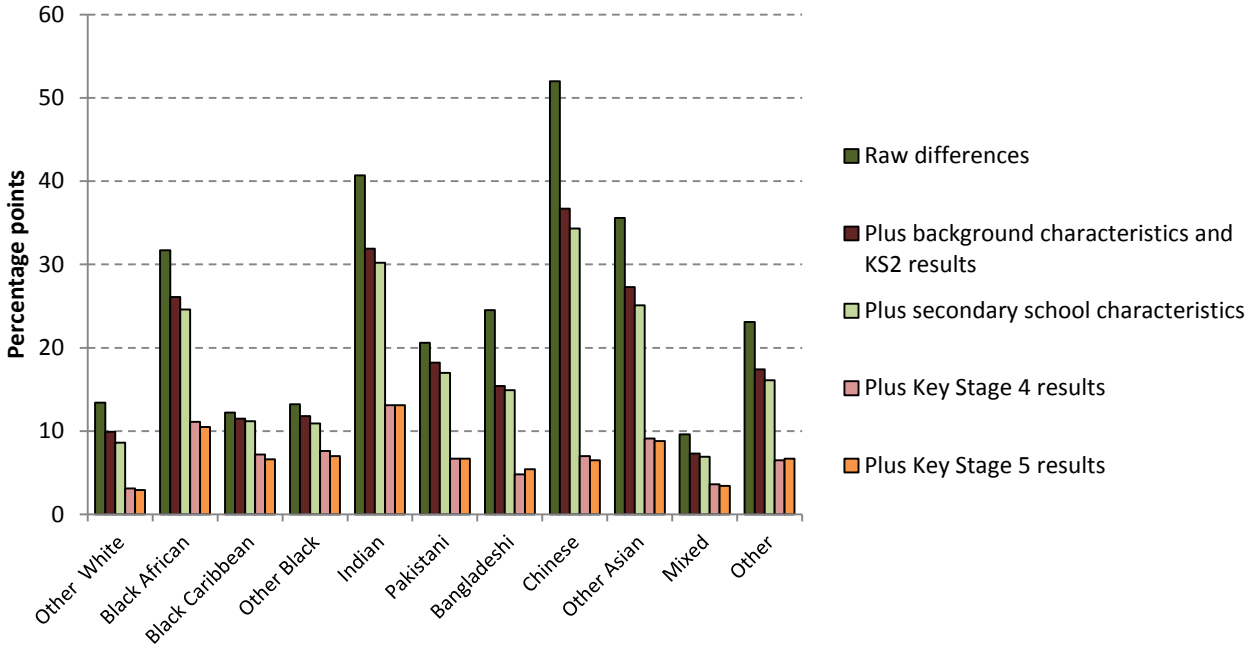
- Figure 57 and 58 explore the extent to which other individual and school characteristics, and a rich set of measures of prior attainment, can help to explain the differences in participation between ethnic groups within the lowest socio-economic quintile, for the earliest and latest cohorts (those taking their GCSEs in 2003 and 2008) respectively. Figures 59 and 60 repeat this analysis for those in the highest socio-economic quintile group.

- In contrast to the overall results for most ethnic minority groups (shown in Figures 20 and 21), within the lowest SES quintile group, accounting for background characteristics and Key Stage 2 test scores generally reduces the difference in HE participation compared to White British pupils. This suggests that White British pupils in the lowest SES quintile group have characteristics that are associated with lower HE participation, on average, than their ethnic minority counterparts. For example, they are more likely to be labelled as having statemented (severe) special

educational needs; they also have lower attainment than other groups at Key Stage 2, especially those from Chinese and Indian backgrounds, for whom we can explain around 20-30% of the raw difference in participation once we control for background characteristics and Key Stage 2 test scores.

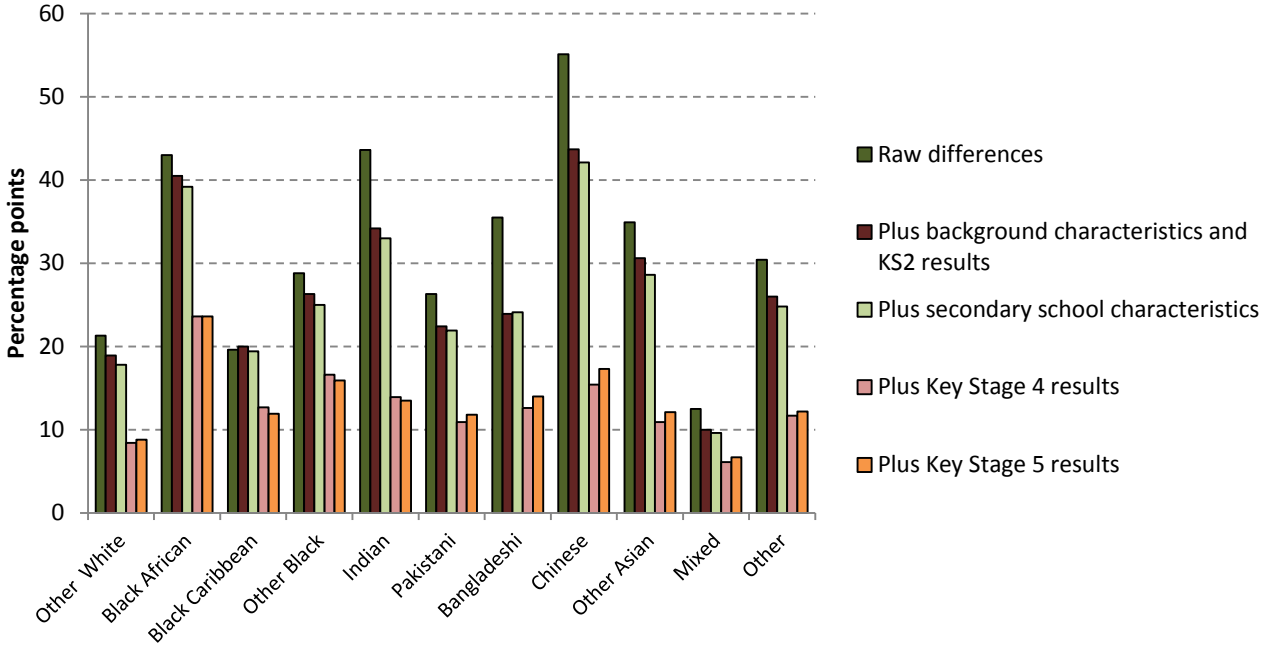
- By contrast, within the highest SES quintile group, accounting for background characteristics and Key Stage 2 scores increases the difference in participation relative to White British pupils for most ethnic minority groups. For example, the advantage of Pakistani pupils in the highest SES quintile group more than doubles: they go from being around 9 percentage points more likely to go to university at age 18 or 19 than their White British counterparts to being more than 20 percentage points more likely to go once we compare them to White British pupils from the same backgrounds and with the same attainment at the end of Key Stage 2. This is true for both the 2003 and 2008 cohorts. This suggests that White British pupils in the highest SES group have characteristics that are associated with higher HE participation, on average, than many of their ethnic minority counterparts.

Figure 57: Difference in HE participation at age 18 or 19 by ethnic group amongst the lowest socio-economic quintile for the cohort taking their GCSEs in 2003 (relative to White British)



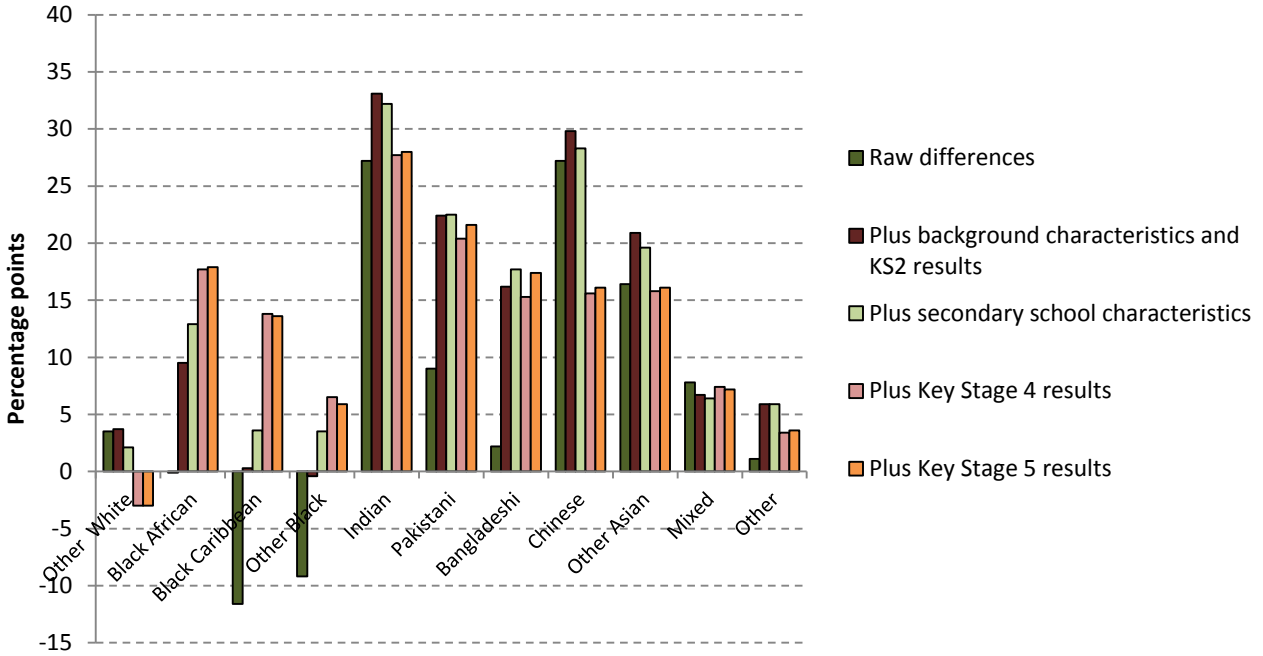
Notes: all estimates of the raw differences and the differences accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 58: Difference in HE participation at age 18 or 19 by ethnic group amongst the lowest socio-economic quintile for the cohort taking their GCSEs in 2008 (relative to White British)



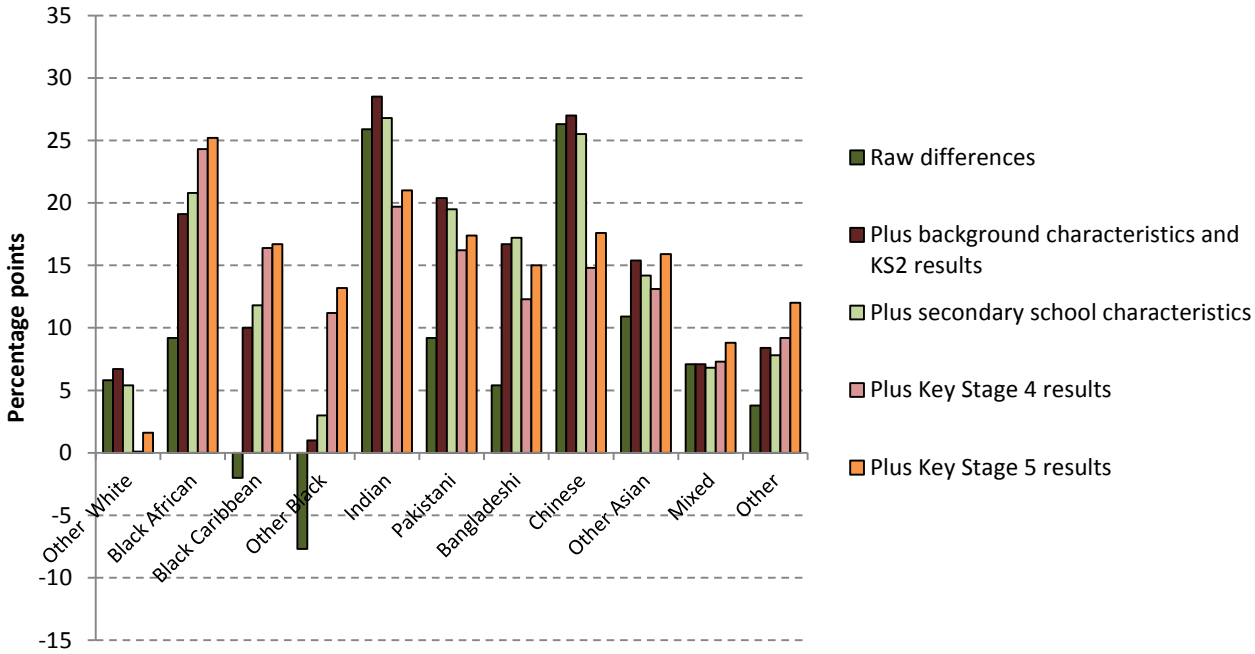
Notes: all estimates of the raw differences and the differences accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level.

Figure 59: Difference in HE participation at age 18 or 19 by ethnic group amongst the highest socio-economic quintile for the cohort taking their GCSEs in 2003 (relative to White British)



Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black African, Bangladeshi and Other ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of differences for pupils of Other White, Other Black and Other ethnic origin.

Figure 60: Difference in HE participation at age 18 or 19 by ethnic group amongst the highest socio-economic quintile for the cohort taking their GCSEs in 2008 (relative to White British)



Notes: with regard to statistical significance, all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black Caribbean, Bangladeshi and Other ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including Key Stage 5 results are significantly different from zero at the 5% level with the exception of differences for pupils of Other White ethnic origin.

- The effect of accounting for attainment at the end of compulsory schooling is similar: it reduces the estimated difference in participation relative to White British pupils for all ethnic minority groups when we focus on those from the lowest socio-economic backgrounds, but not when we focus on those from the highest SES group. In particular, the participation rates of Black pupils from the highest socio-economic backgrounds increase relative to their White British peers once we account for differences in attainment at the end of Key Stage 4. This is because high SES White British pupils tend to outperform high SES Black pupils at this stage. For example, they score, on average, one grade higher in English and Maths GCSEs, and are around 20 percentage points more likely to achieve 5 A*-C grades in EBACC subjects than Black African and Other Black pupils, and almost 30 percentage points more likely to do so than Black Caribbean pupils.

- The remaining gaps in participation (after accounting for Key Stage 5 results, the inclusion of which again does not change the picture dramatically) relative to White British pupils are generally larger for ethnic minorities from higher socio-economic backgrounds than for those from lower socio-economic backgrounds, although with some notable exceptions (e.g. amongst pupils of Other White ethnic origin). For example, amongst the cohort who sat their GCSEs in 2008, Indian pupils from the top SES quintile group are 21 percentage points more likely to go to university than their White British peers; the equivalent difference amongst pupils from the bottom

SES quintile group is 13.5 percentage points. This suggests that the other factors that matter for HE participation which we are not able to account for in our modelling – be they aspirations and expectations, higher perceived returns to education, or something else – must differ to a larger extent between ethnic minorities and White British pupils from higher socio-economic backgrounds, or matter more for ethnic minorities than White British pupils from these families and neighbourhoods.

- It is also clear that the remaining unexplained differences in HE participation between ethnic minorities and White British pupils have, in general, been increasing over time. This is the case for pupils from all ethnic minority groups in the lowest SES quintile group, and for most ethnic minority groups in the highest SES quintile groups; the exceptions are for pupils of Indian, Pakistani and Bangladeshi ethnic origin. For example, the conditional difference in participation rates between low SES Black African pupils and their White British peers has risen from 10.5 to 23.6 percentage points between the cohorts who sat their GCSEs in 2003 and 2008, with the equivalent figures for those from high socio-economic backgrounds 17.9 and 25.2 percentage points respectively. By contrast, the gap in participation rates to White British pupils amongst those of Pakistani ethnic origin increased from 6.7 to 11.8 percentage points amongst those from the lowest socio-economic backgrounds, while it fell from 21.6 to 17.4 percentage points amongst those from the highest socio-economic backgrounds over the same period.

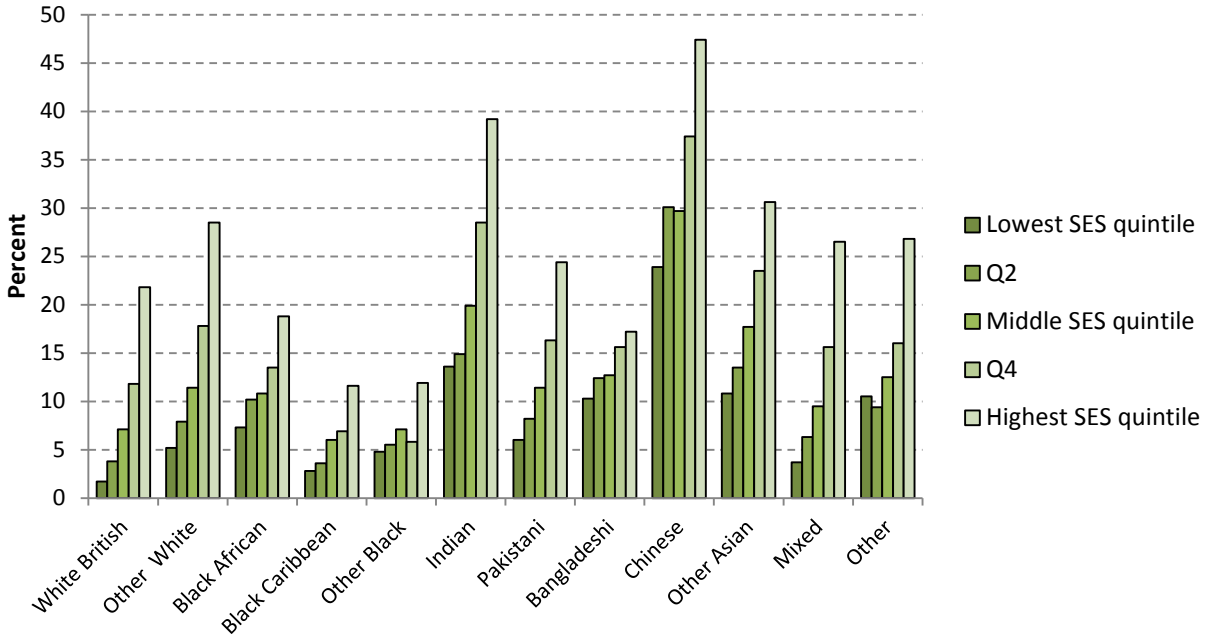
- The fact that the conditional differences in participation are increasing over time for most groups suggests that the higher participation rates of ethnic minorities is not entirely explained by the rising attainment of these groups relative to White British pupils over this period, and that the importance of other factors – such as aspirations and expectations – may be increasing.

PARTICIPATION AT THE MOST SELECTIVE INSTITUTIONS

Raw differences: participation at the most selective institutions rates by ethnic and socio-economic group

- Figure 61 presents average participation rates at the most selective institutions by socio-economic and ethnic group for the cohort who took their GCSEs in 2008. As was the case for participation overall, White British pupils from the bottom socio-economic quintile group have the lowest participation rates, with fewer than 2% attending the most selective institutions. Chinese pupils have the highest participation rates amongst low SES pupils: just under 24% attend a selective institution – higher than the percentage of White British pupils in the top SES quintile who do so (just under 22%). This means that more than a third of Chinese pupils from the most deprived backgrounds who go to university attend a selective institution, nearly three times more than the 13% of White British HE participants from the lowest SES group who attend such institutions.

Figure 61: Participation at the most selective institutions at age 18 or 19 for the cohort taking their GCSEs in 2008, by ethnic and socio-economic quintile groups



- As was the case for HE participation overall, amongst the most socio-economically advantaged group, pupils from Black Caribbean and Other Black backgrounds are the least likely to go to university – and Chinese and Indian pupils the most likely – but, in contrast to the results for participation overall, Black African and Bangladeshi pupils from the top SES quintile group also have lower participation rates at the most selective institutions than their White British counterparts.

- Focusing on socio-economic gradients within particular ethnic groups, the difference in participation at the most selective institutions between those in the top and bottom SES quintiles is again high for White British pupils – at just over 20 percentage points – but is steepest in absolute terms for Indian pupils (25.6 percentage points) and similar (at around 23 percentage points) for pupils from Other White, Chinese and Mixed ethnic backgrounds. Because the participation rates of the most deprived White British pupils are lower than for other ethnic groups, however, the relative difference between the most and least deprived pupils is highest for this group: amongst the cohort who sat their GCSEs in 2008, White British pupils in the top SES group are nearly 13 times more likely to go to a more selective institution than those in the bottom SES group. The gradient is shallowest in absolute terms for Black Caribbean, Other Black and Bangladeshi pupils and in relative terms for Bangladeshi and Chinese pupils.[22]

[22] Appendix Figures 8 and 9 show how participation at the most selective institutions rates have changed over time for different ethnic groups in the highest and lowest socio-economic quintile groups respectively. In line with the overall results by ethnicity and socio-economic status, there is relatively little change in the

- It is worth noting that, as was the case for participation at the most selective institutions amongst the population as a whole, these gradients are highly non-linear: the difference in participation rates between adjacent SES quintile groups generally increases with socio-economic status. The differences between the second-highest and highest SES quintile groups are particularly large: e.g. for pupils from White British, Other White, Indian, Chinese and Other ethnic backgrounds, the gap is at least 10 percentage points – larger than the difference in participation at the most selective institutions rates between the top and bottom SES groups for Black Caribbean, Other Black and Bangladeshi pupils.

- Appendix Figures 11 and 12 repeat Figure 61 separately for males and females respectively, showing that the patterns described above are broadly similar for both genders. As was the case for participation at the most selective institutions overall, girls are, within most groups, more likely to attend a selective institution than boys. One exception is for Chinese pupils from the lowest socio-economic quintile group, in which boys are 2.5 percentage points more likely to attend a selective institution than girls (even though girls outperform them in terms of participation overall). The socio-economic gradients are, for all groups, at least as steep for girls as for boys. This differs from the results for participation overall, and suggests that socio-economic status is a stronger predictor of the type of university girls will go to than it is for boys.

Raw differences: participation at the most selective institutions rates for ethnic minorities relative to White British pupils in the highest and lowest socio-economic quintile groups

- Figures 62 and 63 show how the participation rates of ethnic minorities compare to those of White British individuals for the cohorts who sat their GCSEs in 2003 and 2008, amongst the lowest and highest SES quintile groups respectively.

- The difference in participation at the most selective institutions rates between ethnic minority pupils from particular socio-economic backgrounds and their White British counterparts is, in general, smaller than was the case for participation overall. However, it remains the case that, amongst the lowest socio-economic quintile group, all ethnic minorities are, on average, more likely to attend a selective institution than their White British counterparts. Amongst the highest socio-economic quintile group, White British pupils are more likely to attend a selective institution than pupils of Black African and Bangladeshi ethnic origin – as well those from Black Caribbean and Other Black backgrounds (which was also the case for participation overall).

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percentage of different groups attending high status institutions over this period. However, the participation rates of those from the lowest socio-economic quintile groups have increased more consistently than those from the highest socio-economic quintile groups (in which some ethnic groups are shown to have experienced small decreases). This provides some suggestive evidence that the socio-economic gradients may have decreased slightly over this period.

Figure 62: Difference in participation at the most selective institutions at age 18 or 19 amongst the cohorts taking their GCSEs in 2003 and 2008, by ethnic group (relative to White British): lowest SES quintile group only

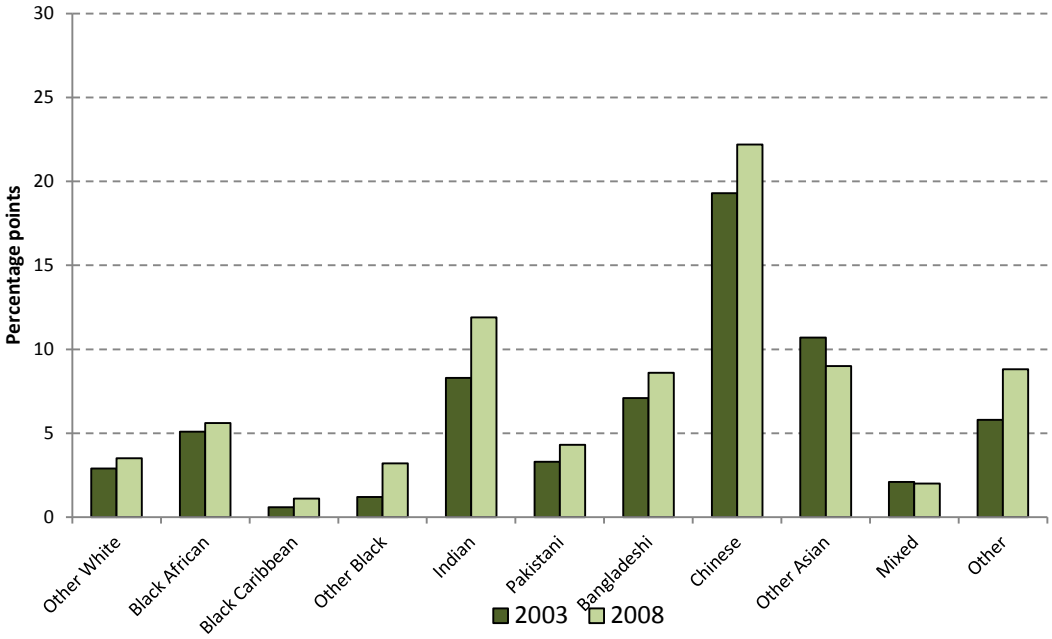
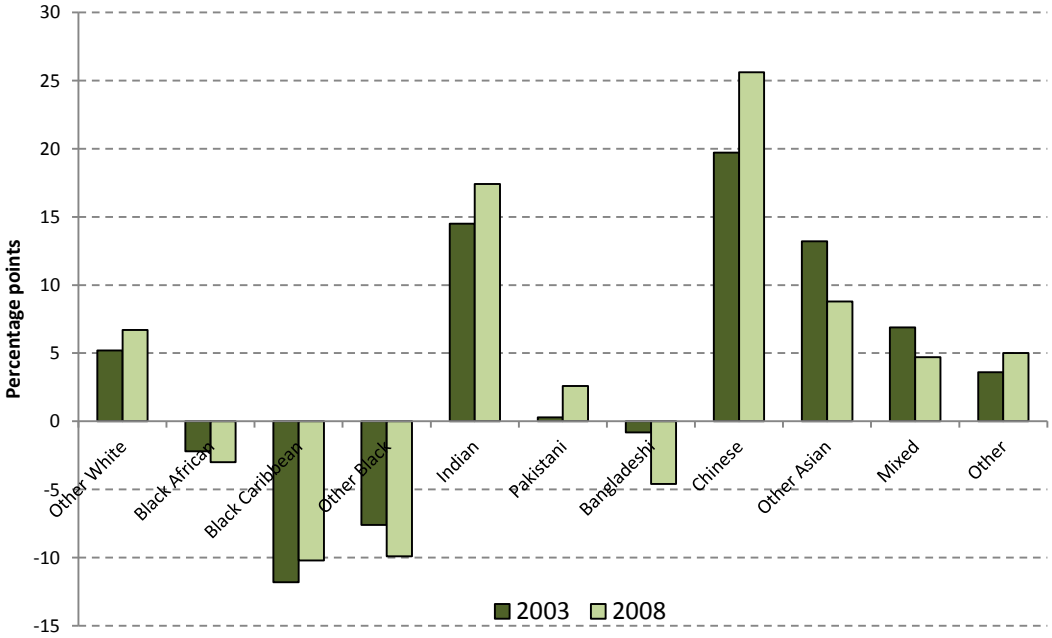


Figure 63: Difference in participation at the most selective institutions at age 18 or 19 amongst the cohorts taking their GCSEs in 2003 and 2008, by ethnic group (relative to White British): highest SES quintile group only



- The advantage that Chinese pupils hold relative to other ethnic minority groups is much greater in terms of participation at the most selective institutions than it was in terms of participation overall. For example, Chinese pupils in the highest SES

quintile group are around 26 percentage points more likely to go to a selective institution than White British pupils, while Indian pupils are around 17 percentage points more likely to do so; by contrast, their advantage compared to White British pupils in terms of participation overall was approximately equal, at around 26 percentage points.

- This also highlights another interesting fact: that the advantage of Chinese pupils relative to White British pupils in the highest socio-economic quintile group in terms of participation at the most selective institutions is approximately the same as it is for participation overall, and approximately the same as the gap relative to White British pupils in the lowest socio-economic quintile group. This again highlights the very high participation rates of Chinese pupils, especially at the most selective institutions and especially amongst those from the lowest socio-economic backgrounds.

- Appendix Figures 13 and 14 present the differences in participation at the most selective institutions between ethnic minorities and White British pupils amongst the cohort who sat their GCSEs in 2008 separately for males and females, for the most and least deprived groups respectively. Appendix Figure 13 shows that both male and female ethnic minorities in the lowest SES quintile group are more likely to attend a selective institution than their White British counterparts; however, in contrast to the results for participation overall, these differences are not always larger for girls: Chinese boys in the bottom SES quintile are 23.5 percentage points more likely to attend a selective institution than White British boys from similar socio-economic backgrounds; the gap for girls is 20.6 percentage points.

- There are also some interesting differences between the results for participation at the most selective institutions and participation overall amongst the highest socio-economic quintile group. For example, while the least deprived girls from all ethnic minority groups were, on average, at least as likely to go to university as their White British counterparts, this is not the case for participation at the most selective institutions. Appendix Figure 14 shows that girls from Black African, Black Caribbean, Other Black and Bangladeshi backgrounds from the highest SES quintile group are less likely to attend a selective institution than White British girls from similar socio-economic backgrounds.

- The next section explores the extent to which accounting for a limited set of individual and school characteristics, and a rich set of measures of prior attainment, can help to explain these differences in participation at the most selective institutions by ethnicity and socio-economic status.

Conditional differences

- Figures 64 and 65 show how the differences in participation at the most selective institutions between White British and ethnic minority groups amongst low SES individuals change as we account for background characteristics and prior

attainment; they do so for the cohorts who sat their GCSEs in 2003 and 2008 respectively. Figures 66 and 67 present similar analysis for high SES pupils.

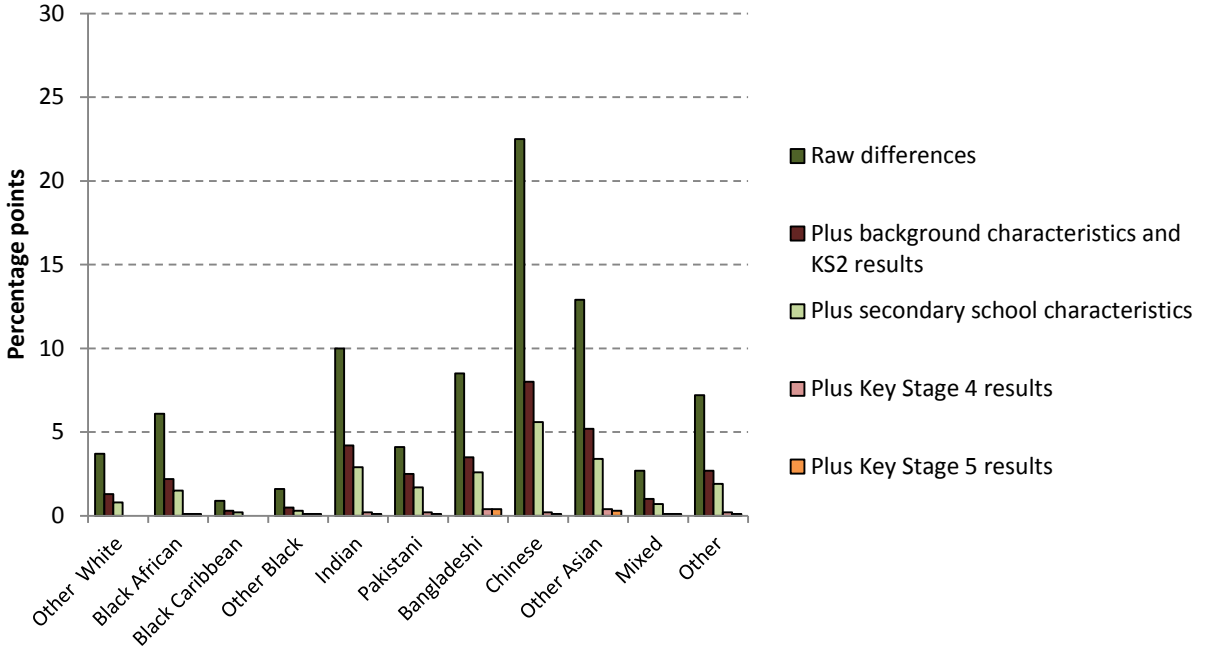
- Figures 64 and 65 show that, as was the case for participation overall, for low SES pupils, the addition of controls for individual background characteristics and Key Stage 2 test scores reduces the difference in participation at the most selective institutions rates between ethnic minority and White British pupils. The role of these characteristics is substantially more important in relative terms than was the case for participation overall: the gaps in terms of participation overall were reduced by *at most* one third as a result of the inclusion of these characteristics (see Figure 58 for the cohort who sat their GCSEs in 2008), while they were reduced by *at least* one third in terms of participation at the most selective institutions (see Figure 64 for the same cohort).

- The remaining differences are reduced still further by the addition of Key Stage 4 attainment (and then relatively little by the additional inclusion of measures of attainment at Key Stage 5). The gaps that remain after accounting for all of the characteristics at our disposal are small (at most 1.4 percentage points) and not significantly different from zero for all groups. They are, however, slightly larger for the cohorts who sat their GCSEs in 2008 than those who sat them in 2003. This suggests that there is a small but growing role for other characteristics – such as aspirations or expectations – to help explain why ethnic minorities from low SES backgrounds are slightly more likely to attend the most selective institutions than low SES White British pupils.

- The patterns for high SES individuals are less clear cut. For the groups that tend to outperform their White British counterparts earlier in the school system – such as those from Indian or Chinese backgrounds – the raw gaps are reduced as a result of accounting for individual and school characteristics, as well as a rich set of measures of attainment at Key Stages 2, 4 and 5. For those with lower participation rates than White British pupils initially – such as those of Black or Bangladeshi ethnic origin – the gaps shrink but do not always turn positive (as was the case for participation overall). And the small sample sizes mean that many of the remaining differences are not statistically significantly different from zero.

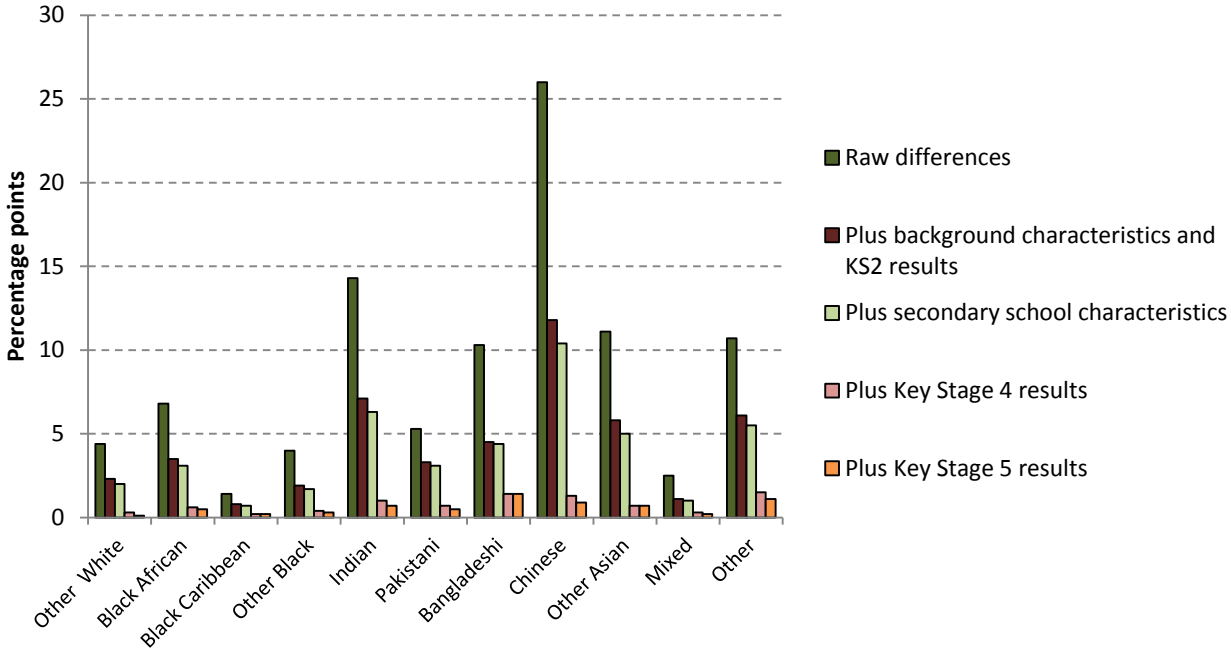
- The differences in participation relative to White British pupils that remain after controlling for all factors at our disposal are increasing over time for most ethnic minority groups from highest socio-economic backgrounds, suggesting a potentially increasing role for other factors in explaining why high SES ethnic minorities are more likely to attend the most selective institutions than White British pupils. This is not the case for all ethnic groups, however; for example, the remaining conditional difference falls for pupils of Indian and Bangladeshi ethnic origin between the 2003 and 2008 cohorts. This suggests that the changing influence of such factors may vary across different high SES ethnic groups. It is also worth noting that very few of these differences are significantly different from zero, due to the relatively small number of ethnic minorities in the highest SES quintile group.

Figure 64: Difference in participation at the most selective institutions at age 18 or 19 by ethnic group amongst the lowest socio-economic quintile for the cohort taking their GCSEs in 2003 (relative to White British)



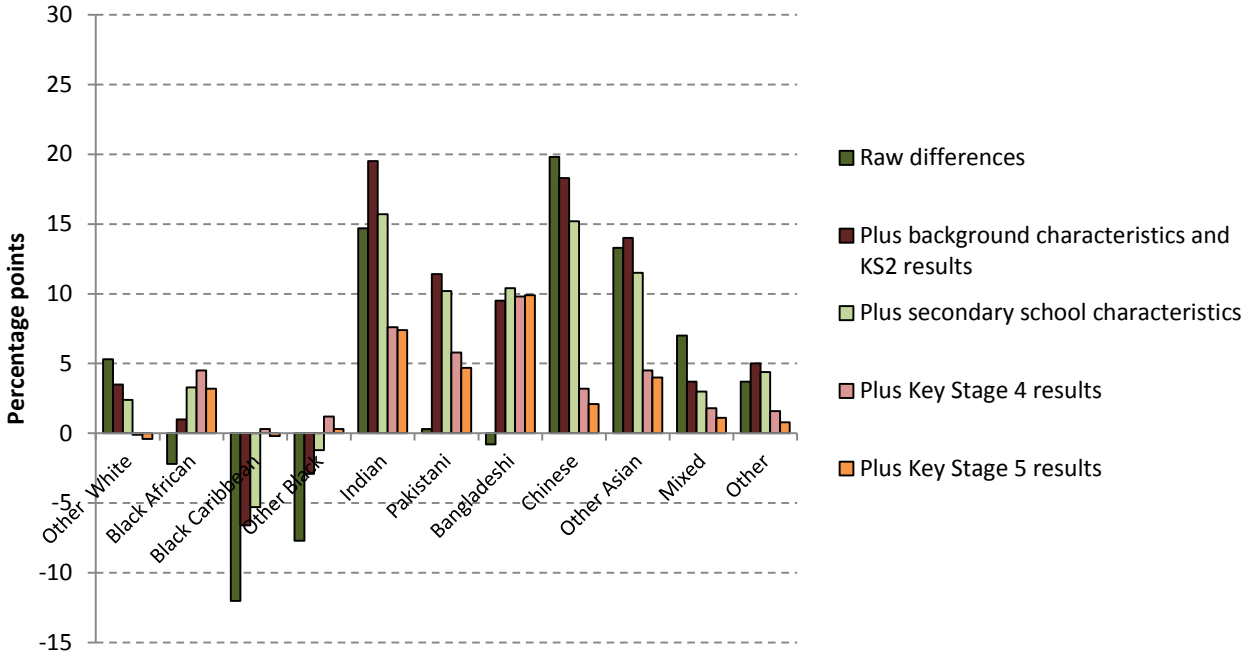
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level. All estimates of the differences relative to White British pupils accounting for characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of differences for Other White, Black Caribbean, Other Black and Chinese pupils.

Figure 65: Difference in participation at the most selective institutions at age 18 or 19 by ethnic group amongst the lowest socio-economic quintile for the cohort taking their GCSEs in 2008 (relative to White British)



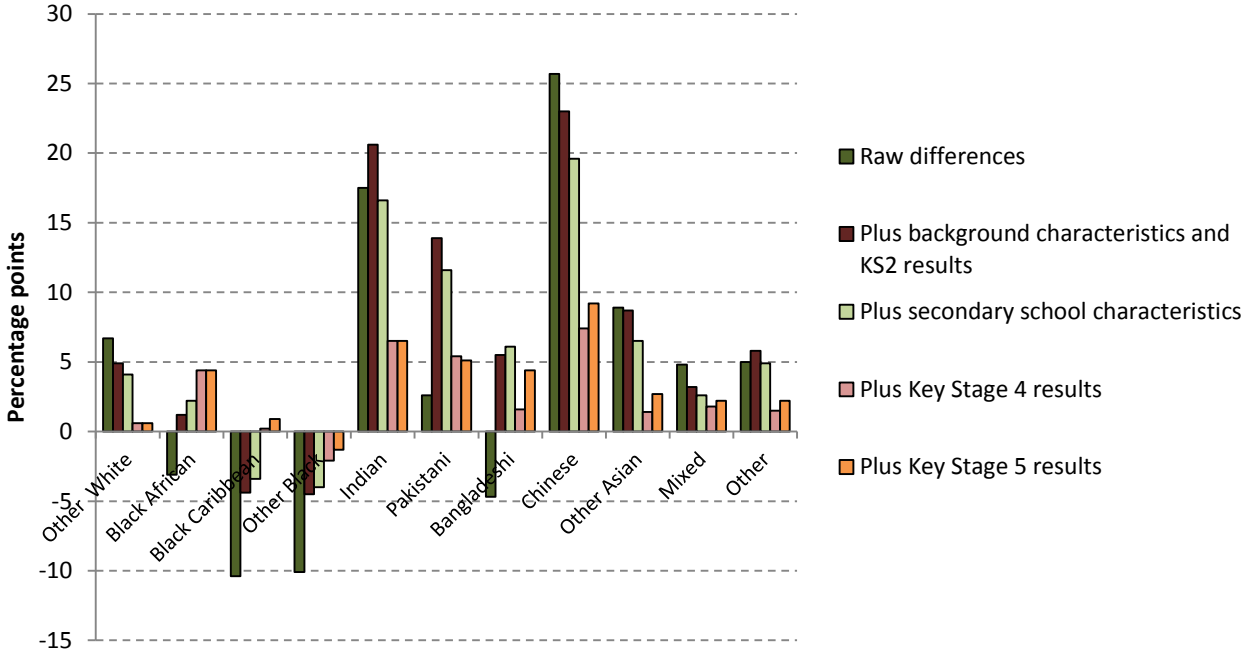
Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level. All estimates of the differences relative to White British pupils accounting for characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of differences for Other White, Black Caribbean, Other Black and Mixed pupils.

Figure 66: Gap in participation at most selective institutions at 18/19 by ethnicity amongst top SES quintile for those taking GCSEs in 2003 (relative to White British)



Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black African, Pakistani and Bangladeshi ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of differences for Other White, Black African, Black Caribbean, Other Black, Chinese, Mixed and Other pupils.

Figure 67: Gap in participation at most selective institutions at 18/19 by ethnicity amongst top SES quintile for those taking GCSEs in 2008 (relative to White British)



Notes: all estimates of the raw differences relative to White British pupils are significantly different from zero at the 5% level with the exception of the differences for pupils of Black African, Pakistani and Bangladeshi ethnic origin. All estimates of the differences relative to White British pupils accounting for all characteristics up to and including KS5 results are significantly different from zero at the 5% level with the exception of differences for Other White, Black Caribbean, Other Black, Bangladeshi, Other Asian and Other pupils.

9. Conclusion

This report has documented the differences in HE participation overall and at a set of 52 selective institutions between pupils split according to socio-economic background, gender, ethnicity and combinations of these characteristics. It has also shown how these patterns have changed over time and explored the factors that can help to explain the differences in participation that we observe.

We find substantial differences in participation overall and at the most selective institutions by socio-economic status and particularly by ethnicity. There are smaller differences by gender. For example, amongst the cohort who sat their GCSEs in 2008:

- Pupils from the highest socio-economic backgrounds are 37 percentage points more likely to go to university and 20 percentage points more likely to attend a selective institution than pupils from the lowest socio-economic backgrounds;

- White British pupils are the least likely to go to university and amongst the least likely to attend a selective institution. Chinese pupils are the most likely to attend: they are 43 percentage points more likely to go to university and 25 percentage points more likely to attend a selective institution than White British pupils.

We are able to explain all of the small differences by gender – and most of the large differences by socio-economic status – by accounting for a limited set of individual and school characteristics, and a rich set of measures of attainment at Key Stages 2, 4 and 5. We are also able to explain most of the differences in participation at the most selective institutions by ethnic background.

By contrast, there remain very large and statistically significant differences in participation between individuals from different ethnic backgrounds. For some ethnic minority groups – specifically those of Black ethnic origin – these gaps are larger than the raw differences, suggesting that their participation advantage relative to their White British counterparts is even more marked once we compare individuals from the same backgrounds and with the same prior attainment. For example, amongst the cohort who sat their GCSEs in 2008, Black Caribbean pupils are 5 percentage points more likely to go to university than White British pupils, and 21 percentage points more likely to go than White British pupils who are similar in all of the respects captured by our models. Moreover, these remaining unexplained differences have been increasing over time.

What drives these substantial remaining differences in HE participation by ethnic background? We explore two possibilities:

- First, we investigate whether the remaining differences are larger for ethnic minorities who speak English as an additional language. It is hypothesised that recent migrants might have higher aspirations and expectations for their children than minorities who have been in the country for longer. As we do not observe

immigration status in our data, we instead proxy it using whether the individual speaks English as an additional language.

- Second, we investigate whether the remaining differences are larger for ethnic minorities who live in London. Being educated in London may affect educational attainment and subsequent progression to higher education for a number of reasons, including the presence of multiple (selective) higher education institutions, and the potential impact on perceived returns to education arising from high wages and good prospects for graduates in the local area.

We find that the remaining differences in participation after conditioning on a limited set of individual and school characteristics and a rich set of measures of prior attainment are indeed larger for ethnic minorities who speak English as an additional language and for those who live in London. Unfortunately, it is not possible for us to explore what might be driving these remaining differences using the administrative data at our disposal; but it seems plausible that aspirations and expectations for higher education might play a role.

The fact that the remaining unexplained differences in HE participation between ethnic groups are increasing over time also suggests that these other factors are playing an increasingly important role in driving participation rates amongst ethnic minorities. Further research could usefully explore the specific factors that underlie these differences.

Bibliography

Blanden, J. and L. Macmillan (2014), *Education and intergenerational mobility: Help or hindrance?*, Department of Quantitative Social Science WP 14/01, Institute of Education, University of London.

Bolivar, V. (2013), How fair is access to more prestigious UK universities?, *The British Journal of Sociology*, Vol. 64, pp. 344-364.

Chowdry, H., C. Crawford, L. Dearden, A. Goodman and A. Vignoles (2008), *Understanding the determinants of participation in higher education and the quality of institute attended: analysis using administrative data*, IFS Report R69, Institute for Fiscal Studies, London.

Chowdry, H., C. Crawford, L. Dearden, A. Goodman and A. Vignoles (2013), Widening participation in higher education: analysis using linked administrative data, *Journal of the Royal Statistical Society: Series A*, Vol. 176, pp. 431–457.

Christie, H. (2007), Higher education and spatial (im)mobility: non-traditional students and living at home, *Environment and Planning A*, Vol. 39, pp. 2445-2463.

Connor, H., C. Tyers, T. Modood and J. Hillage (2004), *Why the difference? A closer look at higher education minority ethnic students and graduates*, DfES Research Report RR552, London.

Crawford, C. (2014), Presentation to a Policy Knowledge briefing event on Widening Participation in Higher Education (see http://www.ifs.org.uk/publications/7269).

Crawford, C., L. Macmillan and A. Vignoles (2014), *Progress made by high attaining children from disadvantaged backgrounds*, Report to the Social Mobility and Child Poverty Commission, Centre for Analysis of Youth Transitions, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/324501/High_attainers_progress_report_final.pdf

Czaika, M. and M. Vothknecht (2014), Migration and aspirations: are migrants trapped on a hedonic treadmill?, *IZA Journal of Migration*, Vol. 3.

Galindo-Rueda, F., O. Marcenaro-Gutierrez and A. Vignoles (2004), The widening socio-economic gap in UK higher education, *National Institute Economic Review*, No. 190, pp. 70–82.

Gayle, V., D. Berridge and R. Davies (2002), Young people's entry into higher education: quantifying influential factors, *Oxford Review of Education*, Vol. 28, pp. 5–20.

Greaves, E., L. Macmillan and L. Sibieta (2014), *Lessons from London schools for attainment gaps and social mobility*, Report to the Social Mobility and Child Poverty Commission, available at: http://www.ifs.org.uk/uploads/publications/docs/london_schools_june2014.pdf.

Goodman, A. and P. Gregg (2010), *Poorer children's educational attainment: how important are attitudes and behaviour?*, Report to the Joseph Rowntree Foundation, available at. http://www.jrf.org.uk/publications/educational-attainment-poor-children.

Kolenikov, S. and G. Angeles (2009), Socio-economic status measurement with discrete proxy variables: is principal component analysis a reliable answer?, *Review of Income and Wealth*, Vol. 55, pp. 128-165.

Modood T (2003), *Ethnic Differentials in Educational Performance*, in D. Mason (2003), Explaining Ethnic Differences: Changing Patterns of Disadvantage in Britain, The Policy Press.

Wilson, D., S. Burgess and A. Briggs (2011), The dynamics of school attainment of England's ethnic minorities, *Journal of Population Economics*, Vol. 24, pp. 681-700.

Appendix

Appendix Table 1: Covariates

Background characteristics,KS2 results and school characteristics	KS4 results	KS5 results
Background characteristics: • Gender (when not running separately) • Month of birth • Ethnicity • Whether English is an additional language • Region • Special educational needs status at age 16 Socio-economic status: • Quintile groups defined using our index of socio-economic status (constructed from eligibility for free school meals at age 16, IMD scores and three measures from the 2001 census based on home postcode), or; • POLAR quintile groups plus eligibility for free school meals at age 16. Key Stage 2 results: • Quintile groups defined on the basis of test results in English, maths and science. Secondary school characteristics: • School type and selectivity; • Whether the school has a sixth form; • Quintile groups defined on the basis of school performance measured by % of pupils getting 5 A*-C grades at GCSE.	• Highest grade in English; • Highest grade in Maths; • No. of GCSEs at grade A* in subjects that can be counted as part of the English Baccalaureate (other than English and maths, i.e. science, humanities and languages); • No. of GCSEs at grade A in these ebacc subjects; • No. of GCSEs at grade B in these ebacc subjects; • No. of GCSEs at grade C in these ebacc subjects; • No. of GCSEs at grades D-G in these ebacc subjects; • No. of GCSEs at grade A* in non-ebacc subjects; • No. of GCSEs at grade A in non-ebacc subjects; • No. of GCSEs at grade B in non-ebacc subjects; • No. of GCSEs at grade C in non-ebacc subjects; • No. of GCSEs at grades D-G in non-ebacc subjects; • No. of GNVQs at grade A; • No. of GNVQs at grade B; • No. of GNVQs at grade C; • No. of GNVQs at grades D-G; • From the ILR/NISVQ data: o Whether the pupil achieved a Level 2 qualification by age 18; o Whether they achieved Level 2 via a non-academic (FE or vocational) route; o Quintile groups created on the basis of total points from Level 2 academic qualifications.	• No. of A-levels at grade A in “facilitating” subjects (including English, maths, science, humanities and languages); • No. of A-levels at grade B in facilitating subjects; • No. of A-levels at grade C in facilitating subjects; • No. of A-levels at grade D in facilitating subjects; • No. of A-levels at grade E in facilitating subjects; • Quintile groups created on the basis of total points achieved at Key Stage 5; • From the ILR/NISVQ data: o Whether the pupil achieved a Level 3 qualification by age 18; o Whether they achieved Level 3 via a non-academic (FE or vocational) route; o Quintile groups created on the basis of total points from Level 3 academic qualifications;

Appendix Table 2: % of ethnic groups in each cohort over time

	% cohort					
	2003	2004	2005	2006	2007	2008
White British	84.79	84.67	84.23	83.78	83.39	82.56
Other White	2.32	2.42	2.44	2.48	2.55	2.61
Black African	1.40	1.45	1.68	1.82	1.94	2.06
Black Caribbean	1.52	1.50	1.52	1.47	1.41	1.37
Other Black	0.45	0.45	0.46	0.47	0.46	0.44
Indian	2.54	2.43	2.30	2.31	2.24	2.29
Pakistani	2.41	2.38	2.36	2.40	2.46	2.62
Bangladeshi	0.95	0.91	0.93	0.99	0.96	0.99
Chinese	0.37	0.36	0.41	0.39	0.37	0.38
Other Asian	0.55	0.58	0.64	0.71	0.80	0.92
Mixed	1.81	1.95	2.12	2.22	2.44	2.72
Other	0.89	0.89	0.92	0.94	0.99	1.05

Appendix Table 3: KS4 performance by ethnicity and SES (2003, 2008)

	5A*-C EBACC				
2003 cohort	Lowest SES group	2nd lowest SES group	3rd lowest SES group	2nd highest SES group	Highest SES group
White British	0.10	0.20	0.32	0.43	0.57
Other White	0.15	0.23	0.31	0.45	0.59
Black African	0.18	0.21	0.24	0.29	0.38
Black Caribbean	0.09	0.13	0.17	0.19	0.29
Other Black	0.10	0.15	0.19	0.21	0.37
Indian	0.25	0.34	0.43	0.54	0.63
Pakistani	0.14	0.18	0.27	0.33	0.44
Bangladeshi	0.16	0.22	0.27	0.36	0.36
Chinese	0.39	0.47	0.56	0.60	0.68
Other Asian	0.25	0.32	0.40	0.58	0.59
Mixed	0.13	0.23	0.33	0.44	0.59
Other	0.17	0.22	0.28	0.39	0.49
All					
2008 cohort	Lowest SES group	2nd lowest SES group	3rd lowest SES group	2nd highest SES group	Highest SES group
White British	0.11	0.20	0.32	0.43	0.57
Other White	0.16	0.22	0.31	0.44	0.60
Black African	0.21	0.25	0.29	0.32	0.41
Black Caribbean	0.11	0.16	0.20	0.28	0.36
Other Black	0.17	0.20	0.24	0.26	0.32
Indian	0.28	0.34	0.44	0.55	0.67
Pakistani	0.15	0.20	0.28	0.35	0.49
Bangladeshi	0.18	0.23	0.28	0.35	0.41
Chinese	0.40	0.47	0.52	0.61	0.70
Other Asian	0.26	0.31	0.35	0.47	0.55
Mixed	0.13	0.23	0.32	0.43	0.59
Other	0.19	0.25	0.27	0.37	0.50
All	0.12	0.21	0.31	0.43	0.57

Appendix Table 4: % of ethnic groups with EAL

	% EAL					
	2003	2004	2005	2006	2007	2008
White British	0.00	0.00	0.00	0.00	0.00	0.00
Other White	32.65	32.13	34.75	35.80	40.34	48.06
Black African	63.60	64.55	64.27	64.31	65.41	65.05
Black Caribbean	5.74	5.28	5.64	4.87	4.89	4.25
Other Black	14.34	15.90	16.25	16.35	21.40	21.91
Indian	82.69	82.24	81.75	81.87	81.15	79.99
Pakistani	90.84	91.58	91.08	91.17	90.07	90.22
Bangladeshi	96.25	96.95	96.35	96.33	96.72	95.88
Chinese	75.10	75.79	76.48	77.30	78.30	77.03
Other Asian	71.44	72.41	71.63	75.05	76.65	78.64
Mixed	9.48	9.02	9.74	9.77	10.27	9.83
Other	59.16	62.36	66.20	67.18	70.03	75.00

Appendix Table 5: Academic Attainment of ethnic groups with and without English as an additional language (2008)

With EAL	KS1	KS2	KS4	5A*-C EBACC	KS5
White British					
Other White	0.22	4.29	37.6	0.24	738.2
Black African	0.26	4.17	35.94	0.21	643.82
Black Caribbean	0.41	4.03	32.25	0.11	604.92
Other Black	0.26	4.19	34.59	0.2	664.82
Indian	0.65	4.54	48.7	0.44	753.28
Pakistani	0.5	4.16	36.81	0.21	676.04
Bangladeshi	0.51	4.29	39.37	0.22	653.83
Chinese	0.48	4.77	55.9	0.52	895.56
Other Asian	0.31	4.47	42.49	0.35	738.98
Mixed	0.38	4.42	42.03	0.31	729.08
Other	0.27	4.31	37.94	0.26	723.51
Without EAL	KS1	KS2	KS4	5A*-C EBACC	KS5
White British	0.75	4.55	41.17	0.33	742.74
Other White	0.65	4.69	47.53	0.45	793.59
Black African	0.5	4.49	43.54	0.33	697.81
Black Caribbean	0.6	4.28	35.34	0.19	639.22
Other Black	0.64	4.37	36.71	0.22	656.06
Indian	0.71	4.72	53.64	0.55	814.05
Pakistani	0.61	4.4	42.78	0.35	753.89
Bangladeshi	0.58	4.39	43.7	0.37	713.32
Chinese	0.7	4.92	59.29	0.64	912.17
Other Asian	0.58	4.64	49.29	0.48	782.89
Mixed	0.71	4.56	40.84	0.32	731.45
Other	0.55	4.47	40.85	0.37	760.24

Appendix Table 6: % of ethnic groups living in London

	% living in London					
	2003	2004	2005	2006	2007	2008
White British	6.70	6.71	6.64	6.49	6.40	6.41
Other White	44.30	42.95	42.21	40.83	40.98	40.37
Black African	77.83	75.76	72.57	69.33	67.05	67.68
Black Caribbean	60.91	62.59	62.35	60.61	61.09	62.53
Other Black	50.81	53.64	54.98	53.50	52.39	58.54
Indian	40.04	38.89	38.31	37.31	36.51	35.72
Pakistani	17.59	17.59	17.84	17.57	17.98	18.22
Bangladeshi	54.28	54.50	52.86	53.01	51.19	51.25
Chinese	29.71	31.45	29.03	29.01	28.03	27.63
Other Asian	51.99	51.25	49.37	47.85	48.02	48.05
Mixed	29.63	29.81	29.68	29.35	29.13	29.84
Other	54.29	54.42	56.60	55.07	53.14	55.64

Appendix Table 7: % of ethnic groups with and without English as an additional language living in London

	% living in London: with EAL					
	2003	2004	2005	2006	2007	2008
White British						
Other White	68.68	68.52	67.21	62.55	58.66	54.99
Black African	81.64	79.60	76.44	71.23	68.84	68.98
Black Caribbean	66.94	70.72	71.46	62.23	58.29	66.96
Other Black	73.42	73.03	70.51	65.57	63.88	64.06
Indian	42.07	41.11	40.65	39.57	38.88	38.20
Pakistani	17.38	17.52	17.86	17.49	18.03	18.15
Bangladeshi	55.46	55.41	53.75	53.93	51.73	51.75
Chinese	32.64	34.06	32.22	31.80	29.94	29.64
Other Asian	54.76	53.04	52.45	51.22	50.78	49.18
Mixed	49.16	52.84	50.50	50.16	50.57	49.34
Other	67.61	65.89	68.05	62.64	60.70	62.73
	% living in London: without EAL					
	2003	2004	2005	2006	2007	2008
White British	6.70	6.71	6.64	6.49	6.40	6.41
Other White	32.48	30.85	28.90	28.72	29.03	26.85
Black African	71.18	68.78	65.62	65.92	63.65	65.28
Black Caribbean	60.54	62.13	61.80	60.53	61.23	62.33
Other Black	47.02	49.98	51.97	51.14	49.26	56.99
Indian	30.30	28.60	27.84	27.11	26.31	25.82
Pakistani	19.63	18.43	17.63	18.33	17.58	18.88
Bangladeshi	24.00	25.47	29.23	28.97	35.11	39.51
Chinese	20.86	23.29	18.65	19.50	21.14	20.88
Other Asian	45.06	46.55	41.61	37.72	38.96	43.88
Mixed	27.59	27.53	27.44	27.09	26.67	27.71
Other	34.98	35.42	34.17	39.57	35.48	34.36

Appendix Table 8: Determinants of HE participation amongst the cohort taking their GCSEs in 2008

	Individual characteristics and Key Stage 2 results	Plus secondary school characteristics	Plus Key Stage 4 results	Plus Key Stage 5 results
2nd deprivation quintile	0.058***	0.050***	0.009**	0.006*
	(0.003)	(0.003)	(0.003)	(0.003)
3rd deprivation quintile	0.127***	0.109***	0.022***	0.016***
	(0.003)	(0.003)	(0.003)	(0.003)
4th deprivation quintile	0.195***	0.165***	0.034***	0.027***
	(0.003)	(0.003)	(0.003)	(0.003)
Least deprived quintile	0.302***	0.259***	0.066***	0.056***
	(0.004)	(0.003)	(0.003)	(0.003)
Male	-0.064***	-0.063***	0.006***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)
Other White	0.151***	0.140***	0.078***	0.089***
	(0.006)	(0.006)	(0.006)	(0.007)
Black African	0.409***	0.404***	0.336***	0.346***
	(0.007)	(0.007)	(0.008)	(0.008)
Black Caribbean	0.217***	0.219***	0.209***	0.210***
	(0.008)	(0.008)	(0.008)	(0.008)
Other Black	0.242***	0.241***	0.219***	0.235***
	(0.013)	(0.012)	(0.014)	(0.014)
Indian	0.367***	0.352***	0.225***	0.236***
	(0.008)	(0.008)	(0.009)	(0.009)
Pakistani	0.253***	0.244***	0.156***	0.171***
	(0.007)	(0.006)	(0.007)	(0.007)
Bangladeshi	0.299***	0.296***	0.185***	0.211***
	(0.011)	(0.011)	(0.010)	(0.011)
Chinese	0.438***	0.420***	0.221***	0.240***
	(0.012)	(0.012)	(0.017)	(0.018)
Other Asian	0.317***	0.303***	0.202***	0.225***
	(0.009)	(0.010)	(0.011)	(0.011)
Mixed	0.105***	0.101***	0.089***	0.097***
	(0.005)	(0.005)	(0.005)	(0.006)
Other	0.223***	0.213***	0.146***	0.165***
	(0.009)	(0.009)	(0.011)	(0.010)
Born in October	0.009**	0.008*	0.003	0.000
	(0.003)	(0.003)	(0.004)	(0.004)
Born in November	0.010**	0.010**	0.006	0.001
	(0.003)	(0.003)	(0.004)	(0.004)
Born in December	0.013***	0.012***	0.003	-0.003
	(0.003)	(0.003)	(0.004)	(0.004)
Born in January	0.019***	0.017***	0.007*	-0.001
	(0.003)	(0.003)	(0.003)	(0.004)
Born in February	0.029***	0.028***	0.010**	0.001
	(0.003)	(0.003)	(0.004)	(0.004)
Born in March	0.039***	0.037***	0.014***	0.005
	(0.003)	(0.003)	(0.004)	(0.004)
Born in April	0.046***	0.044***	0.016***	0.005
	(0.003)	(0.003)	(0.004)	(0.004)
Born in May	0.053***	0.050***	0.021***	0.009*
	(0.003)	(0.003)	(0.004)	(0.004)
Born in June	0.058***	0.056***	0.021***	0.006
	(0.003)	(0.003)	(0.004)	(0.004)

Born in July	0.059*** (0.003)	0.056*** (0.003)	0.021*** (0.004)	0.006 (0.004)
Born in August	0.073*** (0.004)	0.070*** (0.004)	0.031*** (0.004)	0.017*** (0.004)
English as an additional language	0.092*** (0.005)	0.107*** (0.005)	0.074*** (0.006)	0.077*** (0.006)
Statemented SEN	-0.179*** (0.004)	-0.119*** (0.005)	0.044*** (0.007)	0.045*** (0.007)
Non-statemented SEN	-0.121*** (0.002)	-0.119*** (0.002)	0.009** (0.003)	0.014*** (0.003)
Lives in the North West	0.013* (0.007)	0.016* (0.006)	0.008 (0.007)	0.005 (0.006)
Lives in Yorkshire and The Humber	-0.038*** (0.007)	-0.026*** (0.007)	-0.045*** (0.007)	-0.048*** (0.006)
Lives in the East Midlands	-0.046*** (0.007)	-0.040*** (0.006)	-0.051*** (0.006)	-0.049*** (0.006)
Lives in the West Midlands	-0.014* (0.007)	-0.010 (0.006)	-0.011 (0.007)	-0.010 (0.006)
Lives in the East of England	-0.026*** (0.007)	-0.021** (0.007)	-0.038*** (0.007)	-0.043*** (0.006)
Lives in London	0.010 (0.007)	0.010 (0.007)	-0.009 (0.007)	-0.009 (0.007)
Lives in the South East	-0.034*** (0.007)	-0.036*** (0.006)	-0.060*** (0.006)	-0.068*** (0.006)
Lives in the South West	-0.038*** (0.007)	-0.030*** (0.007)	-0.062*** (0.007)	-0.067*** (0.006)
2nd quintile of KS2 English	0.076*** (0.003)	0.075*** (0.003)	0.003 (0.003)	0.002 (0.003)
3rd quintile of KS2 English	0.141*** (0.003)	0.138*** (0.003)	-0.000 (0.003)	0.001 (0.003)
4th quintile of KS2 English	0.207*** (0.004)	0.200*** (0.004)	-0.007* (0.003)	-0.008* (0.004)
Top quintile of KS2 English	0.316*** (0.004)	0.300*** (0.004)	-0.003 (0.004)	-0.008* (0.004)
2nd quintile of KS2 Maths	0.060*** (0.003)	0.059*** (0.003)	-0.014*** (0.003)	-0.012*** (0.003)
3rd quintile of KS2 Maths	0.097*** (0.003)	0.095*** (0.003)	-0.027*** (0.003)	-0.020*** (0.003)
4th quintile of KS2 Maths	0.148*** (0.003)	0.142*** (0.003)	-0.043*** (0.003)	-0.027*** (0.004)
Top quintile of KS2 Maths	0.242*** (0.004)	0.221*** (0.004)	-0.066*** (0.004)	-0.043*** (0.004)
2nd quintile of KS2 Science	0.050*** (0.003)	0.049*** (0.003)	-0.014*** (0.003)	-0.015*** (0.003)
3rd quintile of KS2 Science	0.091*** (0.003)	0.090*** (0.003)	-0.023*** (0.003)	-0.019*** (0.003)
4th quintile of KS2 Science	0.141*** (0.003)	0.139*** (0.003)	-0.032*** (0.003)	-0.022*** (0.003)
Top quintile of KS2 Science	0.231*** (0.004)	0.226*** (0.004)	-0.037*** (0.004)	-0.025*** (0.004)
Attends a selective community secondary school		0.129*** (0.015)	0.030* (0.013)	0.037** (0.012)
Attends a non-selective other maintained secondary school		0.014*** (0.003)	0.008** (0.003)	0.008** (0.003)
Attends a selective other maintained secondary school		0.155*** (0.011)	0.014 (0.008)	0.029*** (0.009)
Attends an (old-style) academy		0.004 (0.010)	0.024* (0.010)	0.021* (0.008)

Attends a special secondary school		-0.187*** (0.012)	-0.047** (0.016)	-0.049** (0.016)
Attends a school with a sixth form		0.017*** (0.003)	0.010*** (0.003)	0.019*** (0.003)
Attends a school in the 2nd quintile of school performance		0.037*** (0.004)	-0.002 (0.004)	0.001 (0.004)
Attends a school in the 2nd quintile of school performance		0.056*** (0.004)	-0.014*** (0.004)	-0.010** (0.004)
Attends a school in the 2nd quintile of school performance		0.090*** (0.004)	-0.016*** (0.004)	-0.010** (0.004)
Attends a school in the 2nd quintile of school performance		0.131*** (0.006)	-0.022*** (0.005)	-0.017*** (0.005)
Points awarded for English at KS4			0.022*** (0.001)	0.014*** (0.001)
Points awarded for Maths at KS4			0.021*** (0.001)	0.018*** (0.001)
Number of GNVQs at grade A or A*			-0.006 (0.006)	-0.000 (0.007)
Number of GNVQs at grade B			-0.003 (0.004)	0.006 (0.004)
Number of GNVQs at grade C			-0.020*** (0.002)	-0.009*** (0.002)
Number of GNVQs at grades D-G			0.035 (0.042)	0.038 (0.041)
Number of GCSEs in ebacc subjects at grade A*			0.042*** (0.002)	0.020*** (0.003)
Number of GCSEs in ebacc subjects at grade A			0.022*** (0.002)	0.018*** (0.002)
Number of GCSEs in ebacc subjects at grade B			0.005*** (0.001)	0.019*** (0.001)
Number of GCSEs in ebacc subjects at grade C			-0.008*** (0.001)	0.008*** (0.001)
Number of GCSEs in ebacc subjects at grades D-G			0.003** (0.001)	0.010*** (0.001)
Number of GCSEs in non-ebacc subjects at grade A*			0.024*** (0.002)	0.003 (0.002)
Number of GCSEs in non-ebacc subjects at grade A			0.014*** (0.001)	0.006*** (0.001)
Number of GCSEs in non-ebacc subjects at grade B			0.001 (0.001)	0.008*** (0.001)
Number of GCSEs in non-ebacc subjects at grade C			-0.011*** (0.001)	0.001 (0.001)
Number of GCSEs in non-ebacc subjects at grades D-G			-0.007*** (0.001)	0.001 (0.001)
Achieved Level 2 by age 18			0.197*** (0.003)	0.107*** (0.003)
2nd quintile of performance at Level 2			0.125*** (0.004)	0.056*** (0.004)
3rd quintile of performance at Level 2			0.262*** (0.005)	0.125*** (0.006)
4th quintile of performance at Level 2			0.554*** (0.005)	0.150*** (0.009)
Top quintile of performance at Level 2			0.668*** (0.004)	0.137*** (0.011)
Number of Level 2 qualifications achieved via a further education route			-0.117*** (0.003)	-0.039*** (0.003)
Number of Level 2 qualifications achieved via a vocational route			0.003 (0.002)	0.017*** (0.002)
2nd quintile of performance at KS5				0.150*** (0.004)

3rd quintile of performance at KS5				0.288*** (0.005)
4th quintile of performance at KS5				0.305*** (0.006)
Top quintile of performance at KS5				0.328*** (0.008)
Achieved Level 3 by age 18				0.071*** (0.004)
Number of A-levels achieved in facilitating subjects at grade A or A*				0.106*** (0.005)
Number of A-levels achieved in facilitating subjects at grade B				0.091*** (0.004)
Number of A-levels achieved in facilitating subjects at grade C				0.056*** (0.003)
Number of A-levels achieved in facilitating subjects at grade D				0.015*** (0.003)
Number of A-levels achieved in facilitating subjects at grade E				-0.019*** (0.004)
Number of A-levels achieved in non-facilitating subjects at grade A or A*				0.084*** (0.003)
Number of A-levels achieved in non-facilitating subjects at grade B				0.055*** (0.002)
Number of A-levels achieved in non-facilitating subjects at grade C				0.024*** (0.002)
Number of A-levels achieved in non-facilitating subjects at grade D				-0.015*** (0.002)
Number of A-levels achieved in non-facilitating subjects at grade E				-0.064*** (0.003)
2nd quintile of performance at Level 3				0.067*** (0.005)
3rd quintile of performance at Level 3				0.058*** (0.007)
4th quintile of performance at Level 3				0.054*** (0.009)
Top quintile of performance at Level 3				0.070*** (0.010)
Number of Level 3 qualifications achieved via a further education route				-0.013** (0.004)
Number of Level 3 qualifications achieved via a vocational route				0.049*** (0.004)
Observations	594,309	594,309	594,309	594,309

Notes: omitted categories are the most deprived SES quintile group; White British individuals; those born in September; those with no special educational needs; those living in the North East; those scoring in the bottom quintile in KS2 English, maths and science; those attending a non-selective community school; those scoring in the bottom quintile of performance at Level 2; those scoring in the bottom quintile of performance at Key Stage 5 and Level 3.

Appendix Table 9: Determinants of participation at the most selective institutions amongst the cohort taking their GCSEs in 2008

	Individual characteristics and Key Stage 2 results	Plus secondary school characteristics	Plus Key Stage 4 results	Plus Key Stage 5 results
2nd deprivation quintile	0.013***	0.010***	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
3rd deprivation quintile	0.032***	0.024***	0.001	0.001
	(0.002)	(0.001)	(0.001)	(0.001)
4th deprivation quintile	0.060***	0.045***	0.005***	0.004***
	(0.002)	(0.002)	(0.001)	(0.001)
Least deprived quintile	0.113***	0.087***	0.015***	0.011***
	(0.003)	(0.002)	(0.001)	(0.001)
Male	-0.008***	-0.007***	0.008***	0.007***
	(0.001)	(0.001)	(0.001)	(0.000)
Other White	0.036***	0.030***	0.008***	0.007***
	(0.003)	(0.002)	(0.002)	(0.002)
Black African	0.058***	0.053***	0.019***	0.020***
	(0.004)	(0.004)	(0.002)	(0.003)
Black Caribbean	0.003	0.004	0.005*	0.007**
	(0.003)	(0.003)	(0.002)	(0.002)
Other Black	0.014*	0.013*	0.004	0.009*
	(0.006)	(0.006)	(0.004)	(0.004)
Indian	0.114***	0.095***	0.028***	0.023***
	(0.006)	(0.005)	(0.003)	(0.003)
Pakistani	0.051***	0.046***	0.018***	0.015***
	(0.002)	(0.002)	(0.002)	(0.002)
Bangladeshi	0.096***	0.090***	0.033***	0.041***
	(0.010)	(0.009)	(0.006)	(0.006)
Chinese	0.169***	0.141***	0.030***	0.026***
	(0.010)	(0.010)	(0.005)	(0.005)
Other Asian	0.086***	0.070***	0.017***	0.018***
	(0.006)	(0.006)	(0.003)	(0.003)
Mixed	0.017***	0.014***	0.007***	0.007***
	(0.002)	(0.002)	(0.001)	(0.002)
Other	0.065***	0.057***	0.021***	0.020***
	(0.005)	(0.005)	(0.004)	(0.004)
Born in October	0.003*	0.002	0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Born in November	0.004**	0.003**	0.002	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Born in December	0.004**	0.003*	0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Born in January	0.008***	0.007***	0.004***	0.002
	(0.001)	(0.001)	(0.001)	(0.001)
Born in February	0.008***	0.007***	0.003**	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Born in March	0.012***	0.011***	0.004***	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Born in April	0.014***	0.013***	0.005***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Born in May	0.013***	0.012***	0.004***	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Born in June	0.017***	0.015***	0.005***	-0.000
	(0.002)	(0.001)	(0.001)	(0.001)

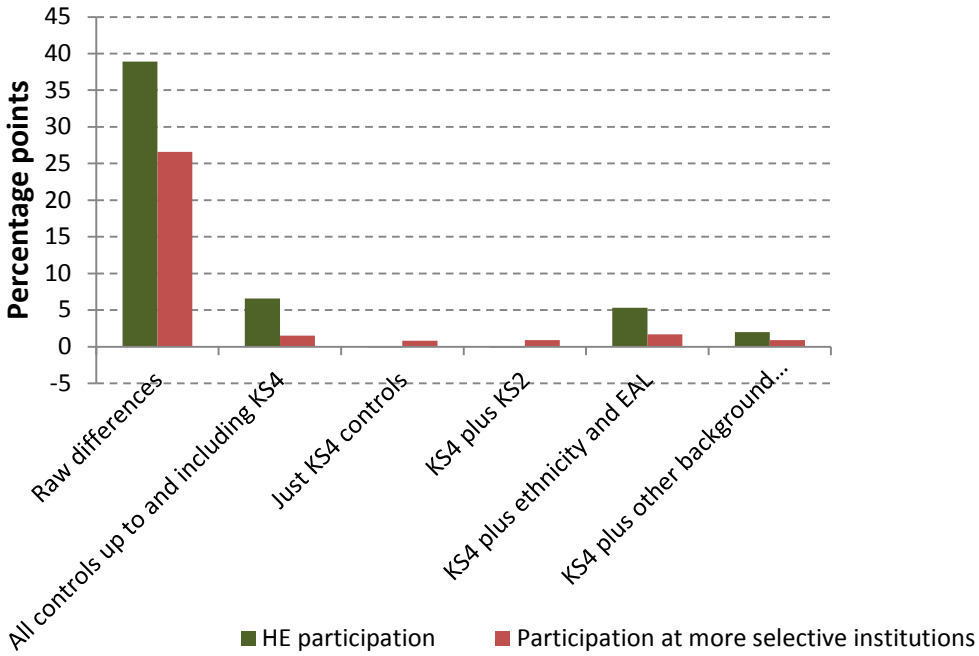
Born in July	0.021*** (0.002)	0.019*** (0.002)	0.008*** (0.001)	0.002 (0.001)
Born in August	0.023*** (0.002)	0.022*** (0.002)	0.009*** (0.001)	0.002* (0.001)
English as an additional language	0.008*** (0.002)	0.015*** (0.002)	0.005*** (0.001)	0.003* (0.001)
Statemented SEN	-0.035*** (0.001)	-0.025*** (0.002)	0.000 (0.002)	-0.001 (0.002)
Non-statemented SEN	-0.023*** (0.001)	-0.022*** (0.001)	0.001 (0.001)	0.001 (0.001)
Lives in the North West	0.016*** (0.004)	0.014*** (0.003)	0.011*** (0.002)	0.008*** (0.002)
Lives in Yorkshire and The Humber	0.004 (0.003)	0.007* (0.003)	0.004 (0.002)	0.003 (0.002)
Lives in the East Midlands	0.005 (0.003)	0.007* (0.003)	0.007** (0.002)	0.007*** (0.002)
Lives in the West Midlands	0.005 (0.003)	0.004 (0.003)	0.005** (0.002)	0.005** (0.002)
Lives in the East of England	0.015*** (0.004)	0.017*** (0.004)	0.010*** (0.002)	0.008*** (0.002)
Lives in London	0.026*** (0.004)	0.024*** (0.004)	0.018*** (0.003)	0.013*** (0.002)
Lives in the South East	0.015*** (0.004)	0.010*** (0.003)	0.009*** (0.002)	0.005** (0.002)
Lives in the South West	0.010** (0.004)	0.011*** (0.003)	0.003 (0.002)	-0.000 (0.002)
2nd quintile of KS2 English	0.007*** (0.002)	0.006*** (0.002)	0.000 (0.001)	0.000 (0.001)
3rd quintile of KS2 English	0.023*** (0.002)	0.021*** (0.002)	0.000 (0.001)	0.000 (0.001)
4th quintile of KS2 English	0.046*** (0.002)	0.041*** (0.002)	-0.000 (0.001)	-0.001 (0.001)
Top quintile of KS2 English	0.108*** (0.003)	0.096*** (0.003)	0.002 (0.001)	-0.002 (0.001)
2nd quintile of KS2 Maths	0.016*** (0.002)	0.015*** (0.002)	0.001 (0.001)	0.001 (0.001)
3rd quintile of KS2 Maths	0.028*** (0.002)	0.027*** (0.002)	-0.001 (0.001)	0.000 (0.001)
4th quintile of KS2 Maths	0.053*** (0.003)	0.048*** (0.002)	-0.003** (0.001)	-0.000 (0.001)
Top quintile of KS2 Maths	0.130*** (0.004)	0.112*** (0.004)	-0.003* (0.001)	0.001 (0.001)
2nd quintile of KS2 Science	0.007*** (0.002)	0.007*** (0.002)	-0.002 (0.001)	-0.002* (0.001)
3rd quintile of KS2 Science	0.014*** (0.002)	0.014*** (0.002)	-0.005*** (0.001)	-0.004*** (0.001)
4th quintile of KS2 Science	0.035*** (0.002)	0.034*** (0.002)	-0.005*** (0.001)	-0.004*** (0.001)
Top quintile of KS2 Science	0.089*** (0.003)	0.086*** (0.003)	-0.005*** (0.001)	-0.004** (0.001)
Attends a selective community secondary school		0.025*** (0.007)	-0.003 (0.003)	-0.001 (0.003)
Attends a non-selective other maintained secondary school		0.001 (0.001)	-0.000 (0.001)	0.000 (0.001)
Attends a selective other maintained secondary school		0.047*** (0.005)	-0.001 (0.002)	0.002 (0.002)
Attends an (old-style) academy		-0.005 (0.003)	0.003 (0.002)	0.002 (0.002)

Attends a special secondary school		-0.025*** (0.004)	-0.008* (0.004)	-0.003 (0.004)
Attends a school with a sixth form		0.002 (0.001)	0.001 (0.001)	0.001 (0.001)
Attends a school in the 2nd quintile of school performance		0.010*** (0.002)	-0.000 (0.001)	0.001 (0.001)
Attends a school in the 2nd quintile of school performance		0.018*** (0.002)	-0.002 (0.001)	0.000 (0.001)
Attends a school in the 2nd quintile of school performance		0.031*** (0.002)	-0.001 (0.001)	0.002* (0.001)
Attends a school in the 2nd quintile of school performance		0.051*** (0.003)	0.001 (0.001)	0.004** (0.001)
Points awarded for English at KS4			0.005*** (0.000)	0.002*** (0.000)
Points awarded for Maths at KS4			0.006*** (0.000)	0.003*** (0.000)
Number of GNVQs at grade A or A*			-0.002 (0.001)	-0.002 (0.002)
Number of GNVQs at grade B			0.000 (0.001)	0.000 (0.001)
Number of GNVQs at grade C			-0.002 (0.001)	-0.001 (0.001)
Number of GCSEs in ebacc subjects at grade A*			0.022*** (0.001)	0.008*** (0.000)
Number of GCSEs in ebacc subjects at grade A			0.011*** (0.000)	0.007*** (0.000)
Number of GCSEs in ebacc subjects at grade B			0.001*** (0.000)	0.004*** (0.000)
Number of GCSEs in ebacc subjects at grade C			-0.004*** (0.000)	0.001* (0.000)
Number of GCSEs in ebacc subjects at grades D-G			-0.002*** (0.000)	0.000 (0.000)
Number of GCSEs in non-ebacc subjects at grade A*			0.009*** (0.000)	-0.000 (0.000)
Number of GCSEs in non-ebacc subjects at grade A			0.003*** (0.000)	0.001 (0.000)
Number of GCSEs in non-ebacc subjects at grade B			-0.003*** (0.000)	-0.000 (0.000)
Number of GCSEs in non-ebacc subjects at grade C			-0.005*** (0.000)	-0.002*** (0.000)
Number of GCSEs in non-ebacc subjects at grades D-G			-0.003*** (0.000)	-0.001*** (0.000)
Achieved Level 2 by age 18			0.014*** (0.001)	0.009*** (0.001)
2nd quintile of performance at Level 2			0.016*** (0.002)	0.007*** (0.002)
3rd quintile of performance at Level 2			0.021*** (0.002)	0.017*** (0.003)
4th quintile of performance at Level 2			0.071*** (0.004)	0.029*** (0.004)
Top quintile of performance at Level 2			0.129*** (0.006)	0.027*** (0.005)
Number of Level 2 qualifications achieved via a further education route			-0.006*** (0.001)	-0.003** (0.001)
Number of Level 2 qualifications achieved via a vocational route			-0.002* (0.001)	-0.002** (0.001)
2nd quintile of performance at KS5				0.003* (0.001)

3rd quintile of performance at KS5				0.026*** (0.002)
4th quintile of performance at KS5				0.053*** (0.003)
Top quintile of performance at KS5				0.074*** (0.005)
Achieved Level 3 by age 18				0.015*** (0.001)
Number of A-levels achieved in facilitating subjects at grade A or A*				0.035*** (0.001)
Number of A-levels achieved in facilitating subjects at grade B				0.020*** (0.001)
Number of A-levels achieved in facilitating subjects at grade C				-0.006*** (0.001)
Number of A-levels achieved in facilitating subjects at grade D				-0.023*** (0.001)
Number of A-levels achieved in facilitating subjects at grade E				-0.024*** (0.001)
Number of A-levels achieved in non-facilitating subjects at grade A or A*				0.020*** (0.001)
Number of A-levels achieved in non-facilitating subjects at grade B				0.003*** (0.001)
Number of A-levels achieved in non-facilitating subjects at grade C				-0.018*** (0.001)
Number of A-levels achieved in non-facilitating subjects at grade D				-0.025*** (0.001)
Number of A-levels achieved in non-facilitating subjects at grade E				-0.020*** (0.001)
2nd quintile of performance at Level 3				0.010*** (0.002)
3rd quintile of performance at Level 3				0.010*** (0.002)
4th quintile of performance at Level 3				0.006* (0.003)
Top quintile of performance at Level 3				0.014*** (0.003)
Number of Level 3 qualifications achieved via a further education route				0.003 (0.001)
Number of Level 3 qualifications achieved via a vocational route				-0.007*** (0.001)
Observations	594,309	594,309	594,309	594,309

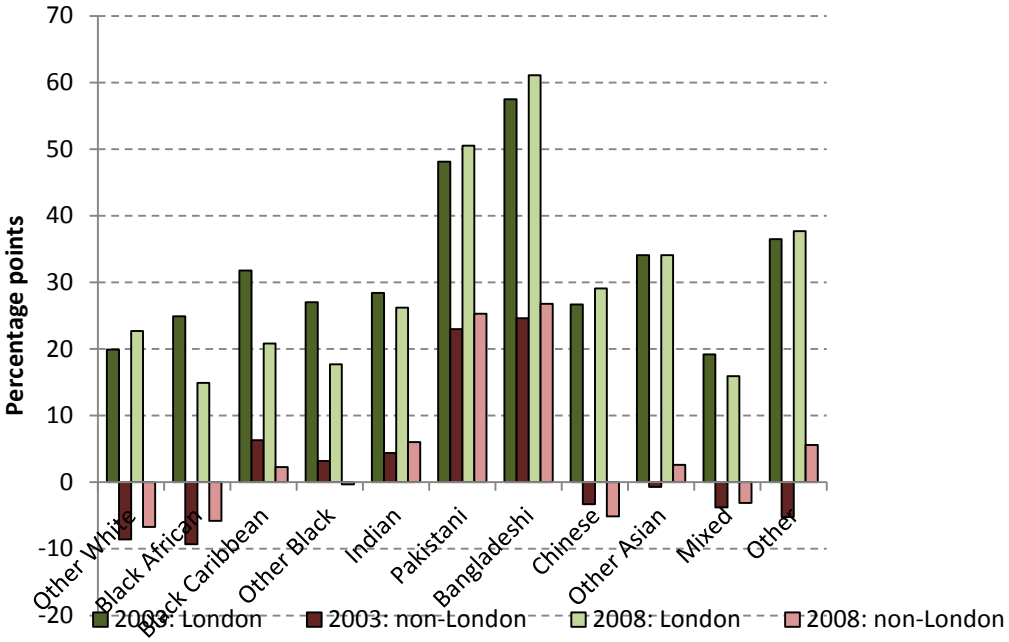
Notes: omitted categories are the most deprived SES quintile group; White British individuals; those born in September; those with no special educational needs; those living in the North East; those scoring in the bottom quintile in KS2 English, maths and science; those attending a non-selective community school; those scoring in the bottom quintile of performance at Level 2; those scoring in the bottom quintile of performance at Key Stage 5 and Level 3.

Appendix Figure 1: The role of prior attainment in explaining differences in HE participation between the most and least deprived SES quintile groups in 2008

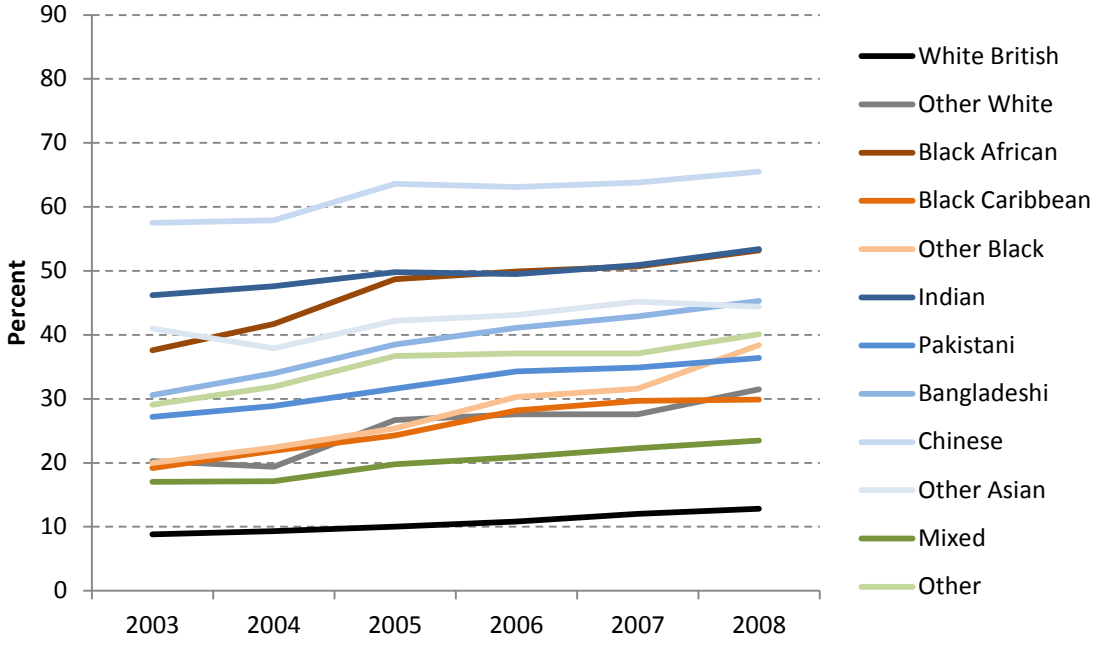


Notes: all differences are significantly different from zero at the 5% level with the exception of the differences in overall HE participation that remain after controlling just for Key Stage 4 results, and for Key Stage 2 and Key Stage 4 results.

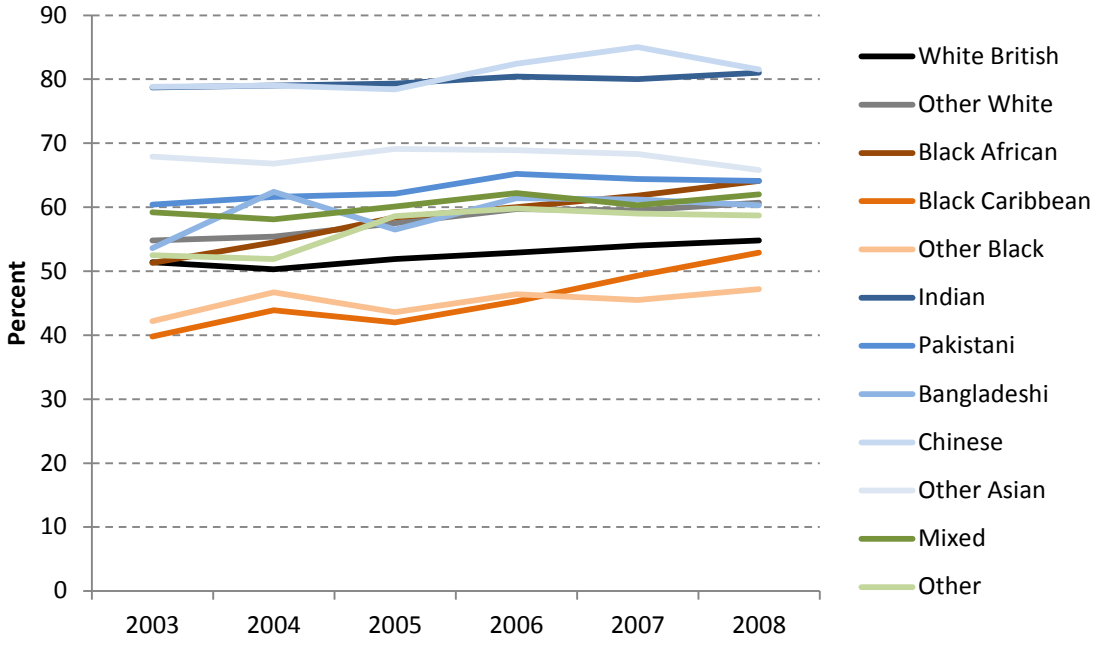
Appendix Figure 2: HE participation at age 18/19 in the same region as you live for the cohorts taking GCSEs in 2003 and 2008, by ethnic group with and without home region as London



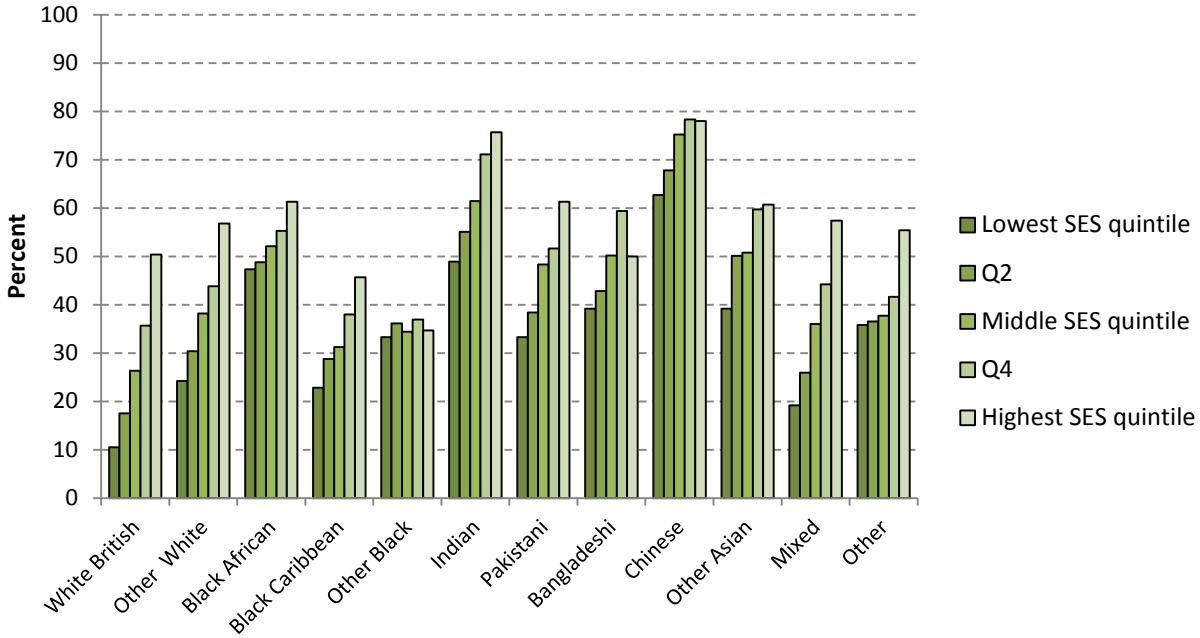
Appendix Figure 3: HE participation at age 18 or 19 amongst the cohorts taking GCSEs 2003 to 2008, by ethnic group: lowest SES quintile group only



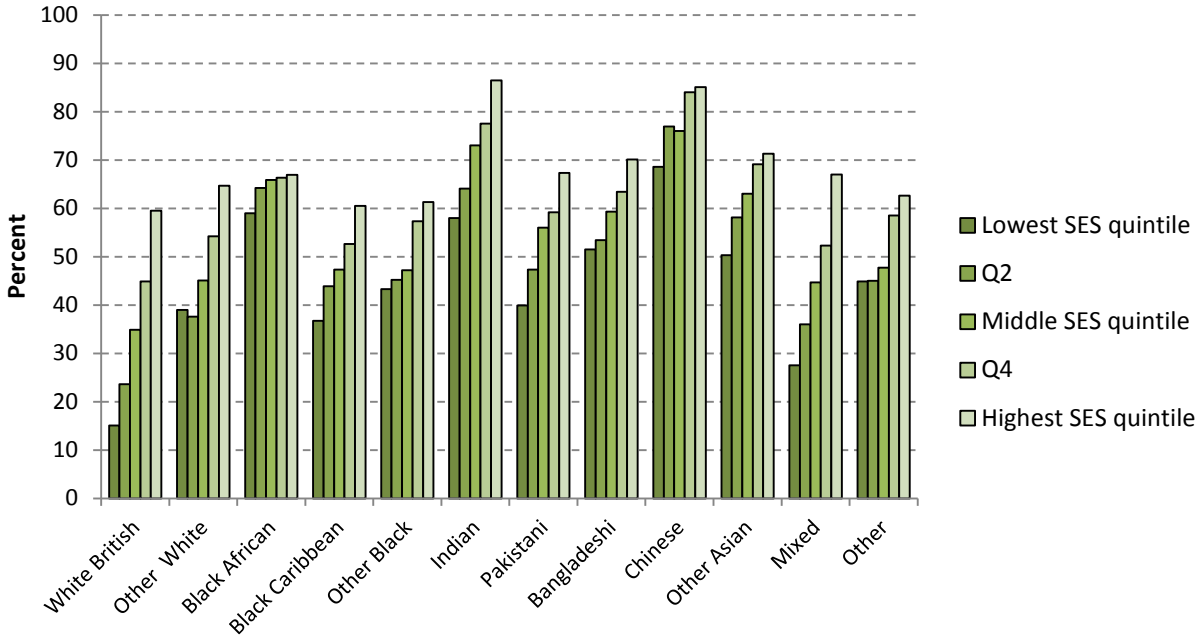
Appendix Figure 4: HE participation at age 18 or 19 amongst the cohorts taking GCSEs 2003 to 2008, by ethnic group: highest SES quintile group only



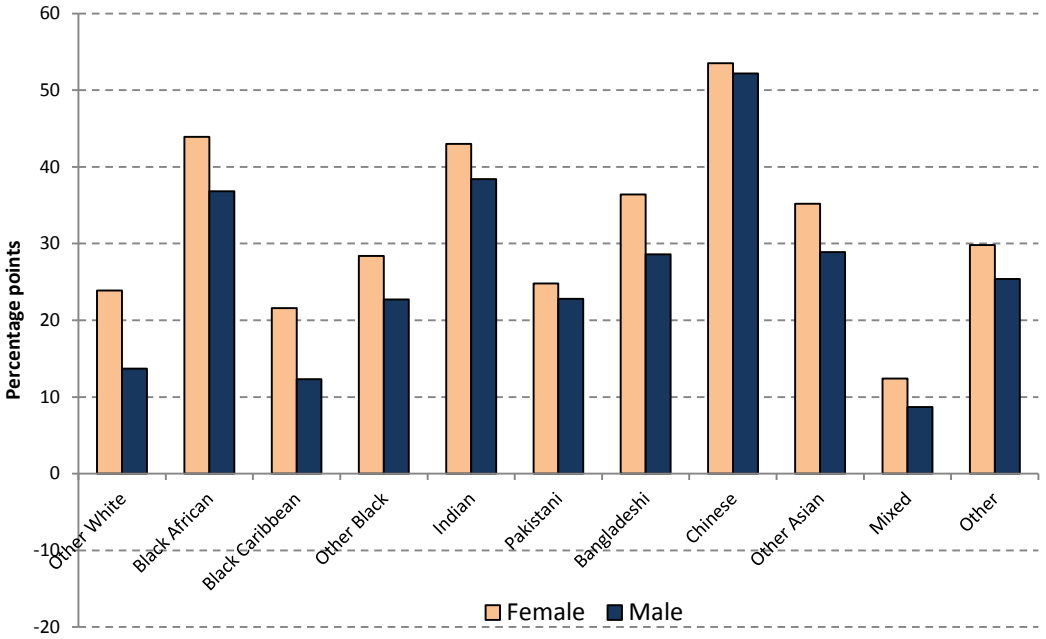
Appendix Figure 5: HE participation at age 18 or 19 by ethnic and socio-economic quintile group for the cohort taking their GCSEs in 2008, males only



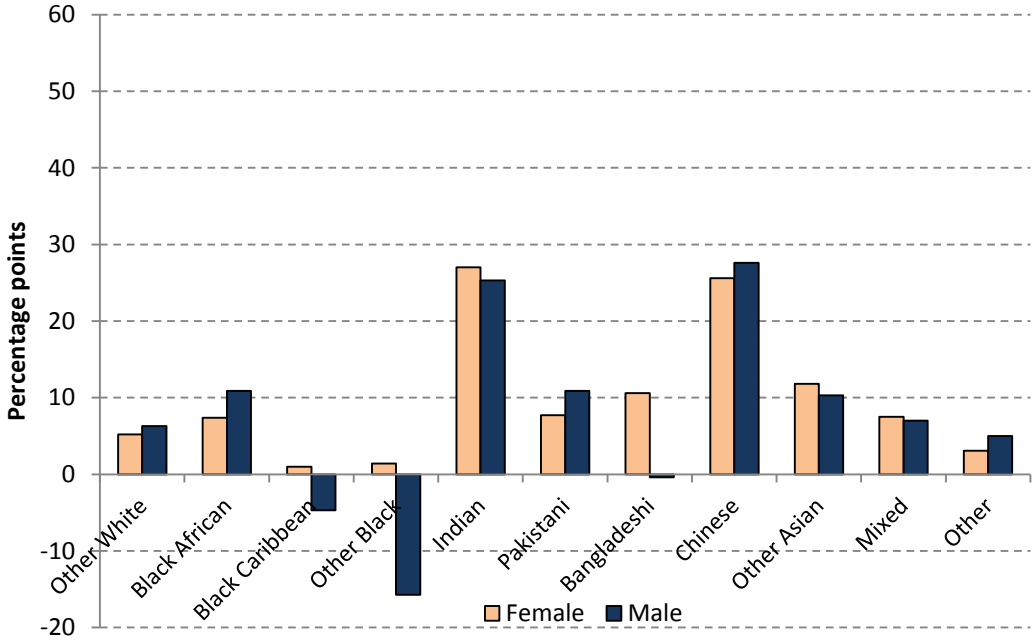
Appendix Figure 6: HE participation at age 18 or 19 by ethnic and socio-economic quintile group for the cohort taking their GCSEs in 2008, females only



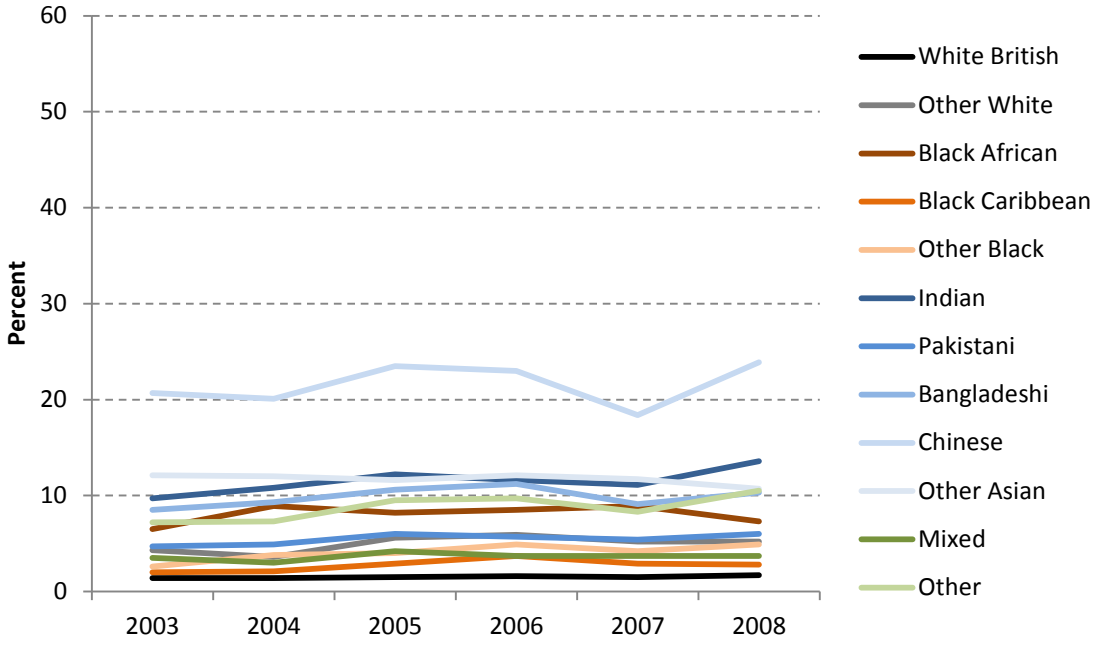
Appendix Figure 7: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2008, by gender and ethnic group (relative to White British): lowest SES quintile group only



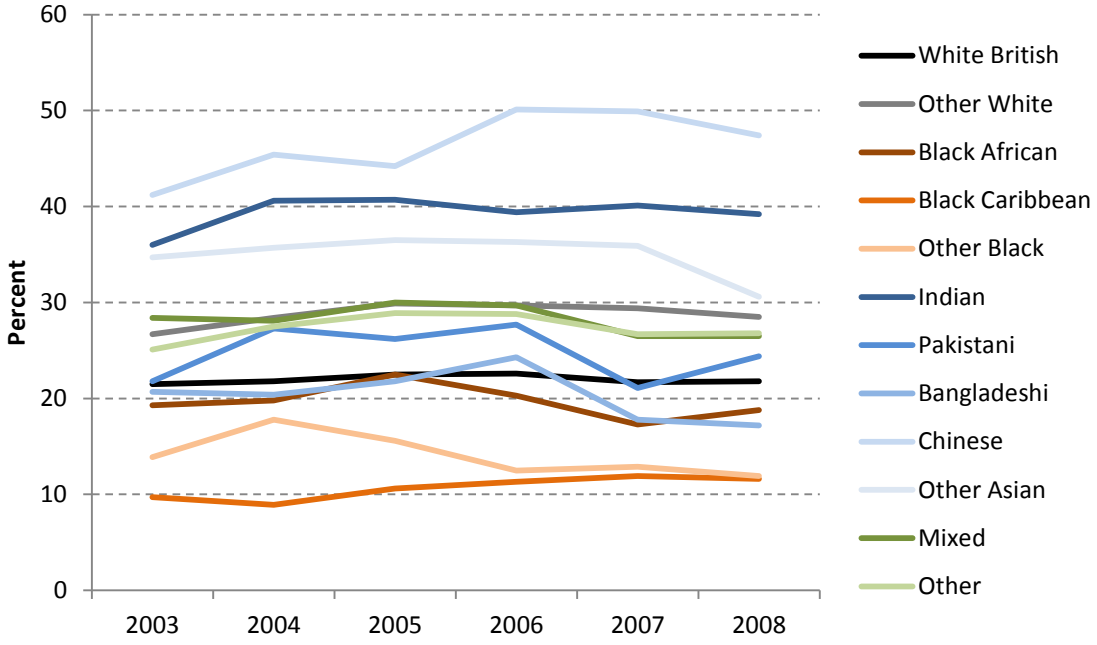
Appendix Figure 8: Difference in HE participation at age 18 or 19 for the cohort taking GCSEs in 2008, by gender and ethnic group (relative to White British): highest SES quintile group only



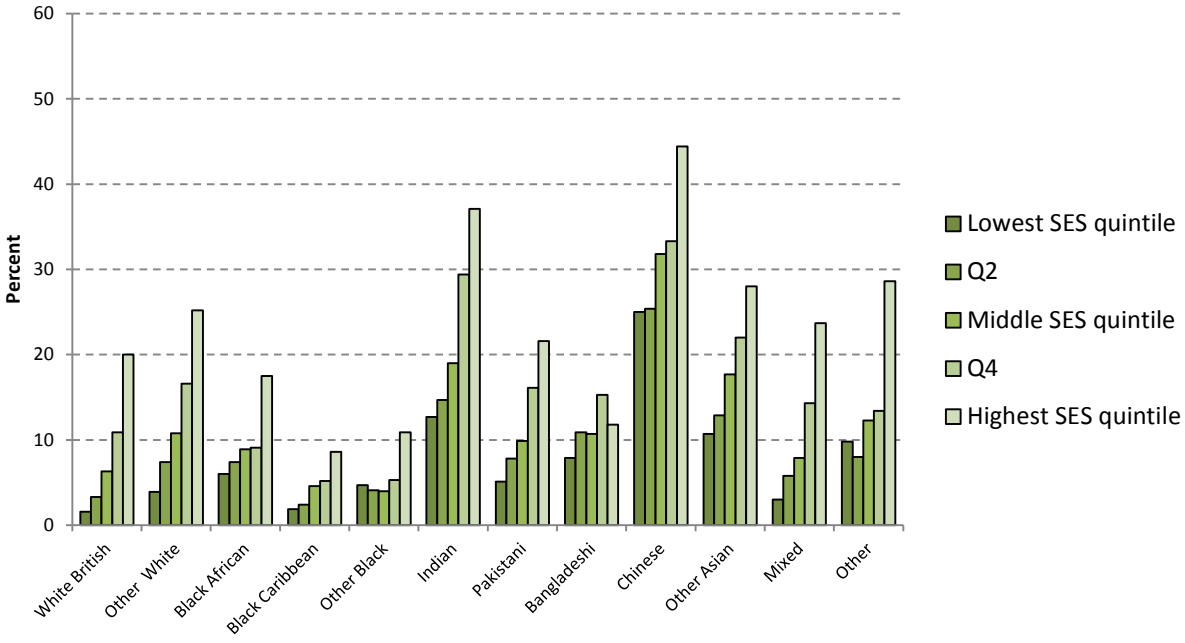
Appendix Figure 9: Participation at the most selective institutions at age 18 or 19 amongst the cohorts taking GCSEs 2003 to 2008, by ethnic group: lowest SES quintile group only



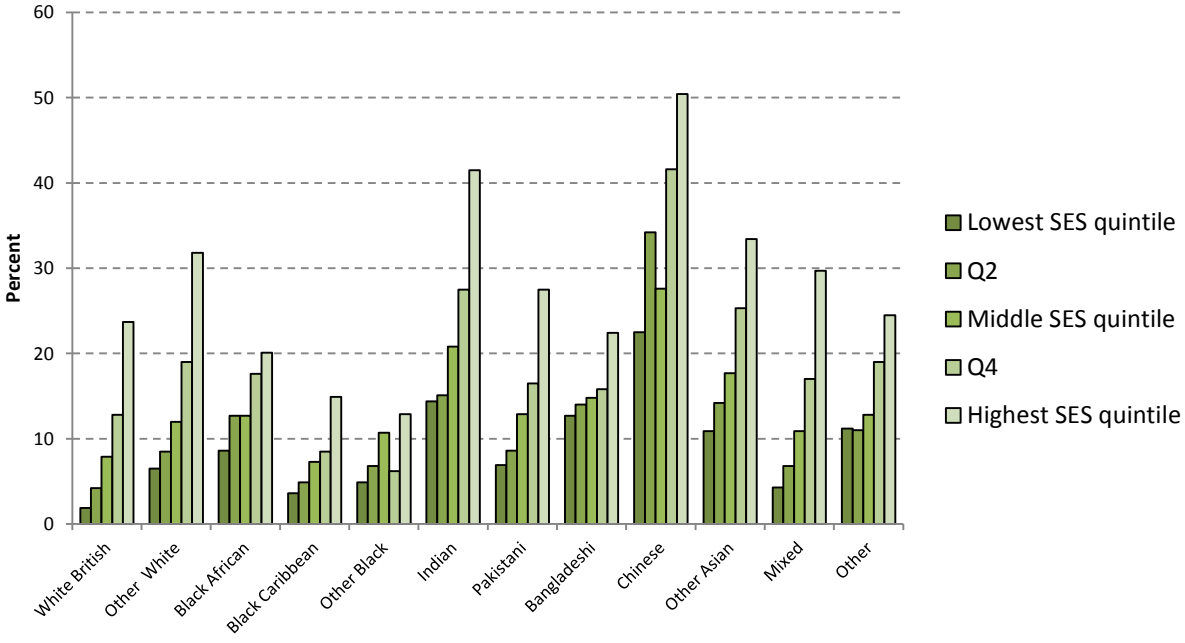
Appendix Figure 10: Participation at the most selective institutions at age 18 or 19 amongst the cohorts taking GCSEs 2003 to 2008, by ethnic group: highest SES quintile group only



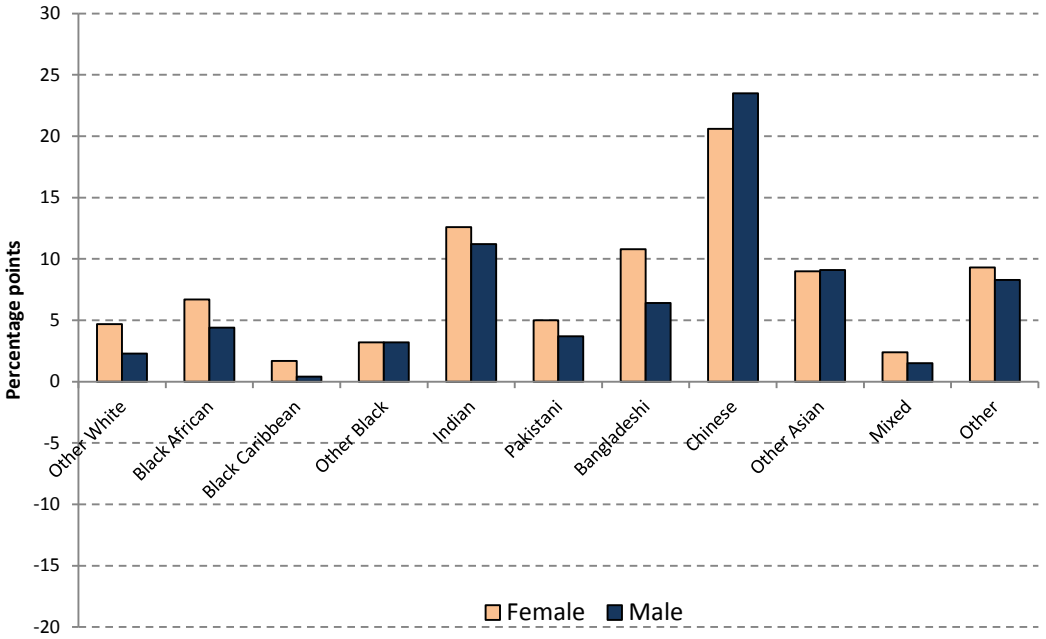
Appendix Figure 11: participation at the most selective institutions at age 18 or 19 by ethnic and socio-economic quintile group for the cohort taking their GCSEs in 2008, males only



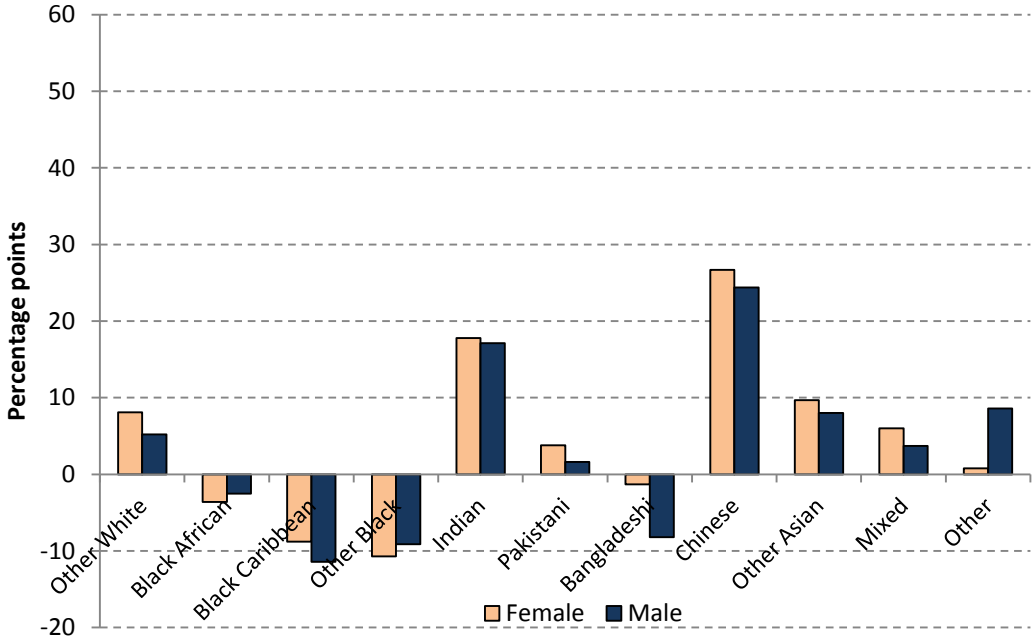
Appendix Figure 12: participation at the most selective institutions at age 18 or 19 by ethnic and socio-economic quintile group for the cohort taking their GCSEs in 2008, females only



Appendix Figure 13: Difference in participation at the most selective institutions at age 18 or 19 for the cohort taking GCSEs in 2008, by gender and ethnic group (relative to White British): lowest SES quintile group only



Appendix Figure 14: Difference in participation at the most selective institutions at age 18 or 19 for the cohort taking GCSEs in 2008, by gender and ethnic group (relative to White British): highest SES quintile group only



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