



Department
for Education

Ethnicity, deprivation and educational achievement at age 16 in England: trends over time

**Annex to compendium of evidence on
ethnic minority resilience to the effects
of deprivation on attainment**

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Executive Summary

Introduction

This report was commissioned by the Department for Education (DfE) to:

- Establish trends in ethnic achievement over the last 10 years (and longer where possible) focussed on age 16 outcomes; and
- Look at the level of ethnic group, but also where possible further disaggregate the data by entitlement to FSM and gender to determine whether particular patterns of change have occurred within sub-groups.

The report is essentially descriptive. It is intended to support a separate literature review commissioned by the DfE to explore reasons underlying ethnic minority achievement gaps and possible changes over time.

Achievement Gaps

1991-2006: Youth Cohort Study

Early trends (1991-2006) are explored using the Youth Cohort Study (YCS) which gives the only nationally representative data on ethnic minority achievement collected from the early 1990's. The results indicate that all ethnic minority groups made significant progress in the period 1991-2006, though the YCS does not allow breakdowns within the 'White' and 'Black' groups.

- **Indian** pupils moved from an equivalent position to White students in 1991 to be significantly ahead in 2006, and Other Asian pupils further increased their lead.
- **Bangladeshi** pupils made the greatest progress. In 1991 just 14% of Bangladeshi pupils achieved the benchmark of 5+ GCSE A*-C grades (5AC) compared with 37% of White pupils. By contrast, in 2006 57% of Bangladeshi pupils achieved this benchmark against 58% of White pupils.
- The **Pakistani** and **Black** achievement gaps narrowed substantially. Both groups doubled the proportion achieving 5AC, from 26% to 52% for Pakistani pupils and from 23% to 50% for Black pupils. Most of the improvement, particularly for Black pupils, occurred between 2003 and 2006.

2003-2013: Five or more A*-C grades (5AC)

From 2003 onwards data on the ethnicity of all students in England was captured through the Annual School Census and matched to age 16 achievement data. Analysis of this data reveals:

- **Indian** and **Chinese** pupils have consistently outperformed the White British average. For both groups the odds of achieving 5AC are currently over twice as high as for White British pupils.
- In 2003 the odds for **Black Caribbean** pupils achieving 5AC were less than half the odds for White British pupils (32.9% vs. 51.3%, OR¹=0.47), and for **Mixed White & Black Caribbean** and **Black African** pupils only two-thirds the odds for White British pupils (39.9% with OR=0.63 and 40.7% with OR=0.67 respectively). In 2013 Black African pupils achieve slightly above the White British average (OR=1.11) and both Black Caribbean and Mixed White & Black Caribbean students have closed the gap with White British students, from 18 percentage points in 2003 to just 2 percentage points (80.4% vs. 82.7%) in 2013, although a small gap remains (OR= 0.86 for both minority groups).
- A very large improvement for **Bangladeshi** students occurred in the years from 1991 to 2003, but in 2003 they were still below the White British average (OR=0.79). However, by 2013 Bangladeshi students are achieving above the White British average (OR=1.19). This is despite Bangladeshi students being one of the most socio-economically deprived communities in England.
- **Pakistani** pupils have also improved substantially. In 2003 their odds of achieving 5AC were only two thirds the odds for White British students (41.5% vs. 51.3%, OR=0.67). However, they closed the gap steadily and achieved parity with White British students in 2011 and currently their odds of achieving 5AC do not significantly differ from White British students (OR=1.07).

2004-2013: Five or more A*-C grades including English and mathematics (5EM)

The 5AC indicator has limited contemporary currency since it was superseded in 2006 by a new indicator of 5 or more GCSE A*-C grades or equivalent including English and mathematics (5EM). In 2004, the proportion of students achieving 5AC was 51.9% while the proportion achieving 5EM was only 40.9%, a difference of 11 percentage

¹ The Odds Ratio (OR) compares the odds of achieving success on a particular measure (e.g. 5EM) for an ethnic minority group against the odds for a reference group, here White British students. If the odds of achieving 5EM are the same for the ethnic minority group as for White British students the OR=1, if the odds for the ethnic minority are lower than for White British students then the OR<1 and if they are higher the OR>1.

points. The impact of the move to 5EM was greatest for ethnic minorities and the ethnic achievement gaps for 5EM were larger than for 5AC. However, over the subsequent 10 years from 2004 to 2013:

- **Indian** and **Chinese** students continue to have the highest achievement and in 2013 their odds of achieving 5EM are twice the odds for White British students.
- **Bangladeshi** students substantially increased in achievement from well below the White British average in 2004 (OR=0.68) to above the White British average in 2013 (OR=1.16).
- **Black African** students have also show substantial increases and there is no longer any gap relative to White British, the OR changing from OR=0.65 in 2004 to OR=1.03 in 2013.
- There has been a significant closing of the gap for **Black Caribbean, Mixed White & Black Caribbean** and **Pakistani** students against White British students, though gaps do remain. For example the odds for Black Caribbean students achieving 5EM were less than half the odds for white British in 2004 (OR=0.43) but in 2013 this had narrowed to OR= 0.75. For Mixed White & Black Caribbean students there has been a change in OR from 0.53 to 0.79 and for Pakistani students from 0.64 to 0.81. However all three of these ethnic groups are achieving less well than White British since their odds of achieving the threshold are still around 20% lower than for White British students.
- Only one ethnic group has seen performance decline relative to White British over the period. **White other groups** have moved from above the White British average in 2004-2006 to below the White British average from 2008 onwards and in 2013 the OR=0.81 is similar to that for Black Caribbean, Mixed White & Black Caribbean and Pakistani students. The decrease is likely to reflect demographic change, particularly increased entry from Eastern Europe.

Capped (Best 8) point score

The analyses were repeated for a continuous measure, capped or Best 8 points score and the trends described above were essentially the same for this measure.

Relative size of equity gaps (ethnicity, gender and entitlement to FSM)

We have seen above that ethnic achievement gaps have reduced substantially over the last 20 years in absolute terms. They have also reduced substantially relative to the size of other equity gaps, such as the gender gap and the socio-economic disadvantage gap, as indicated by entitlement to a Free School Meal (FSM). In 2004

the ethnic gap on 5EM was 18.1 percentage points, more than twice as large as the gender gap (7.7% points) and half the size of the FSM gap (28% points). However, by 2013 this had changed substantially. Now the ethnic gap (7.2% points) is actually smaller than the gender gap (10.1% points), and only about one-quarter of the size of the FSM gap (26.7% points). Similar proportional changes were seen for Best8 points score. This further attests to the scale of the reduction in the ethnic achievement gap.

Ethnic achievement gaps by sub-groups: FSM and Gender

The most striking feature of sub-groups is that among pupils entitled to FSM all ethnic minority groups achieve greater success than White British pupils. In 2013, relative to White British students, the odds for Chinese pupils achieving 5EM were 6.9 times greater, for Indian students 3.4 times greater, for Bangladeshi 3.0 times, for White other 1.6 times, for Black Caribbean 1.5 times and even for the lowest achieving minority group, Mixed White & Black Caribbean students, the odds of achieving 5EM were 1.26 times (26%) higher than for White British FSM students.

Pupils entitled to FSM from ethnic minority groups pulled even further ahead of White British FSM students between 2004 and 2013. Between 2004 and 2013 the OR for Mixed White and Black Caribbean students increased from OR=0.97 to OR=1.26, for Black Caribbean students it increased from OR=0.98 to OR=1.53, for Black African students from OR=1.44 to OR=2.22 and for Bangladeshi students from OR=2.52 to OR=3.0. This trend was not evident in Best 8 score, so may reflect an improved likelihood of achieving A*-C grades in English and mathematics in particular. In terms of 5EM, White British FSM students are the lowest achieving ethnic group and the achievement gap with most ethnic minority groups appears to have increased 2004-2013.

Adjusting ethnic achievement gaps to account for socio-economic disadvantage

We have seen that while ethnic achievement gaps have reduced remarkably over the last 10 years some (smaller) gaps do still exist for Black Caribbean, Mixed White & Black Caribbean and Pakistani students. However, the above data take no account of the fact that levels of socio-economic disadvantage are considerably higher among ethnic minority groups than the White British group. Studies that use regressions methods to control for socio-economic status (SES) suggest almost all ethnic minority groups achieve higher exam success at age 16 than White British students of the same SES. For example Strand (2014a) reports that all ethnic minority groups achieve *at least* as well as, and frequently substantially better than, the White British students at age 16, with the single exception of middle and high SES Black Caribbean boys.

Ethnic achievement gaps at primary school

The very low achievement of White British students entitled to FSM is not just a feature of educational achievement at age 16. Analysis of end of Key Stage 2 results at age 11 indicates that White British FSM pupils (58%) and White Other FSM pupils (56%) are the two lowest achieving groups at age 11. Equally an analysis of the Early Years Foundation Stage (EYFS) Profile at age 5 indicates that White British pupils entitled to FSM (35%), along with White Other FSM (34%) and Pakistani FSM (34%) pupils are the three lowest achieving groups.

While White Other and Pakistani FSM pupils achieve as poorly as White British FSM pupils at age 5, many pupils in these groups have relatively limited experience with English language (on starting school, or are recent arrivals in England with low fluency in the English language (see Strand, Malmberg & Hall, 2015). When they subsequently acquire this fluency they make rapid educational progress while White British pupils do not. For example in their analysis of the National Pupil Database, Strand et al. (2015) show that the EAL gap is largest in the EYFS at age 5 (Good level of development OR=0.67) but more or less disappears by age 16 (5EM OR=0.90).

These results indicate a comprehensive account of the drivers of the low educational achievement of White British pupils on FSM at age 16 must include consideration of factors operating in the first five years of the child's life.

Introduction

This report was commissioned by the Department for Education (DfE) to:

- Establish robust trends in ethnic achievement over the last 10 years (and longer where possible) focussed on age 16 outcomes; and
- Look at the level of ethnic group, but also where possible further disaggregate the data by FSM status and gender to determine whether particular patterns of change have occurred within sub-groups.

The report is essentially descriptive. It is intended to support a separate literature review commissioned by the DfE to explore reasons underlying ethnic minority achievement gaps and possible changes over time.

- It starts by outlining demographic details on the size of the ethnic minority school population age 5-16 in England, the distribution across English regions and Local Authorities (LA), and the growth in the ethnic minority population 2003-2013.
- Next data are presented from the Youth Cohort Study (YCS) which give the only nationally representative data on ethnic minority achievement collected from the early 1990's. The report then moves to a discussion of national data on ethnicity and achievement collected annually from all pupils in the school census of 2003 onwards. We consider trends in three indicators; the proportion of students achieving 5 or more GCSE A*-C grades or equivalent (5AC); the proportion of students achieving 5 or more GCSE A*-C grades or equivalent including English and maths (5EM); and the capped or 'Best 8' points score.
- Next the report considers not only absolute changes in the achievement of different ethnic minority groups but also the relative size of the ethnic, gender and Free School Meal (FSM) achievement gaps and how these have changed over time.
- After considering data for each ethnic minority group as a whole, we look in detail at the breakdown on the 5EM measure by the combination of ethnic group, entitlement to FSM and gender, to explore trends by sub-groups.
- We consider achievement gaps by ethnicity and FSM at earlier ages during primary school, looking at achievement in national tests at age 11 and at the Foundation Stage Profile at age 5. These data highlight that achievement gaps are apparent from the very early stages of schooling.

- Data on two other educational outcomes, the identification of Special Educational Needs and fixed term exclusions from school, are included as an Appendix.

Methodology

Data sources

Data has in the main been drawn from DfE Statistical First Releases (SFR), although some statistics have been calculated by the author directly from National Pupil Database (NPD) files. *Appendix 1* lists the SFRs drawn on in collating data on achievement up to age 16.

Focal set of ethnic minority groups

National data is collected for eighteen ethnic groups (plus refused/unclassified) but presentation of this full set of codes in figures can be difficult to read. Also, even though we are dealing with data for the whole of England, in any particular year group the numbers can be quite small, especially for the Gypsy Roma and Irish Traveller groups which represent just a few hundred pupils (approx. 0.15% of the population). When data are further broken down by entitlement to FSM and gender some ethnic groups also have quite small sample sizes. In the graphs in this report the following nine 'focal' ethnic groups will be displayed:

- White British
- White Other
- Indian
- Pakistani
- Bangladeshi
- Chinese
- Black African
- Black Caribbean
- Mixed White & Black Caribbean

The rationale for highlighting these nine 'focal' groups is given below. Where numbers are quoted these represent numbers of students in Year 11 in 2013 (see Appendix 2).

- **White British** represent the majority of students in England at just under three-quarters (73%) of the age 5-16 school population in 2013.
- **White Other** is now the largest ethnic minority group in England and one of the fastest growing (n=19,265 in 2013 representing 3.4% of all Y11 students). It consists of pupils from a wide range of nationalities and speaking a wide range of languages, but predominantly from Europe including Polish (21%), Turkish (7%), Portuguese (5%), Albanian (4%) and Lithuanian (4%) (See Strand et al, 2015).
- **Indian, Pakistani and Bangladeshi** groups have a long history of residence as communities in England and it is important to report their results separately given the strong contrasts in educational achievement between these groups.
- **Chinese** are the smallest ethnic group included (n=2,257 in 2013) but are included because considerable interest has focused on the strong educational performance of this group.
- **Black African** students are the largest Black group (n=16,201) twice as numerous as Black Caribbean. They are also one of the two fastest growing groups, along with White Other groups.
- **Black Caribbean** students have long been a focus for concern over low educational achievement and this merits continued monitoring.
- **Mixed White and Black Caribbean** are the largest group of students of mixed heritage accounting for around one-third (34%) of all mixed heritage students. There are also now as many Mixed White & Black Caribbean students (n=7,333) as there are Black Caribbean students (n=8,158).

This focus in no way implies that the achievement of other ethnic groups is not of interest and the results of all ethnic groups are included in the report tables. The focus on the nine groups identified above allows the calculation of additional statistics and graphical presentations to be kept to manageable levels.

Percentages and Odds Ratios

Given there are over 570,000 students in the typical year group in England, statistical significance may be a poor guide to educational significance due to the huge sample size. In gauging the size of the gaps in educational achievement here we present the absolute gaps between ethnic groups in terms of percentage points or in terms of mean scores. We also calculate standardised effect size measures, such as the Odds Ratio (OR) for dichotomous measures (5AC and 5EM) and Cohen's D for continuous measures (Best 8 points score). The Odds Ratio (OR) compares the odds of achieving

success on a particular measure (e.g. 5EM) for an ethnic minority group against the odds for a reference group, here White British students. If the odds of achieving 5EM are the same for the ethnic minority group as for White British students the $OR=1$, if the odds for the ethnic minority are lower than for White British students then the $OR<1$ and if they are higher the $OR>1$. There is no absolute level at which an OR is educationally significant or substantial. However, as a rough rule we might consider that if the odds of success for an ethnic minority group were 25% higher ($OR=1.25$) or 25% lower ($OR=0.75$) than for White British students this would be a difference worthy of recognition.

The Ethnic minority population age 5-16 in England

National data and trends 2003 - 2013

In 2013 1.77M students, over one-quarter (26.6%) of the age 5-16 maintained school population in England, were from ethnic minority groups. Table 1 presents the proportion of students in each ethnic minority group and contrasts the 2013 and 2003 data. The selection of base year is made because although national data were first collected in 2002 a new ethnic classification system was introduced in 2003 which was not compatible with the previous year. Specifically (a) the breakdown of the "White" category into White British, White Irish, Travellers, Gypsy-Roma and White Other groups, and (b) the introduction of four mixed-heritage categories, make the data incompatible with that collected in 2002.

Comparing across 2003 and 2013, the overall proportion of White British students has decreased from 83.2% to 73.4% of the school population, or conversely the ethnic minority population has increased from 16.8% in 2003 to 26.6% in 2013.

The two ethnic groups with the largest absolute increases are White Other Background (from 2.1% to 4.3% of the population) and Black African (from 1.7% to 3.3% of the population). Black African students are now the largest of the Black ethnic groups. Also notable is that the number of Mixed White & Black Caribbean students is now the same as the number of Black Caribbean students (both 1.4% of the population).

Table 1: Proportion of ethnic minority students: England 2003 and 2013

Ethnic group	2003		2013		Change % points
	N	%	N	%	
White	5,590,100	85.9	5,207,830	78.3	-7.5
White British	5,418,900	83.2	4,877,300	73.4	-9.9
Irish	26,500	0.4	21,800	0.3	-0.1
Traveller of Irish heritage	3,800	0.1	4,555	0.1	0.0
Gypsy/ Roma	6,000	0.1	16,735	0.3	0.2
Any other White background	134,900	2.1	287,435	4.3	2.3
Mixed	169,000	2.6	306,890	4.6	2.0
White and Black Caribbean	60,700	0.9	92,505	1.4	0.5
White and Black African	15,000	0.2	36,730	0.6	0.3
White and Asian	33,300	0.5	68,605	1.0	0.5
Any other Mixed background	60,000	0.9	109,060	1.6	0.7
Asian	440,600	6.8	678,680	10.2	3.4
Indian	153,800	2.4	175,035	2.6	0.3
Pakistani	175,200	2.7	262,535	3.9	1.3
Bangladeshi	70,300	1.1	107,320	1.6	0.5
Chinese	22,800	0.4	107,815	0.4	0.0
Any other Asian background	41,300	0.6	25,975	1.6	1.0
Black	233,000	3.6	353,915	5.3	1.7
Black Caribbean	97,300	1.5	90,455	1.4	-0.1
Black African	108,400	1.7	220,785	3.3	1.7
Any other Black background	27,300	0.4	42,675	0.6	0.2
Any other ethnic group	54,300	0.8	100,860	1.5	0.7
Classified	6,509,800	100	6,648,195	100	0.0
Unclassified	272,600	4.0	64,450	1.0	-3.1
Minority Ethnic Pupils	1,930,220	16.8	1,770,895	26.6	9.9
All pupils	6,782,400		6,712,645		

Note: Based on students of compulsory school age (5-16 years). Percentages exclude unclassified (4% of all students in 2003 and 1% in 2013). Data drawn from DFE SFR 09/2003 and DFE SFR 21/2013

Ethnic minority population by region

There are large regional variations in the proportion of ethnic minority students. Data by region from the latest school census are presented in the table below.

Table 2: Percentage of students in each ethnic group by region, England 2013

	England	North East	South West	North West	South East	East of England & Humber	Yorkshire & the Humber	East Midlands	West Midlands	Outer London	Inner London	Greater London
White British	73.3	91.6	89.4	82.0	80.7	80.3	78.8	81.2	70.1	37.0	18.3	30.7
Irish	0.3	0.1	0.2	0.2	0.3	0.4	0.1	0.2	0.3	0.8	0.7	0.8
Traveller Of Irish Heritage	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
Gypsy/Roma	0.2	0.3	0.2	0.1	0.4	0.2	0.5	0.2	0.2	0.2	0.1	0.2
White other groups	4.3	1.3	3.1	2.1	4.3	4.8	2.6	3.5	2.4	10.4	12.3	11.0
Mixed White & Black Caribbean	1.4	0.2	0.9	0.8	1.1	1.3	1.1	1.5	2.1	2.3	3.3	2.6
Mixed White & Black African	0.6	0.2	0.4	0.4	0.6	0.6	0.3	0.4	0.3	1.2	1.4	1.2
Mixed White & Asian	1.0	0.5	0.8	0.8	1.3	1.0	0.9	0.9	1.1	1.7	1.1	1.5
Mixed Other heritages	1.6	0.6	1.0	1.2	1.6	1.7	1.0	1.2	1.3	3.4	4.4	3.7
Indian	2.7	0.6	0.8	1.8	2.0	1.4	1.4	3.9	4.5	7.3	2.5	5.6
Pakistani	4.0	1.4	0.4	5.0	2.2	2.1	8.4	1.9	8.2	5.0	3.1	4.4
Bangladeshi	1.6	0.9	0.3	1.3	0.6	1.1	0.8	0.6	1.8	2.0	12.3	5.5
Any other Asian	1.6	0.7	0.6	0.9	1.7	1.1	0.9	1.1	1.2	5.8	2.6	4.7
Black Caribbean	1.3	0.0	0.3	0.3	0.3	0.6	0.4	0.6	1.8	4.3	8.9	5.9
Black African	3.3	0.5	0.8	1.3	1.6	1.9	1.3	1.5	2.3	11.3	18.0	13.6
Black Other groups	0.6	0.1	0.2	0.4	0.3	0.4	0.3	0.4	0.5	1.8	3.4	2.3
Chinese	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.7	0.8	0.7
Any Other group	1.5	0.6	0.5	1.0	0.7	0.7	0.9	0.6	1.3	4.8	7.0	5.5
Unclassified	0.9	0.4	0.9	0.7	1.0	1.1	0.6	0.8	0.8	1.5	1.4	1.4
Ethnic Minority 2013	26.7	8.4	10.6	18.0	19.3	19.7	21.2	18.8	29.9	63.0	81.7	69.3
Ethnic Minority 2003	16.7	4.0	4.9	9.6	10.1	10.5	11.8	11.3	19.9	45.5	73.6	55.0

Note: data sourced from DFE SFR 21/2013 and SFR 09/2003. Pupils of compulsory school age (5-16) in maintained primary and secondary schools (author's calculation).

Across England 26.7% of pupils in England were from ethnic minority groups in 2013. However, this varied widely, from lows of around 8%-11% in the North East and the South West, to slightly above the national average in West Midlands (29.9%) but with the largest concentrations in London, where minority ethnic pupils accounted for nearly two-thirds (63.0%) of pupils in Outer London and four-fifths (81.7%) of pupils in Inner London.

Ethnic minority population by Local Authority (LA)

Regions are high levels of aggregation and the above figures hide large variation between Local Authorities (LA). The distribution of ethnic minority pupils across the Local Authorities of England is presented graphically in Figures 1 and 2. Figure 1 presents the percentage of ethnic minority students aged 5-16 in primary and secondary schools for each LA in England in 2003. Figure 2 presents the same data from 2013. Notes on the construction of these figures are included in *Appendix 3*.

It is apparent from the figures that the LAs with the highest concentrations of ethnic minority students are in inner London, Birmingham and surrounding areas in the West Midlands, Manchester and Bradford areas, and also in Leicester, Luton and Bristol. LA level data can be found in the DfE SFRs, though these give primary and secondary figures separately and readers will have to combine the two to recreate the graphed data.

Table 3 presents an excerpt from the data from January 2013, presenting the 25 LAs with the highest and the 25 LAs with the lowest proportion of ethnic minority students. Of the 25 LAs with the highest proportion of ethnic minority students, all but three are London boroughs (the exceptions being Slough, Luton and Leicester). Full LA level data are contained in DfE SFR 21/2013².

² <https://www.gov.uk/government/publications/schools-pupils-and-their-characteristics-january-2013>

Table 3: Number and percentage of ethnic minority pupils: Highest and lowest LAs: 2013.

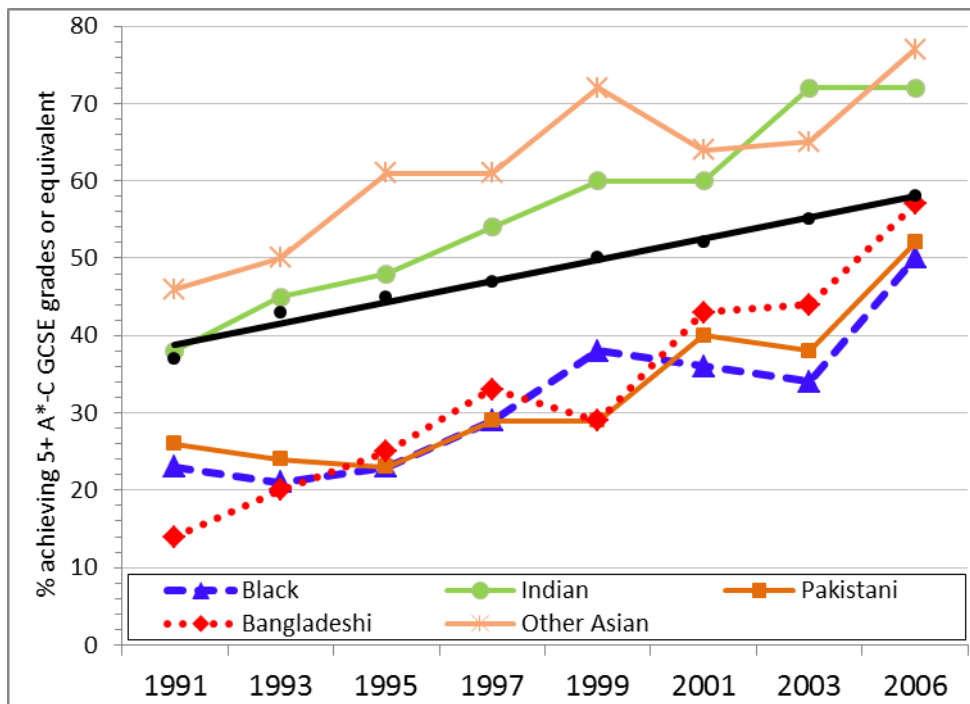
Rank	LA	Ethnic minority pupils	All Classified pupils	% ethnic minority
1	Redcar and Cleveland	620	17,605	3.5
2	Halton	563	15,780	3.6
3	Durham	2,152	59,470	3.6
4	Cumbria	2,366	60,540	3.9
5	St. Helens	892	21,830	4.1
6	East Riding of Yorkshire	1,834	41,370	4.4
7	Knowsley	727	16,200	4.5
8	Northumberland	1,874	39,905	4.7
9	Derbyshire	4,610	92,725	5.0
10	Hartlepool	624	12,185	5.1
11	Cornwall	3,283	62,015	5.3
12	Sefton	1,943	34,885	5.6
13	Rutland	267	4,790	5.6
14	Wigan	2,199	38,530	5.7
15	Devon	4,814	83,410	5.8
16	North East Lincolnshire	1,142	19,440	5.9
17	Isle of Wight	922	15,240	6.0
18	Barnsley	1,642	26,815	6.1
19	Sunderland	2,078	33,350	6.2
20	North Yorkshire	4,590	73,005	6.3
21	Shropshire	2,076	33,015	6.3
22	North Tyneside	1,597	24,300	6.6
23	Dorset	3,222	48,925	6.6
24	South Tyneside	1,146	17,270	6.6
25	Wirral	2,856	42,360	6.7
126	Croydon	30,559	46,155	66.2
127	Leicester	26,941	40,060	67.3
128	Barnet	29,869	43,965	67.9
129	Luton	20,907	29,880	70.0
130	Hammersmith and Fulham	11,170	15,510	72.0
131	Wandsworth	18,129	24,880	72.9
132	Islington	13,752	18,775	73.2
133	Hounslow	24,408	32,465	75.2
134	Camden	14,156	18,625	76.0
135	Lewisham	24,016	31,595	76.0
136	Kensington and Chelsea	7,376	9,685	76.2
137	Enfield	35,182	46,160	76.2
138	Southwark	24,331	31,055	78.3
139	Slough	17,043	21,565	79.0
140	Waltham Forest	26,508	33,050	80.2
141	Haringey	24,400	30,330	80.4
142	Redbridge	35,527	43,705	81.3
143	Ealing	33,402	40,560	82.4
144	Harrow	22,858	27,385	83.5
145	Hackney	21,624	25,540	84.7
146	Lambeth	23,677	27,655	85.6
147	Westminster	15,632	18,150	86.1
148	Tower Hamlets	30,253	33,855	89.4
149	Brent	33,537	36,470	92.0
150	Newham	41,302	44,515	92.8

Notes: Data source SFR 21/2013. Isles of Scilly and City of London excluded as they each contain only a single school. Percentage calculated from a base of all classified pupils (99.1% of all students).

Ethnic trends in educational attainment 1991-2006: The Youth Cohort Study

The Youth Cohort Study (YCS) provided the first source of nationally representative data on ethnicity and educational achievement in England. The YCS collected data on a series of nationally representative samples of approximately 15,000 young people shortly after they finished compulsory education at age 16. Although the YCS started in the mid 1980's the data collected on ethnicity was very basic, identifying just four groups (White, Black, Asian and Other). It was not until 1991 that the Asian category was sub-divided into Indian, Pakistani and Bangladeshi, so we start our time series in 1991. The series end with the YCS Cohort 13 (Sweep 1) in 2006, which has been combined with the Longitudinal Survey of Young People in England (LSYPE) Wave 4 sample to substantially increase sample size and reliability (DfE, 2008).

Figure 3: Percentage of 16 year olds achieving 5 or more GCSEs at grades A*-C: YCS 1991-2006.



Ethnic origin	1991	1993	1995	1997	1999	2001	2003	2006
White	37	43	45	47	50	52	55	58
Black	23	21	23	29	38	36	34	50
Asian	33	36	38	45	48	52	55	64
Indian	38	45	48	54	60	60	72	72
Pakistani	26	24	23	29	29	40	38	52
Bangladeshi	14	20	25	33	29	43	44	57
Other Asian	46	50	61	61	72	64	65	77
Other ethnic group	*	37	46	47	42	53	59	56
All Pupils	37	42	44	46	49	51	54	58
Weighted sample	24,922	18,020	15,899	14,662	12,899	15,714	13,178	19,114

Notes: data sourced from Table 4.1.1 of DfE (2008). Statistical Bulletin. YCS & LSYPE: The activities and experiences of 16 year olds: England 2007. Results for White students indicated by the smoothed black line.

The results indicate that all ethnic minority groups made significant progress in the period 1991-2006.

- **Indian** pupils moved from an equivalent position to White students in 1991 to be significantly ahead in 2006, and Other Asian pupils further increased their lead.
- **Bangladeshi** pupils made the greatest progress. In 1991 just 14% of Bangladeshi pupils achieved the benchmark of 5+ GCSE A*-C grades (5AC) compared with 37% of White pupils. In 2006 57% of Bangladeshi pupils achieved this benchmark against 58% of White pupils, i.e. the gap between Bangladeshi and White pupils effectively disappeared.
- **Pakistani** and **Black** pupils have also narrowed the gap with White pupils substantially. Both groups doubled the proportion achieved 5AC, from 26% to 52% for Pakistani pupils and from 23% to 50% for Black pupils. Most of the improvement, particularly for Black pupils, occurred between 2003 and 2006.

2003-2013: The National Pupil Database: 5+ GCSE A*-C grades or equivalent (5AC)

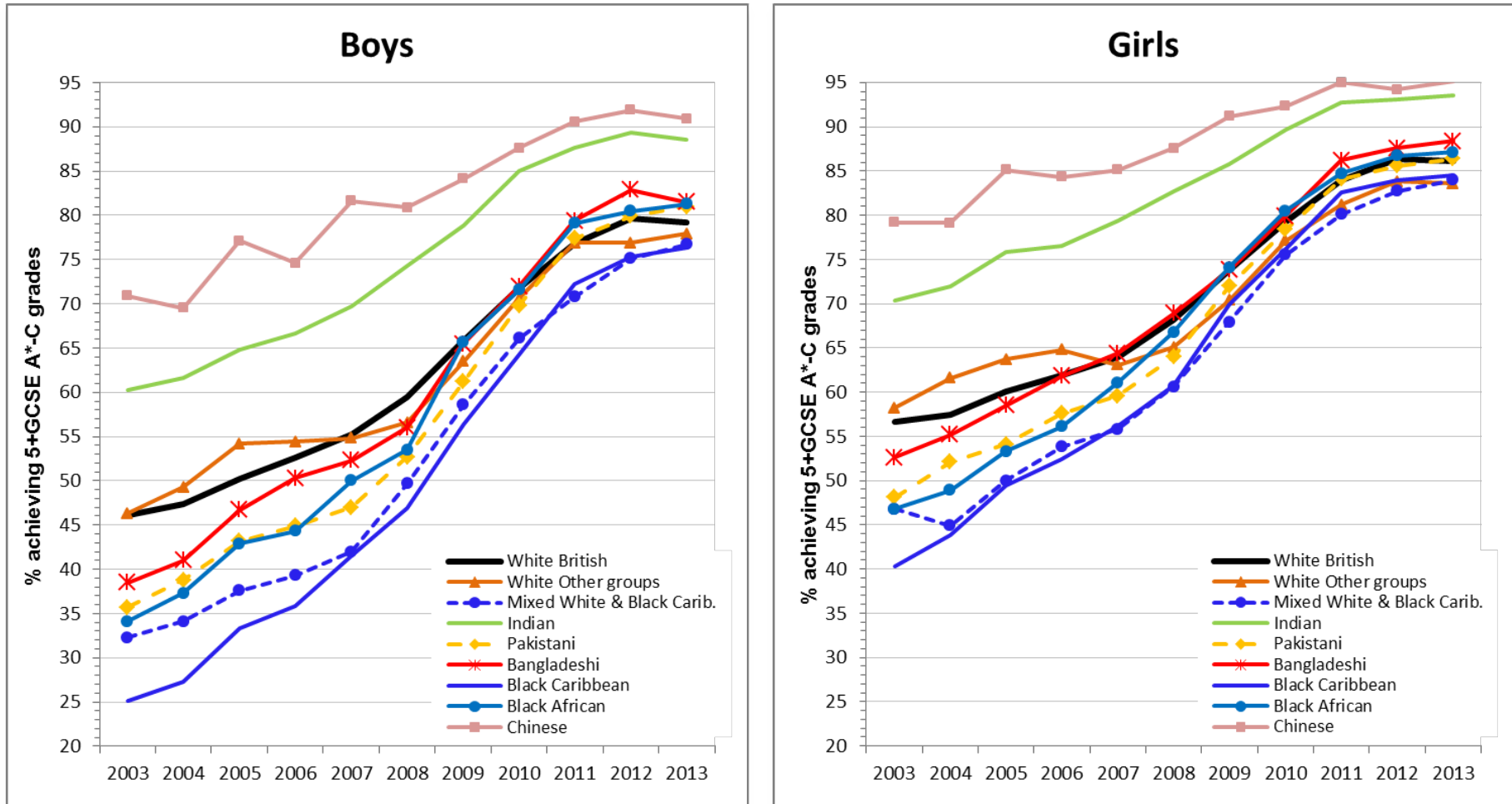
In January 2002 the Annual School Census (ASC) was introduced which for the first time collected individual pupil level data on the ethnicity of all children in England attending state maintained schools. Compared to the YCS a much more differentiated ethnic coding system was used which aligned with the ethnic categories used in the national population census in

2001. Differentiation was made not only within the 'Asian' group but also within the 'Black' ethnic groups revealing contrasting patterns of attainment between Black Caribbean, Black African and Black Other groups. A much more detailed picture of achievement and change over time can be achieved through analysis of the National Pupil Database (NPD).

2003 is a natural base year to consider given the YCS data indicate that for some groups, particularly Black and Pakistani students, the biggest changes occurred after 2003 rather than before it. This is also an appropriate base year because a revised ethnic coding system breaking down the 'White' group and introducing mixed heritage categories was introduced in 2003, making direct comparisons with the 2002 data problematic. Given that individual pupil level data were collected for the entire national cohort, this also now allows us to breakdown the ethnic group results by other pupil characteristics such as gender.

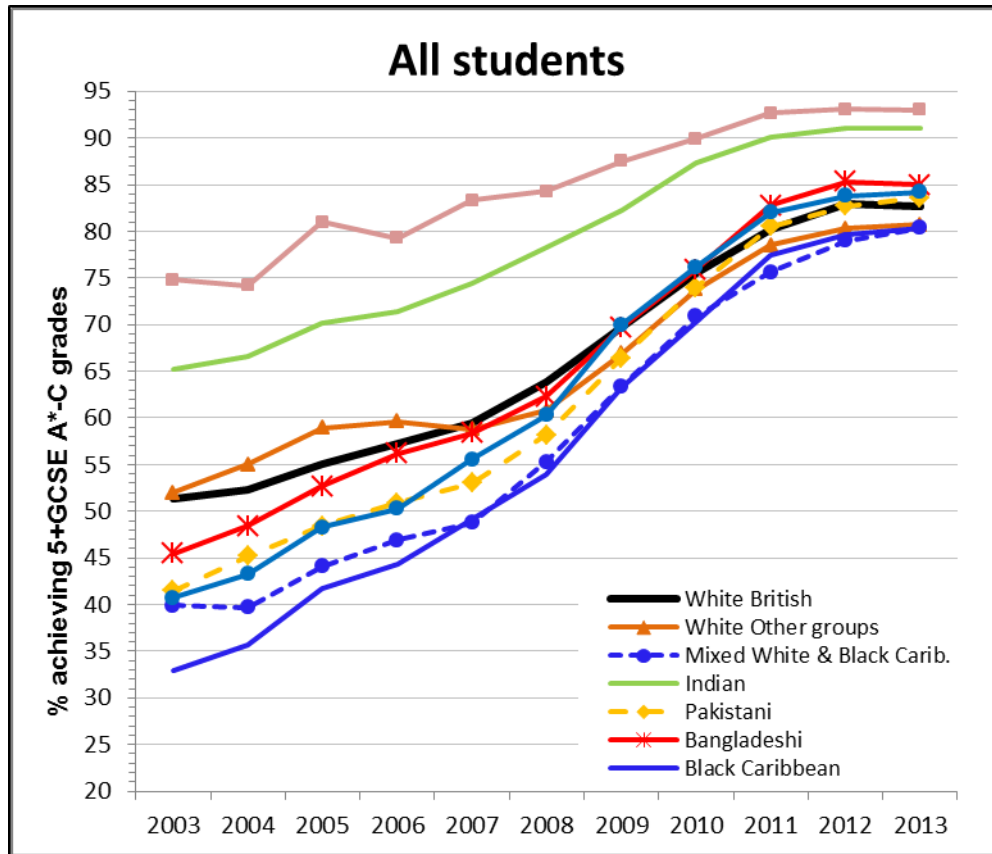
Figures 4 & 5 present a breakdown of the percentage of students achieving 5AC by ethnic group and gender for the 11 years 2003 – 2013 (the data is tabulated in Appendix 4).

Figure 4: Percentage 5+ GCSE A*-C or equivalent by ethnic group and gender: 2003-2013



Notes: For tabulated data see Appendix 4. For data sources see Appendix 1.

Figure 5: Percentage of pupils achieving 5+ A*-C GCSE or equivalent by ethnic group: 2003-2013



Notes: For tabulated data see Appendix 4. For data sources see Appendix 1.

The extent of improvement in the attainment of all ethnic groups over the period is substantial. Half (50.7%) of all students achieved 5AC in 2003 which rose to 82.9% in 2013. There is debate about what lies behind this increase, whether it reflects a ‘real’ rise in standards or grade inflation. However, this is not essential to our focus which is on the extent to which different ethnic groups improved, and particularly whether ethnic groups that were underachieving relative to White British students have closed the gap. In relation to ethnicity the results indicate:

- The aggregation into a single ‘Black’ category in the YCS did obscure significant differences between Black groups. Black Caribbean pupils, and in particular Black Caribbean boys, had much lower achievement than Black African students. Mixed White & Black Caribbean students initially (2003-2006) had somewhat higher achievement than Black Caribbean students, but since the mid 2000’s have an achievement profile very similar to Black Caribbean students.
- In 2003 the odds for **Black Caribbean** pupils achieving 5AC were less than half the odds for White British pupils, and for **Mixed White & Black Caribbean** and **Black African** pupils only two-thirds the odds for White British pupils. Black African pupils closed the gap relative to White British in 2009 and in 2013 achieve slightly above the White British average (OR=1.11). Black Caribbean

and Mixed White & Black Caribbean students have also improved substantially closing the gap with White British from over 18 percentage points to just two percentage points in 2013, although a small gap remains (OR= 0.86 for both minority groups).

- The YCS data indicated a big improvement for **Bangladeshi** students had occurred in the years from 1991 to 2003, but in 2003 they still started out below the average for White British students (45.5% vs. 51.3%; OR=0.79). Bangladeshi girls achieved parity with White British girls in 2006, and Bangladeshi Boys with White British boys in 2009. By 2013 Bangladeshi students are achieving above the White British average (85.0% vs. 82.7%, OR=1.19). This is despite Bangladeshi students being one of the most socio-economically deprived communities in England (See Strand et al, 2010 for a detailed analysis of achievement of Bangladeshi students in England).
- **Pakistani** pupils have also improved substantially. In 2003 their odds of achieving 5AC were only two thirds the odds for White British students (41.5% vs. 51.3%, OR=0.67). However, they closed the gap steadily and achieved parity with White British students in 2011 and currently their odds of achieving 5AC do not significantly differ from White British students (OR=1.07).
- **Indian** and **Chinese** pupils have consistently outperformed the White British average. For both groups the odds of achieving 5AC are currently around twice as high as for White British pupils (OR=1.82 and OR=2.62, respectively).

2004-2013: 5+ GCSE A*-C or equivalent including English & mathematics (5EM)

Introduction

The above results indicate a significant and substantial closing of ethnic achievement gaps in the last twenty years. However, there are some limitations to the 5AC indicator analysed above. At one level the rapid rise in results with 83% of all students achieving 5AC in 2013, and averaging between 80%-90% across ethnic groups, creates a ceiling effect. 5AC is perhaps more an indicator of a minimum standard of achievement today than it was eleven years ago. However wider concerns were expressed by government in the mid 2000's that the indicator was problematic since it did not require the inclusion of passes in the core subjects of English and mathematics. As a result of this a new threshold measure was introduced in 2006, five or more GCSE A*-C grades or equivalent including English and mathematics (5EM). This has become the central focus in measuring achievement and we focus on the 5EM indicator below.

The 5EM indicator was first introduced into performance tables in 2006. For comparative purposes the DfE published the 5EM indicator for 2005 at the same time, but did not publish the 5EM indicator for any student groupings prior to 2005, other than as a single national average (SFR 41/2014). Figures for 2004 were not available as part of the published DfE time series. However, we felt it was important to establish a full 10-year time series for the analysis so we calculated our own figures direct from the 2003/04 NPD files for ethnicity, gender and FSM. Our figures agree closely with another source we have found³ and we believe are reliable enough for inclusion in the time series.

Contrasting 5AC and 5EM

Before discussing the trends for 5EM we first contrast the pattern of ethnic group differences on 5AC and 5EM for the 2004 cohort, the first year for which we have data on both measures. Overall the proportion of students achieving 5AC in 2004 was 51.9% while only 40.9% achieved 5EM, a difference of 11 percentage points. However the change was not consistent across all ethnic groups. Table 4 presents the ethnic minority Odds Ratios from 2004 for both 5AC and 5EM. For almost all ethnic minority groups the achievement gaps are larger on 5EM than 5AC. Changes in the ORs are greatest for Pakistani and Bangladeshi (and Indian and Chinese) students, groups where the proportion of students with English as an additional language (EAL) is highest, perhaps indicating a particular issue with achievement in GCSE English. However, there were increases in the achievement gaps for Black Caribbean and Mixed White and Black Caribbean students also.

Table 4: Ethnic group Odds Ratios for the 2004 cohort for both 5EM and 5AC measures.

Odds ratios	5AC	5EM	Change
White British	-	-	-
White Other groups	1.11	1.09	-0.02
Mixed White & Black Caribbean	0.60	0.53	-0.07
Indian	1.82	1.68	-0.14
Pakistani	0.75	0.64	-0.11
Bangladeshi	0.86	0.68	-0.18
Black African	0.70	0.64	-0.06
Black Caribbean	0.51	0.42	-0.09
Chinese	2.62	2.48	-0.14

The above results show how achievement gaps are sensitive to the particular measure that defines success. Given that success in educational terms is now clearly defined by achieving 5EM the rest of this analysis will focus on 5EM.

³ An ethnic breakdown for 5EM in 2004 was found in one DfE source (DfES, 2006, figure 28, p58) but this did not allow any breakdowns by gender or FSM.

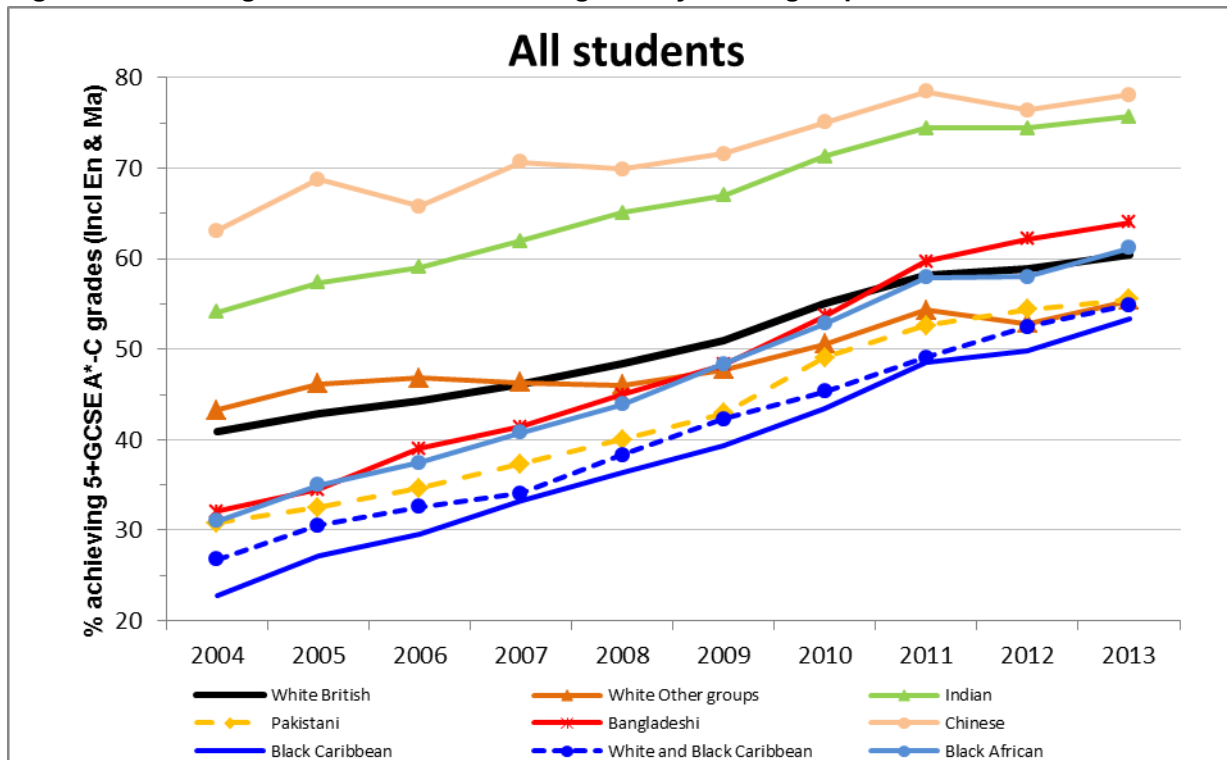
Ethnic achievement gaps on 5EM 2004-2013

Trends over the 10 years 2004-2013 are presented in Table 5 and Figure 6.

Table 5: Percentage of all students achieving 5EM by ethnic group: 2004-2013

Ethnic group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White	-	43.0	44.4	46.1	48.4	50.7	54.8	58.0	58.6	60.2
White British	41.6	42.9	44.3	46.1	48.4	50.9	55.0	58.2	58.9	60.5
Irish	46.7	50.7	50.1	52.6	57.0	58.0	63.4	65.9	66.9	68.8
Traveller of Irish Heritage	27.1	20.7	11.1	8.6	7.3	9.2	21.8	17.5	16.7	17.5
Gypsy / Roma	8.9	9.1	3.9	7.0	6.8	9.1	8.3	10.8	9.3	13.8
Any other White background	43.7	46.2	46.8	46.3	46.0	47.7	50.6	54.3	52.8	55.4
Mixed	-	41.9	42.8	44.5	47.4	51.3	54.6	58.5	59.8	62.5
White and Black Caribbean	27.5	30.5	32.6	34.1	38.3	42.3	45.3	49.1	52.5	54.9
White and Black African	36.9	40.8	43.1	42.5	46.9	51.0	55.6	57.6	59.6	63.3
White and Asian	57.0	56.6	59.4	58.9	58.8	62.3	65.2	68.1	67.9	69.7
Any other mixed background	41.5	46.1	45.2	48.5	51.1	54.9	57.8	62.3	62.3	65.5
Asian	-	44.0	46.1	48.2	50.9	53.1	58.0	61.8	62.7	64.2
Indian	54.5	57.4	59.1	62.0	65.1	67.0	71.3	74.4	74.4	75.7
Pakistani	31.3	32.5	34.6	37.3	40.0	42.9	49.1	52.6	54.4	55.5
Bangladeshi	32.5	34.5	39.0	41.4	45.0	48.3	53.7	59.7	62.2	64.0
Any other Asian background	48.2	50.8	51.6	50.8	52.4	54.3	57.6	62.2	61.6	64.3
Black	-	30.7	33.6	37.1	40.7	44.5	48.9	54.3	54.6	58.1
Black Caribbean	23.2	27.1	29.5	33.2	36.4	39.4	43.5	48.6	49.8	53.3
Black African	31.3	35.0	37.5	40.8	43.9	48.4	52.8	57.9	58.0	61.2
Any other Black background	24.6	27.5	31.2	33.5	39.6	41.2	45.8	52.6	50.0	54.6
Chinese	63.9	68.8	65.8	70.7	69.9	71.6	75.1	78.5	76.4	78.1
Any other ethnic group	37.3	40.3	41.7	42.5	44.6	47.4	51.2	54.0	56.0	59.2
All pupils	40.9	42.5	44.0	45.8	48.2	50.7	54.8	58.2	58.8	60.6
Odds Ratios	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White Other groups	1.09	1.14	1.11	1.01	0.91	0.88	0.84	0.85	0.78	0.81
Mixed White & Black Caribbean	0.53	0.58	0.61	0.61	0.66	0.71	0.68	0.69	0.77	0.79
Indian	1.68	1.79	1.82	1.91	1.99	1.96	2.03	2.09	2.03	2.03
Pakistani	0.64	0.64	0.67	0.70	0.71	0.72	0.79	0.80	0.83	0.81
Bangladeshi	0.68	0.70	0.80	0.83	0.87	0.90	0.95	1.06	1.15	1.16
Black African	0.64	0.72	0.75	0.81	0.83	0.90	0.92	0.99	0.96	1.03
Black Caribbean	0.42	0.49	0.53	0.58	0.61	0.63	0.63	0.68	0.69	0.75
Chinese	2.48	2.94	2.42	2.82	2.48	2.43	2.47	2.62	2.26	2.33

Figure 6: Percentage of all students achieving 5EM by ethnic group: 2004-2013



The results indicate the following:

- At the high end **Indian** students have further increased their advantage over White British students and **Chinese** students have maintained their advantage. The odds of students from these ethnic groups of achieving 5EM in 2013 are over twice the odds for White British students.
- **Bangladeshi** students have substantially increased in achievement from well below the White British average in 2004 (OR=0.68) to above the White British average in 2013 (OR=1.16).
- **Black African** students have also show substantial increases in their educational achievement and there is no longer any gap relative to White British, the OR changing from OR=0.65 in 2004 to OR=1.03 in 2013.
- There has been a significant closing of the gap for **Black Caribbean, Mixed White & Black Caribbean** and **Pakistani** students. For example the odds for Black Caribbean students achieving the threshold were less half the odds for White British in 2004 (OR=0.43) but in 2013 this had narrowed to OR=0.75. For Mixed White & Black Caribbean students there has been a change from OR=0.53 to OR=0.79 and for Pakistani students from OR=0.64 to OR=0.81. However, the odds of achieving 5EM for all three groups are still around 20% lower than the average for White British students.

- Only one ethnic group has seen performance decline relative to White British over the period. **White other** groups have moved from above the White British average in 2004-2006 to below the White British average from 2008 onwards and in 2013 the OR=0.81 is similar to that for Black Caribbean, Mixed White & Black Caribbean and Pakistani students. It should be remembered that we are looking at different cohorts of pupils in the time series and we saw in the demographics presented earlier that there has been a considerable increase in the White Other groups from 135,000 (2.1% of the population) in 2003 to 287,000 (4.3% of the population) in 2013.

Capped (Best 8) points scores

Any threshold indicator, be it 5AC or 5EM, can be sensitive to changes in results around the threshold. For this reason a points score averaged across all grades and across a range of subjects can have advantages. The capped (Best 8) points score has been used by the DfE for a number of years as an outcome indicator in value added calculations and in school performance tables. The indicator converts grades in GCSEs and a range of other qualifications to points scores and sums the scores for the highest eight GCSE, or equivalent examinations, achieved by the student⁴

The Best 8 Points score has been published in school performance tables and used in school value added calculations but has not formed a routine part of DfE reports on GCSE achievement by pupil characteristics, there are therefore no routinely published statistics for the Best 8 score in relation to ethnicity or other pupil background characteristics. There was insufficient time to collate and analyse pupil level data from the various NPD files to calculate figures for all years. However, NPD pupil level data for 2004, 2007, 2009 and 2013 were available, and we calculated Best 8 scores for these years. Table 6 and Figure 7 present the mean and standard deviation of Best 8 score for each ethnic group. In addition a measure of effect size (Cohen's D) is presented. This expresses the difference in mean score between each ethnic group and White British students as a proportion of the pooled (here all pupil) standard deviation.

The results follow a very similar pattern to the 5EM outcome:

- **Indian** and **Chinese** pupils consistently exceed the White British average by a wide margin (ES=0.39 and 0.60 respectively in 2013).
- **Bangladeshi** pupils have improved and now have a mean score slightly higher than the White British average (ES=0.09). Both **Pakistani** and **Black African** students have improved substantially and their mean score in 2013 the same as the White British average.

⁴ For details on the points awarded to different qualifications see the DfE Points Score document at http://www.education.gov.uk/schools/performance/secondary_13/Point_Score_Document_final.pdf

- **Black Caribbean** and **Mixed White & Black Caribbean** were the lowest performing groups in 2004 (ES=-0.35 and -0.29 respectively) and continue to be the lowest achieving groups in 2013. However, the size of these gaps has more than halved to just ES= -0.15 and -0.12 respectively in 2013. Both gaps would be considered 'small' according to Cohen's criteria⁵. They are also small compared to other equity gaps. For example in 2013 the gender gap (ES=0.29) was twice as large as the ethnic gap, and the FSM gap (ES=0.61) four times larger than the ethnic gap.

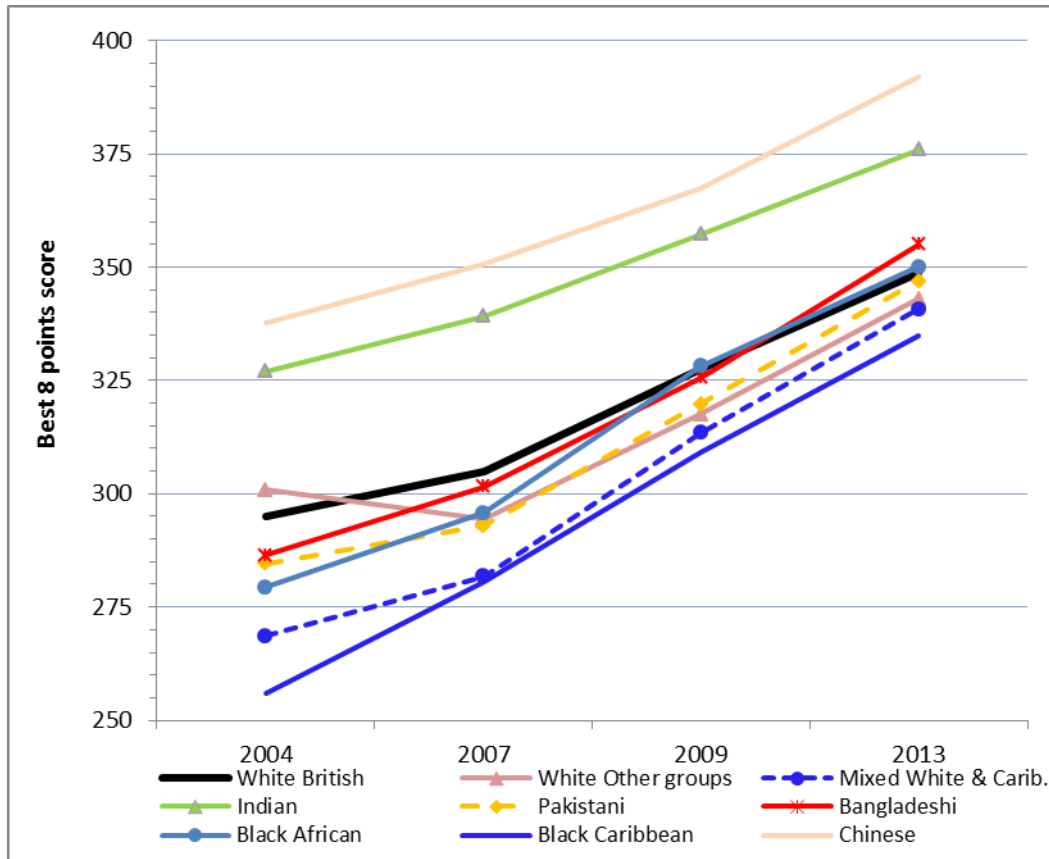
Table 6: Best 8 points score by ethnic group: Selected years 2004-2013

Ethnic group	Mean Best 8 points score					Standard Deviation				Effect Size			
	2004	2007	2009	2013	Change	2004	2007	2009	2013	2004	2007	2009	2013
White British	284.6	295.7	320.0	341.1	56.5	107.4	106.7	92.4	82.3	-	-	-	-
White Irish	294.2	300.8	328.4	351.1	56.9	111.0	116.0	95.4	84.0	0.09	0.05	0.09	0.12
Traveller of Irish Heritage	194.7	124.0	182.1	205.9	11.2	146.0	130.4	128.1	135.5	-0.83	-1.59	-1.48	-1.64
Gypsy / Roma	155.7	132.4	193.6	209.9	54.3	123.3	124.8	115.6	128.6	-1.19	-1.51	-1.36	-1.59
White Other background	287.3	287.8	313.1	338.3	51.0	120.6	123.7	104.1	92.3	0.03	-0.07	-0.07	-0.03
Mixed White & Black African	269.4	290.1	318.3	344.4	75.1	118.7	112.0	96.0	80.7	-0.14	-0.05	-0.02	0.04
Mixed White & Caribbean	253.1	268.6	303.0	330.8	77.8	111.7	112.8	95.4	83.3	-0.29	-0.25	-0.18	-0.12
Mixed White & Asian	318.1	316.5	340.4	358.4	40.4	106.0	110.5	94.0	80.7	0.31	0.19	0.22	0.21
Mixed other background	283.1	297.6	326.6	347.8	64.7	118.0	114.3	94.9	82.9	-0.01	0.02	0.07	0.08
Indian	321.5	334.6	353.9	373.0	51.5	88.8	91.2	78.3	69.3	0.34	0.36	0.37	0.39
Pakistani	273.0	284.3	312.8	341.8	68.8	100.6	104.6	89.6	78.0	-0.11	-0.11	-0.08	0.01
Bangladeshi	280.1	294.1	318.8	348.2	68.2	100.6	102.7	89.3	76.5	-0.04	-0.01	-0.01	0.09
Any other Asian background	301.2	296.3	326.0	354.1	52.9	116.8	124.9	98.1	83.9	0.15	0.01	0.07	0.16
Black African	262.6	283.1	316.5	342.1	79.5	110.5	107.9	89.2	75.6	-0.20	-0.12	-0.04	0.01
Black Caribbean	247.2	273.7	304.5	329.0	81.8	104.0	101.2	86.4	76.3	-0.35	-0.20	-0.17	-0.15
Black Other background	245.9	271.9	304.3	333.6	87.7	109.7	107.3	93.1	79.8	-0.36	-0.22	-0.17	-0.09
Chinese	335.6	348.1	366.9	390.4	54.9	114.3	111.0	97.4	74.8	0.47	0.49	0.50	0.60
Any other ethnic group	268.1	283.3	313.9	345.1	77.0	127.5	123.6	104.3	85.5	-0.15	-0.11	-0.07	0.05
Unclassified	269.9	280.0	314.9	338.2	68.4	114.0	115.5	97.9	91.3	-0.14	-0.15	-0.05	-0.03
All pupils	283.6	295.0	320.0	342.0	58.4	108.3	107.9	93.0	82.6	-	-	-	-

Note: Effect Size (Cohen's D) is the difference in mean score between each ethnic group and White British divided by the all pupils standard deviation. Ethnic groups in bold are the nine core ethnic groups.

⁵ Cohen (1988) suggests benchmarks for Cohen's D of around 0.20, 0.50 and 0.80+ to indicate small, medium and large effect sizes respectively. However these are rather arbitrary rules of thumb and it is good practice to compare the size of the effect to the size for a range of other variables on the same outcome, for example in this case to compare the size of ethnic gaps against the size of gender or FSM gaps.

Figure 7: Best 8 points score by ethnic group: Selected years 2004-2013



Source: Authors own analysis of NPD.

Overview across the three indicators

Overall the pattern of results over the last 10 years is broadly consistent across different indicators:

- **Indian and Chinese** students have consistently scored substantially above the White British average
- **Bangladeshi, Black African and Pakistani** students results have improved substantially and achievement gaps relative to White British students have been eliminated, and in some cases reversed
- **Black Caribbean and Mixed White & Black Caribbean** students have also shown very strong improvement, from being half as likely and White British students to achieve the benchmarks of educational success in the early 2000's to near parity in 2013, although stubborn gaps do remain
- **White Other** students generally scored above the White British average in the early 2000's but in recent years have been scoring below the White British average, with a similar gap to Black Caribbean and Mixed White and Black Caribbean students.

There are some ethnic groups that have contrasting achievement gaps across the three indicators. **Pakistani** pupils perhaps show the biggest differences. There is no Pakistani achievement gap on Best 8 score or on the 5AC indicator, but some lower achievement on the 5EM outcome (OR=0.81). A similar, though less extreme, contrast across indicators is also seen for **White Other** students. The extent of underachievement for the White Other groups is also negligible on Best8 and very small on 5AC (OR=0.87) but a little larger on 5EM (OR=0.81).

It may be that GCSE English is a particular challenge for some students in these two ethnic groups, and certainly a recent analysis of the 2013 NPD in relation to EAL and ethnicity (Strand, Malmberg & Hall, 2015) identified English as the subject with the largest EAL gap, and Pakistani and White Other students among the groups with the largest EAL gap. This suggests a particular focus on GCSE English for EAL pupils from these two ethnic groups, and particularly for those who are new arrivals in England, will be important in addressing the 5EM achievement gap.

Trends in the relative size of ethnic, gender and FSM gaps

We have looked above at the absolute size of the achievement gap for ethnic minority groups relative to White British students over the last ten years and seen how these have reduced. This section evaluates the *relative size* of ethnic, gender and FSM achievement gaps and whether the ethnic achievement gap has got larger or smaller relative to gender and FSM gaps. We index the ethnic gap as the difference between the average for White British students and the average for the lowest achieving of the core ethnic groups in 5EM, which in all years was Black Caribbean students. Gender and FSM gaps are straightforward contrasts between girls and boys and between pupils not entitled and those entitled to FSM. Table 7 and Figure 8 present the data.

Table 7: Trends in ethnic, gender and FSM achievement gaps at age 16 over time: 2004-2013

Student grouping	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Ethnicity										
White British	40.9	42.9	44.2	45.8	48.0	50.9	55.0	58.2	58.9	60.5
Black Caribbean	22.8	27.1	29.2	32.7	35.9	39.4	43.5	48.6	49.8	53.3
Gap (% points)	18.1	15.8	15.0	13.1	12.1	11.5	11.5	9.6	9.1	7.2
Odds Ratio (OR)	2.3	2.0	1.9	1.7	1.6	1.6	1.6	1.5	1.4	1.3
Socio-economic										
FSM	16.8	18.0	19.6	21.4	23.8	26.6	30.9	34.6	36.3	37.9
Not FSM	44.8	46.4	47.7	49.3	51.7	54.2	58.5	62.0	62.6	64.6
Gap (% points)	28.0	28.4	28.1	27.9	27.9	27.6	27.6	27.4	26.3	26.7
Odds Ratio (OR)	4.0	3.9	3.7	3.6	3.4	3.3	3.2	3.1	2.9	3.0
Gender										
Boys	37.1	38.4	39.7	41.4	43.8	47.1	51.1	54.6	54.2	55.6
Girls	44.8	46.7	48.0	49.6	51.9	54.4	58.6	61.9	63.7	65.7
Gap (% points)	7.7	8.3	8.3	8.2	8.1	7.3	7.5	7.3	9.5	10.1
Odds Ratio (OR)	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.5	1.5

Note. In the above table we have expressed the OR for ethnicity as how much higher the odds of White British students achieving 5EM are compared to Black Caribbean students, so that ethnic, gender and FSM gaps are all expressed as advantages. However the OR=1.34 (odds for White British relative to Black Caribbean) is identical to the OR=0.75 (odds for Black Caribbean relative to White British) they just reverse the base or reference group.

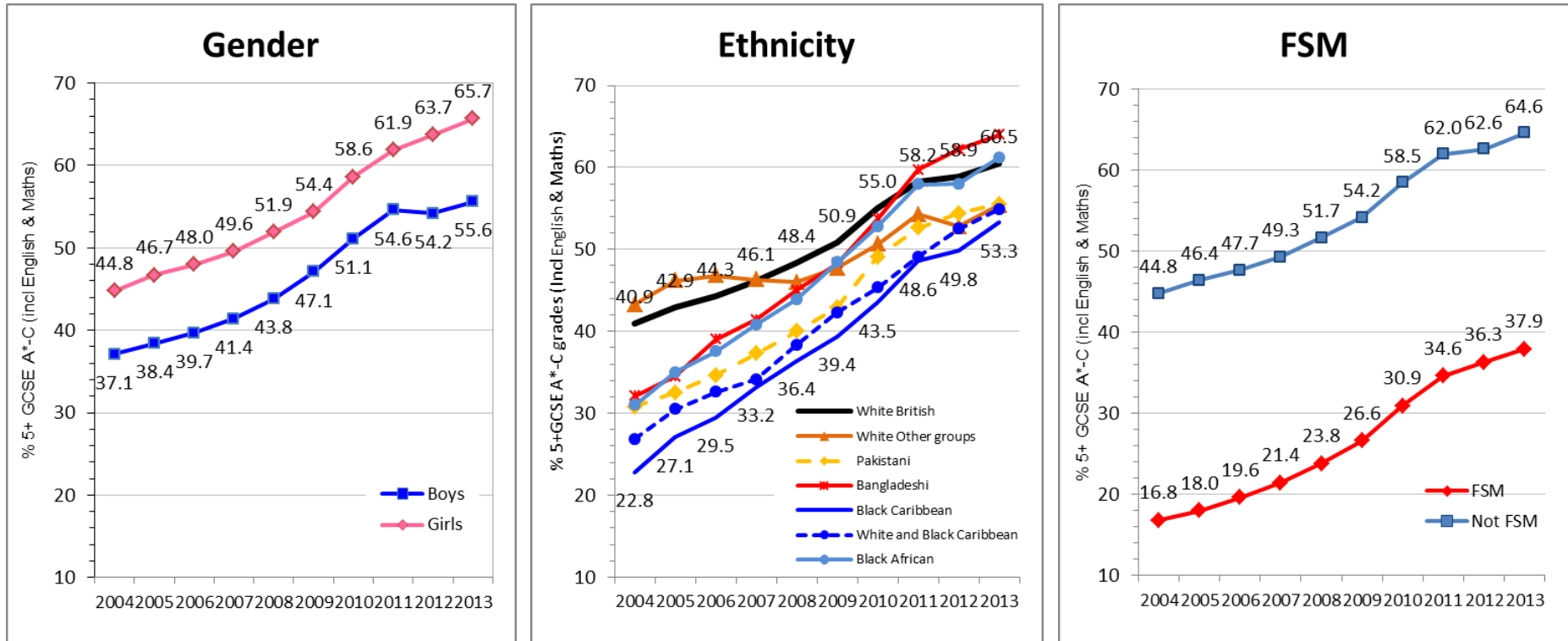
In terms of simple trends:

- As we saw earlier there has been a substantial shrinking of the ethnic gap. The odds of success for White British students remain higher than for Black Caribbean students but have narrowed sharply with the OR reducing from 2.3 to 1.3.
- The relative advantage for girls was stable up until 2011 at an OR of around 1.4, but has widened very slightly in the last two years due to a stalling of the

increase in 5EM for boys compared with a continued large increase for girls (this is seen most clearly in Figure 9).

- The FSM gap has narrowed over the period with the OR declining from 4.0 to 3.0, but it remains by far the largest achievement gap.

Figure 8: Trends in ethnic, gender and FSM achievement gaps at age 16 over time: 2004-2013

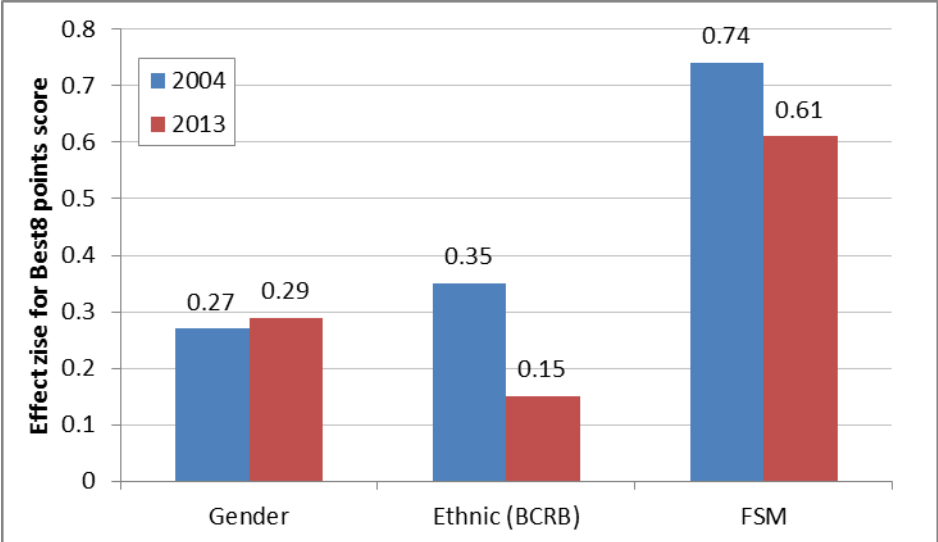


Notes: In the ethnicity graph the numbers displayed show the proportion achieving 5EM for White British students and for Black Carib group).

Importantly there are significant changes over time in the relative size of the achievement gaps. Looking at the percentage point gaps, in 2004 the ethnic gap was 18.1 percentage points, more than twice as large as the gender gap (7.7% points) and half the size of the FSM gap (28% points). However, by 2013 this had changed substantially. Now the ethnic gap (7.2% points) is actually smaller than the gender gap (10.1% points), and about one-quarter of the size of the FSM gap (26.7% points).

We see the same pattern for Best8 points score. Figure 9 present the effect sizes in 2004 and 2013. In 2004 the ethnic gap (taking Black Caribbean students as the lowest scoring group) was larger than the gender gap, but in 2013 the ethnic gap is half the size of the gender gap. Equally while in 2004 the ethnic gap was half the size of the FSM gap, in 2013 it is just one-quarter the size of the FSM gap. These are the same proportions we see from a comparison of the gaps using the 5EM measure.

Figure 9: Cohen's D effect size for gender, ethnic and FSM Achievement gaps in 2004 and 2013



We conclude that ethnic achievement gaps have not just narrowed in absolute terms, they have also declined substantially relative to the gender and FSM gaps.

Achievement by combinations of ethnic group, entitlement to FSM and gender

Having explored the overall trends in relation to ethnicity and achievement, this section explores the extent to which ethnic trends may vary across other demographic variables, specifically entitlement to FSM or gender. For example is the improvement in the results for Black Caribbean students similar for both boys and girls, or among students entitled to FSM and those not entitled to FSM? Given the relative consistency in ethnic gaps across the three examination measures we focus on the 5EM indicator,

since it has been, and is currently, the main benchmark of success at age 16 and we have data for every year in the time series through DfE SFRs.

Presenting the number of students as well as performance in a time series analyses over 10 years would involve a large number of additional cells. To give an indication of the size of the ethnic, FSM and gender combinations pupil numbers for 2013 are shown in *Appendix 2*. When breaking results down by ethnic group, FSM and gender simultaneously numbers in some cells can become relatively small, even for a national cohort of over 570,000 students. For example there are only 83 Chinese girls entitled to FSM in 2013. While there may be greater year to year variability for such small groups, generally numbers are sufficiently high to provide robust estimates.

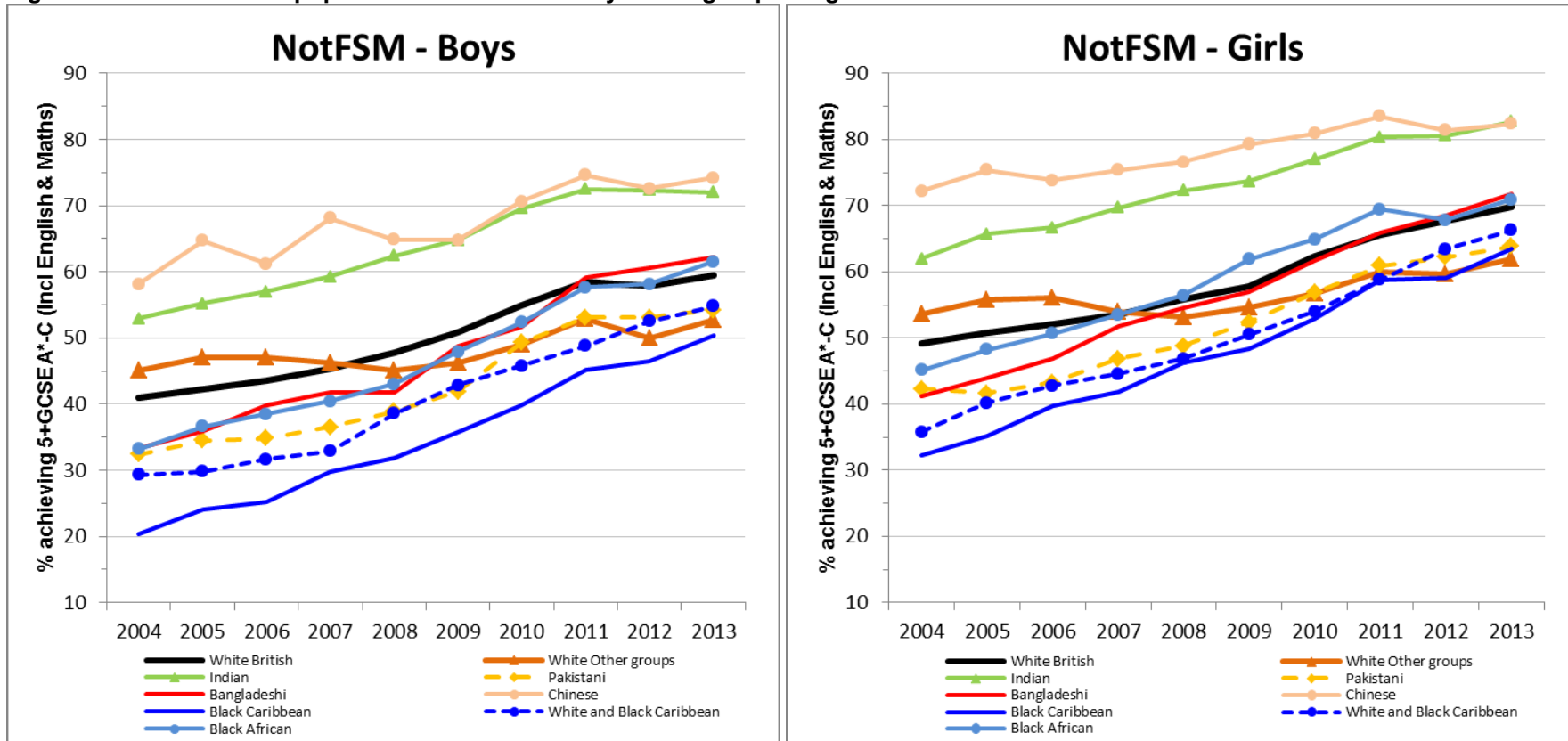
Pupils not entitled to FSM

Figure 10 presents the 5EM results for pupils not entitled to FSM by ethnic group and gender (Appendix 5 tabulates the data), while Table 9 and Figure 11 combine boys and girls together. As would be expected results for pupils not entitled to FSM are slightly higher than the results for all pupils (see Figure 6), but the pattern of performance by ethnic group and the profile of change over time is very similar, so we will not reiterate the previous bullet point summary. This is perhaps not surprising given that pupils not entitled to FSM are a large majority of the cohort (85% of all pupils in the 2013 Y11 cohort).

We can look here at contrasts by ethnicity and gender. The proportion of girls achieving 5EM is around 10% points higher than for boys and broadly consistent across all ethnic groups in 2013. The only notable contrast by ethnicity and gender over time is in the particularly strong relative improvement of Black boys. In 2004, the achievement gaps for Black African boys (OR=0.72) and Black Caribbean boys (OR=0.37) relative to White British boys were much larger than the gaps for Black African girls (OR=0.85) and Black Caribbean girls (OR=0.49) relative to White British girls. However, in 2013 both Black African boys and girls are achieving above the White British average (OR=1.09 and OR=1.05 respectively) and Black Caribbean boys and girls have a similar gap (OR=0.69 and OR=0.75 respectively), i.e. Black boys have made proportionally more improvement 2004-2013 than Black girls.

The big change to previous results occurs when we look at ethnic gaps among pupils entitled to FSM, which are radically different from the results above and to which we now turn.

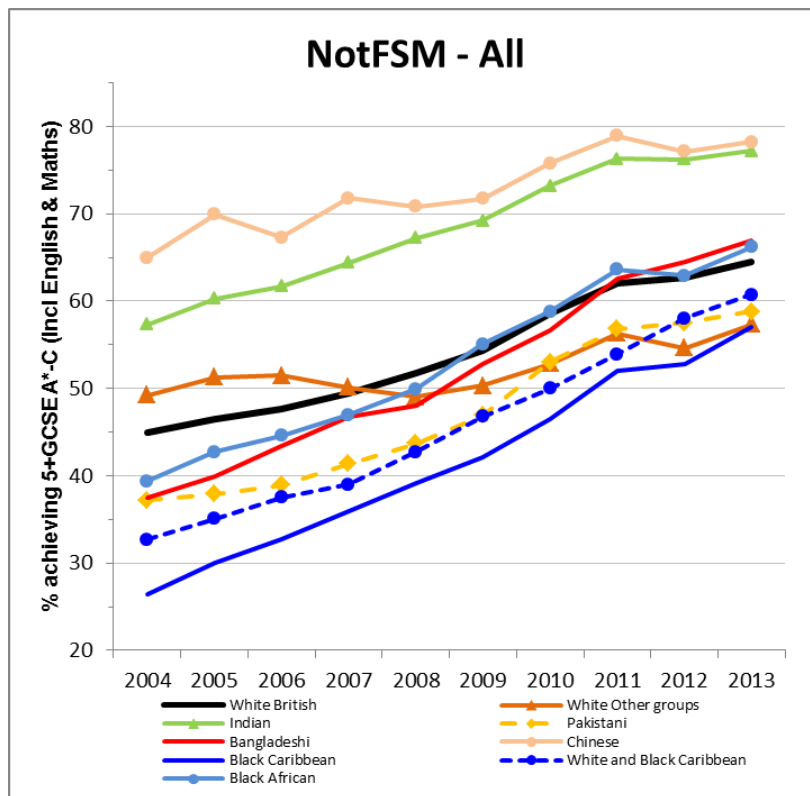
Figure 10: GCSE 5EM for pupils not entitled to FSM by ethnic group and gender: 2004-2013



Notes: for tabulated data and OR's see Appendix 5

Table 8 & Figure 11: GCSE 5EM for all pupils not entitled to FSM by ethnic group: 2004-2013

Ethnic group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White	-	46.6	47.8	49.4	51.7	54.1	58.4	61.8	62.3	64.2
White British	45.0	46.5	47.7	49.4	51.7	54.3	58.6	62.0	62.7	64.5
Irish	52.3	56.8	56.5	57.9	62.5	64.0	69.1	71.7	72.4	74.2
Traveller of Irish Heritage	39.4	31.9	x	13.3	x	x	27.6	25.0	23.6	25.0
Gypsy / Roma	14.3	11.6	x	8.4	7.7	10.4	9.5	11.9	9.9	18.0
Any other White background	49.2	51.3	51.5	50.1	49.0	50.3	52.8	56.3	54.6	57.3
Mixed	-	47.7	48.5	49.8	52.1	56.3	59.5	63.2	64.7	67.5
White and Black Caribbean	32.7	35.1	37.5	39.0	42.7	46.8	50.0	53.9	58.0	60.7
White and Black African	41.7	46.8	48.4	47.3	52.4	56.7	60.4	61.7	64.1	67.7
White and Asian	62.8	61.5	64.2	64.4	63.1	67.0	69.7	72.5	72.0	73.8
Any other mixed background	47.6	52.0	51.0	53.1	55.3	59.7	62.2	66.6	66.4	69.8
Asian	-	50.6	51.6	53.5	55.3	57.5	62.0	65.7	65.9	67.4
Indian	57.3	60.3	61.7	64.4	67.2	69.2	73.2	76.3	76.2	77.2
Pakistani	37.2	37.9	38.9	41.4	43.7	46.9	53.0	56.8	57.5	58.8
Bangladeshi	37.5	39.9	43.4	46.7	48.0	52.8	56.6	62.6	64.5	67.0
Any other Asian background	53.7	56.1	56.2	54.3	55.0	55.9	60.1	64.0	63.7	66.4
Black	-	35.7	38.3	41.2	44.9	49.0	53.2	58.8	58.6	62.5
Black Caribbean	26.4	30.0	32.7	35.9	39.2	42.1	46.5	52.0	52.8	57.0
Black African	39.4	42.7	44.6	47.0	49.9	55.1	58.8	63.6	62.9	66.2
Any other Black background	28.2	32.8	35.1	37.0	42.8	44.3	50.1	57.1	54.0	59.6
Chinese	65.0	69.9	67.3	71.8	70.8	71.7	75.8	78.9	77.1	78.2
Any other ethnic group	44.7	47.0	48.2	47.0	49.2	50.0	54.5	56.5	58.0	62.7
All pupils	44.7	46.4	47.7	49.4	51.7	54.2	58.5	62.0	62.6	64.6
Odd-Ratio	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White Other groups	1.18	1.21	1.16	1.03	0.90	0.85	0.79	0.79	0.72	0.74
Mixed White & Black Caribbean	0.59	0.62	0.66	0.65	0.70	0.74	0.71	0.72	0.82	0.85
Indian	1.64	1.75	1.77	1.85	1.91	1.89	1.93	1.97	1.90	1.86
Pakistani	0.72	0.70	0.70	0.72	0.73	0.74	0.80	0.81	0.80	0.79
Bangladeshi	0.73	0.76	0.84	0.90	0.86	0.94	0.92	1.03	1.08	1.12
Black African	0.79	0.86	0.88	0.91	0.93	1.03	1.01	1.07	1.01	1.08
Black Caribbean	0.44	0.49	0.53	0.57	0.60	0.61	0.61	0.66	0.67	0.73
Chinese	2.27	2.67	2.26	2.61	2.27	2.13	2.21	2.29	2.00	1.97

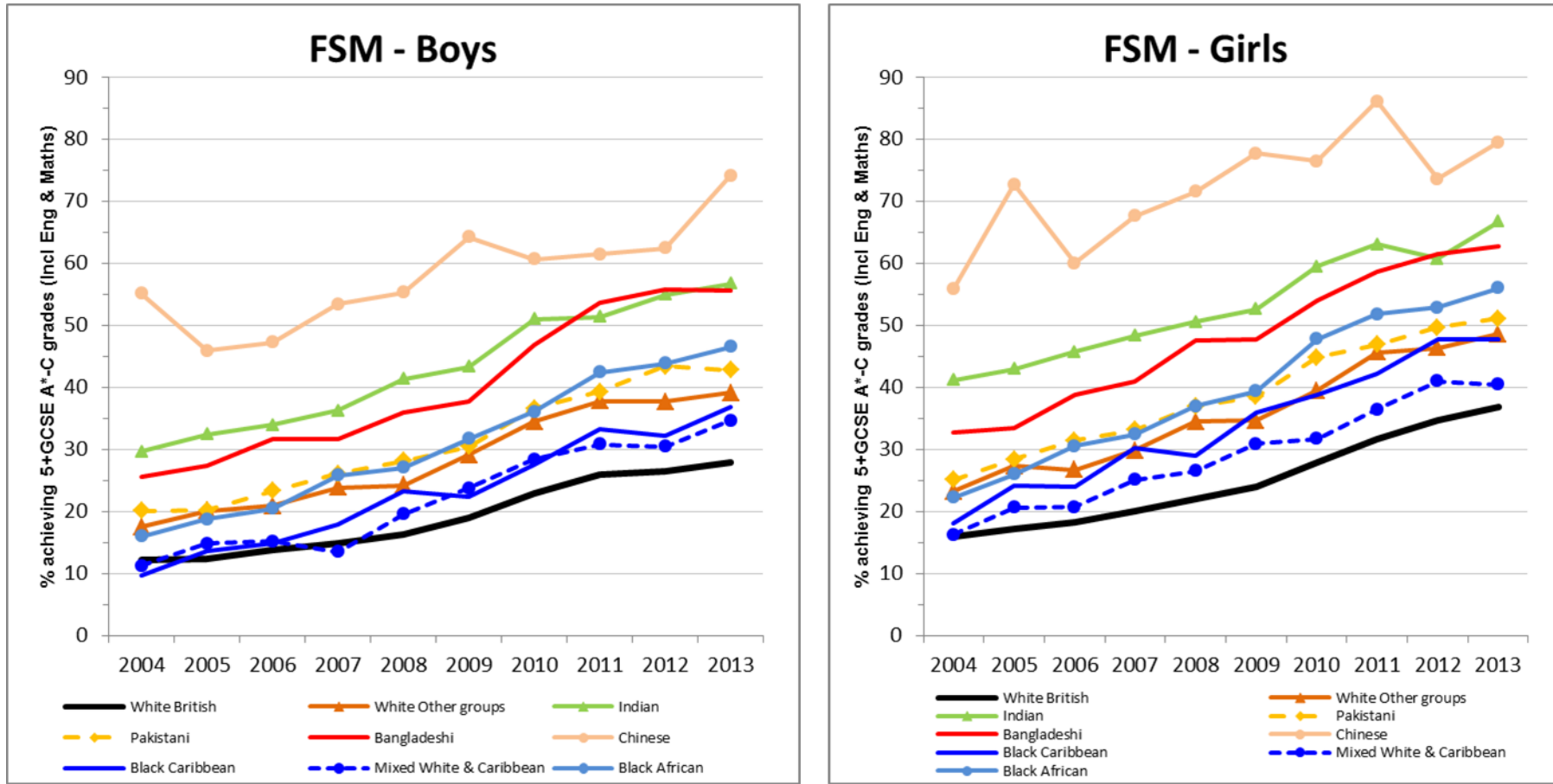


Pupils entitled to FSM

Figure 12 presents the results for pupils entitled to FSM broken down by ethnic group and gender (the data is tabulated in Appendix 6). Table 9 and Figure 13 present the combined data for boys and girls.

- **The most striking feature, in contrast to the results for pupils not entitled to FSM, is that among those entitled to FSM all ethnic minority groups achieve greater success than White British pupils.** In 2013 relative to White British students the odds for Chinese pupils achieving 5EM were 6.9 times greater, for Indian students 3.4 times greater, for Bangladeshi 3.0 times, for White other 1.6 times, for Black Caribbean 1.5 times and even for the lowest achieving minority group, Mixed White & Black Caribbean students, the odds of achieving 5EM were 1.26 times (26%) higher than for White British students.
- **Many ethnic minority groups have pulled even further ahead of White British students between 2004 and 2013.** Between 2004 and 2013 the OR for Mixed White & Black Caribbean students increased from OR=0.97 to OR=1.26, for Black Caribbean students it increased from OR=0.98 to OR=1.53, for Black African students from OR=1.44 to OR=2.22 and for Bangladeshi students from OR=2.52 to OR=3.0. So the gap between White British FSM students and ethnic minorities FSM students is large and increasing: White British FSM students are not only the lowest achieving they seem to be increasingly so over time.
- **There is very little difference between the ethnic trends for boys and girls.** The only notable point is that while Black Caribbean and Mixed White & Black Caribbean girls started pulling ahead of White British girls in 2005, this trend did not emerge for Black Caribbean and Mixed White & Black Caribbean boys until 2008. Overall, the trends are highly similar for both boys and girls.
- **Within the 'Black' group there is increasing divergence between Black African students on the one hand and Black Caribbean and Mixed White & Black Caribbean students on the other,** among both boys and girls. The gap between Black African and Black Caribbean students has increased from 5.2% points in 2004 to 9.2% points in 2013 and for Mixed White & Black Caribbean students the percentage point gap has increased from 5.4% in 2004 to 13.9% percentage points in 2013.

Figure 12: GCSE 5EM for pupils entitled to FSM by ethnic group and gender: 2004-2013



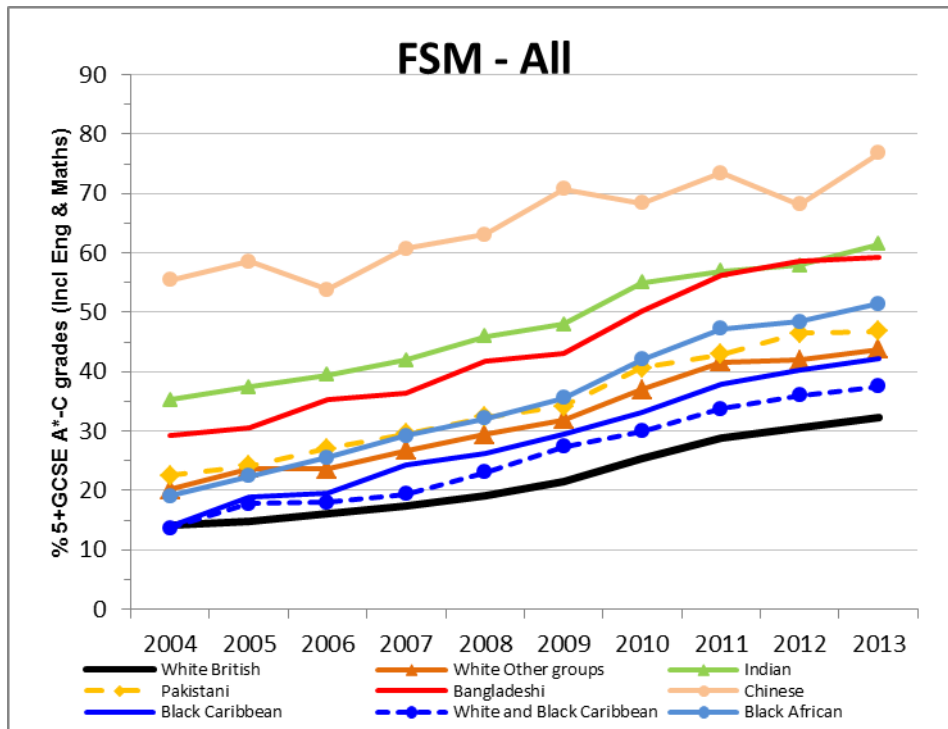
Notes: for tabulated data and OR's see Appendix 6.

Table 9: 5+ A*-C GCSE (Inc. English & Maths) for all pupils entitled to FSM by ethnic group: 2004-2013

Ethnic group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White	-	15.1	16.2	17.7	19.5	21.9	25.8	29.3	30.9	32.7
White British	14.1	14.7	16.0	17.4	19.1	21.5	25.3	28.8	30.5	32.3
Irish	19.5	21.4	19.5	24.1	24.6	24.0	29.1	33.6	32.7	38.5
Traveller of Irish Heritage	2.2	2.4	x	x	x	x	16.7	12.3	11.7	12.9
Gypsy / Roma	1.9	6.1	x	x	5.4	6.9	6.2	8.3	8.5	9.2
Any other White background	20.1	23.7	23.6	26.7	29.4	31.9	37.0	41.6	41.9	43.8
Mixed	-	21.2	22.0	24.6	27.9	30.7	34.9	39.5	41.3	43.9
White and Black Caribbean	13.7	17.8	18.0	19.4	23.1	27.4	30.0	33.7	36.0	37.5
White and Black African	24.3	23.7	25.6	27.6	28.1	29.1	37.8	43.6	44.7	48.6
White and Asian	27.6	27.7	31.4	29.6	34.3	35.9	38.6	42.5	46.3	47.9
Any other mixed background	18.5	22.4	22.6	28.7	31.6	33.4	38.9	43.9	44.5	48.0
Asian	-	28.6	32.0	33.7	37.6	39.6	45.7	49.5	51.8	52.8
Indian	35.3	37.4	39.5	41.9	45.9	48.0	55.0	57.0	57.9	61.5
Pakistani	22.5	24.1	27.1	29.5	32.3	34.2	40.6	42.9	46.5	46.8
Bangladeshi	29.3	30.5	35.3	36.4	41.7	43.0	50.3	56.2	58.6	59.2
Any other Asian background	29.8	32.7	34.4	36.0	40.5	45.9	45.3	51.8	49.6	52.4
Black	-	20.3	23.1	27.1	30.4	33.8	39.1	44.3	45.6	48.2
Black Caribbean	13.9	18.8	19.5	24.2	26.2	29.5	33.1	37.8	40.2	42.2
Black African	19.1	22.4	25.5	29.2	32.1	35.6	42.1	47.2	48.4	51.4
Any other Black background	16.3	14.8	20.7	23.5	30.7	32.7	34.9	41.3	40.0	43.1
Chinese	55.4	58.6	53.8	60.7	63.1	70.8	68.4	73.5	68.2	76.8
Any other ethnic group	24.2	27.6	29.7	33.4	35.5	42.2	44.2	48.5	51.2	51.5
All pupils	16.8	18.0	19.6	21.4	23.8	26.6	30.9	34.6	36.3	37.9
Odd-Ratio	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White Other groups	1.53	1.80	1.62	1.73	1.76	1.71	1.73	1.76	1.64	1.63
Mixed White & Black Caribbean	0.97	1.26	1.15	1.14	1.27	1.38	1.27	1.26	1.28	1.26
Indian	3.32	3.47	3.43	3.42	3.59	3.37	3.61	3.28	3.13	3.35
Pakistani	1.77	1.84	1.95	1.99	2.02	1.90	2.02	1.86	1.98	1.84
Bangladeshi	2.52	2.55	2.86	2.72	3.03	2.75	2.99	3.17	3.23	3.04
Black African	1.44	1.68	1.80	1.96	2.00	2.02	2.15	2.21	2.14	2.22
Black Caribbean	0.98	1.34	1.27	1.52	1.50	1.53	1.46	1.50	1.53	1.53
Chinese	7.57	8.21	6.11	7.33	7.24	8.85	6.39	6.86	4.89	6.94

Notes: 2004 data authors own calculations from NPD. 2005-2013 taken from the relevant DfE SFRs.

Figure 13: 5+ A*-C GCSE (Inc. English & Maths) for all pupils entitled to FSM by ethnic group: 2004-2013



Check against Best 8 score

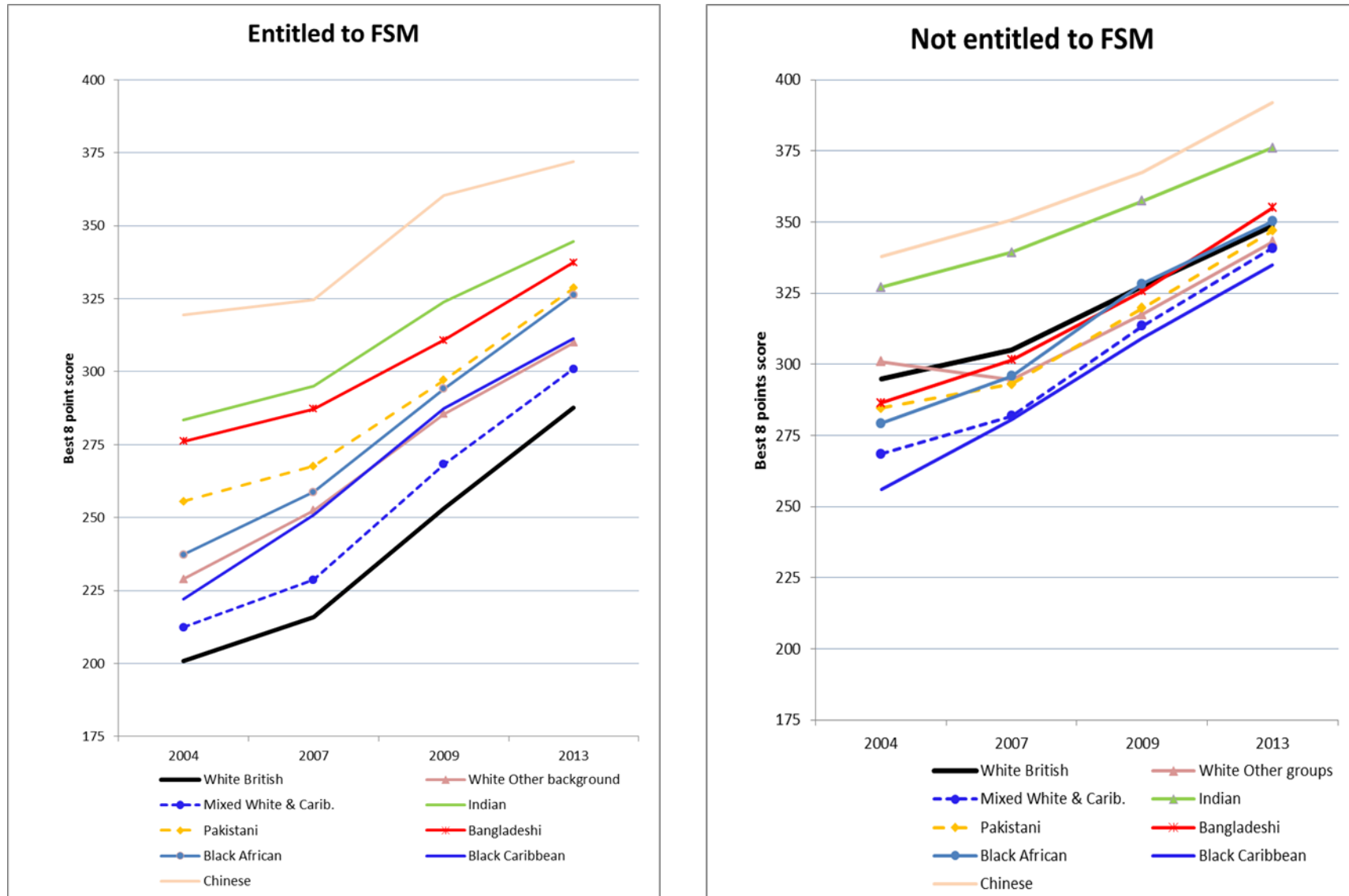
For completeness Table 10 and Figure 14 present a breakdown of Best 8 score by ethnic group and entitlement to FSM to see whether the trends discussed above for 5EM are also reflected in Best 8 score.

Table 10: Best 8 points score by ethnic group and entitlement to FSM

Ethnic group	Entitled to FSM					Not Entitled FSM				
	2004	2007	2009	2013	Change	2004	2007	2009	2013	Change
White British	200.8	215.9	253.3	287.7	86.9	295.0	305.0	327.5	348.7	53.7
White Other groups	229.0	252.5	285.5	310.0	81.0	300.9	294.5	317.5	343.1	42.2
Mixed White & Carib.	212.4	228.7	268.2	300.9	88.5	268.6	281.8	313.4	340.8	72.2
Indian	283.5	295.1	323.8	344.6	61.2	327.0	339.3	357.3	376.0	49.0
Pakistani	255.6	267.6	297.1	328.7	73.1	284.6	293.0	319.8	346.9	62.3
Bangladeshi	276.1	287.2	310.7	337.5	61.3	286.4	301.5	325.6	355.0	68.6
Black African	237.4	258.8	294.2	326.3	88.9	279.3	295.8	328.2	350.1	70.8
Black Caribbean	222.2	251.0	287.5	311.3	89.1	256.0	280.5	309.1	335.0	79.0
Chinese	319.5	324.8	360.4	372.0	52.6	337.8	350.6	367.5	391.9	54.1
Effect size										
White Other groups	0.24	0.31	0.31	0.22	-0.02	0.06	-0.10	-0.11	-0.07	-0.13
Mixed White & Carib.	0.10	0.11	0.14	0.13	0.03	-0.26	-0.23	-0.16	-0.10	0.15
Indian	0.71	0.67	0.67	0.56	-0.15	0.31	0.33	0.34	0.36	0.05
Pakistani	0.47	0.44	0.42	0.40	-0.07	-0.10	-0.12	-0.09	-0.02	0.08
Bangladeshi	0.65	0.60	0.55	0.49	-0.16	-0.08	-0.03	-0.02	0.08	0.17
Black African	0.32	0.36	0.39	0.38	0.07	-0.15	-0.09	0.01	0.02	0.17
Black Caribbean	0.18	0.30	0.33	0.23	0.05	-0.38	-0.24	-0.21	-0.18	0.20
Chinese	1.02	0.92	1.02	0.83	-0.19	0.42	0.44	0.45	0.57	0.15

The pattern of closing ethnic achievement gaps over time among non-FSM pupils is equally apparent for Best 8 score as for 5EM. The pattern of much higher achievement by ethnic minority FSM pupils compared to White British FSM pupils is also very clear. However, an increase in the advantage of ethnic minority FSM pupils between 2004 and 2013 is not evident. Since the Best 8 points score advantage for FSM ethnic minority students has not increased, the increased advantage in the proportion achieving 5EM presumably reflects a greater likelihood of achieving A*-C grades in GCSE English and mathematics in particular.

Figure 14: Best 8 points score by ethnic group and entitlement to FSM



Adjusting ethnic achievement gaps for socio-economic factors

It should be noted that the above data are unadjusted, they take no account of the fact that levels of socio-economic disadvantage are considerably higher among ethnic minority groups compared to the White British group. For example Figure 15 shows the proportion of each ethnic group entitled to FSM and Figure 16 shows the proportion in each Income Deprivation Affecting Children Index (IDACI) score quintile (from very low to very high deprivation). On both measures the considerably greater poverty within ethnic minority groups is clear.

Studies that use regressions methods to adjust ethnic results to account for socio-economic differences suggest that almost all ethnic minority groups achieve better than the White British students of comparable SES at age 16. For example Strand (2014a) uses the Longitudinal Study of Young People in England (LSYPE) to explore ethnic gaps in achievement at GCSE in 2006 after adjusting for a socio-economic status (SES) factor created from a range of socio-economic variables (parental social class, parental educational qualifications, neighbourhood deprivation, entitlement to FSM and home ownership). All ethnic minority groups achieve at least as well and frequently substantially better than the White British students, with the single exception of middle and high SES Black Caribbean boys (see Figure 17).

Figure 15: Percentage of students age 5-16 entitled to a FSM: England 2011

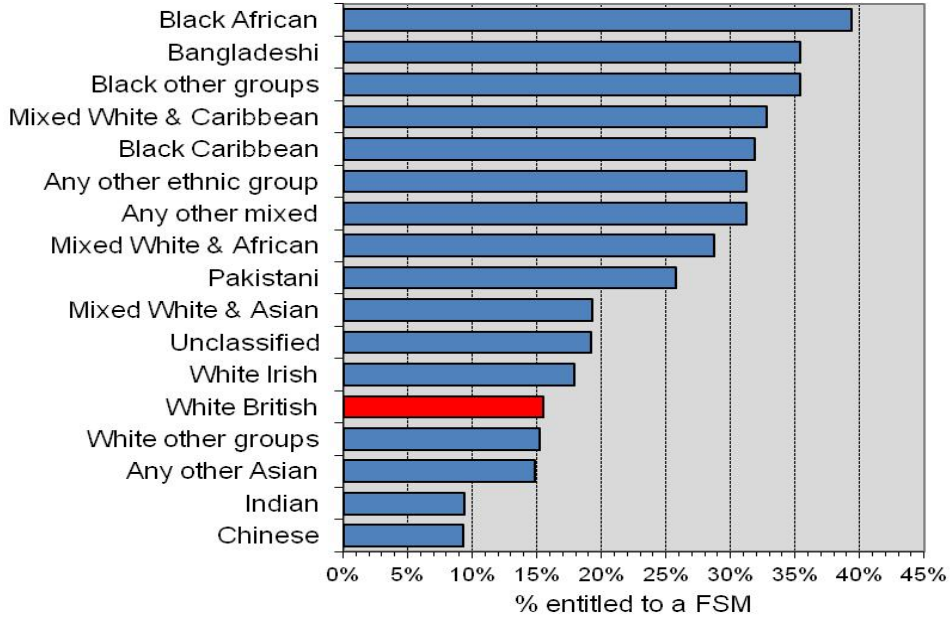
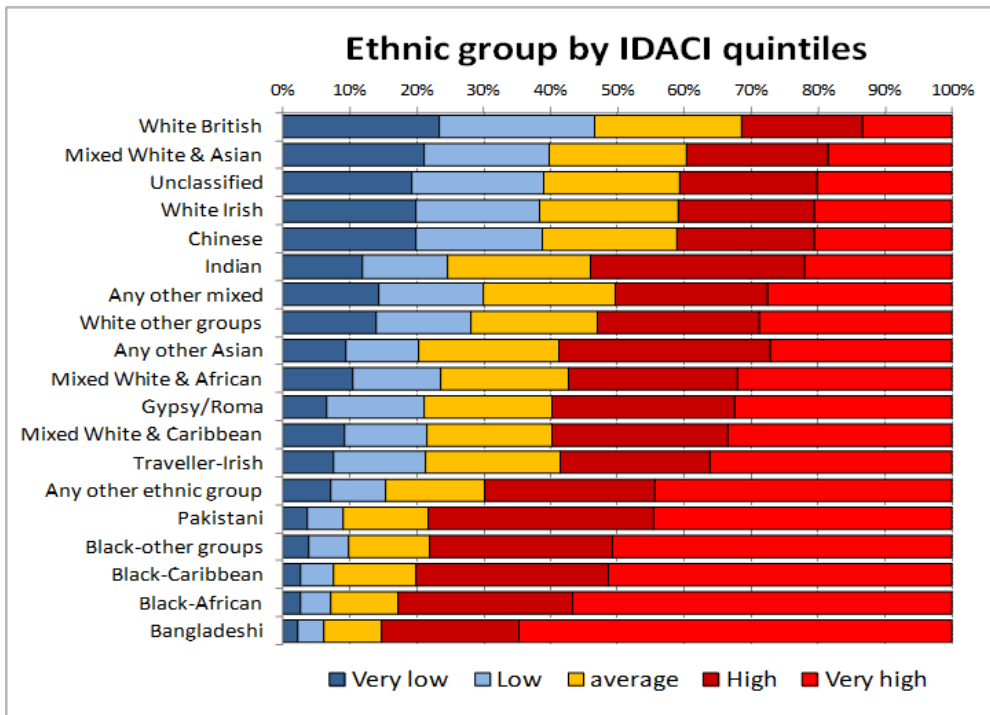
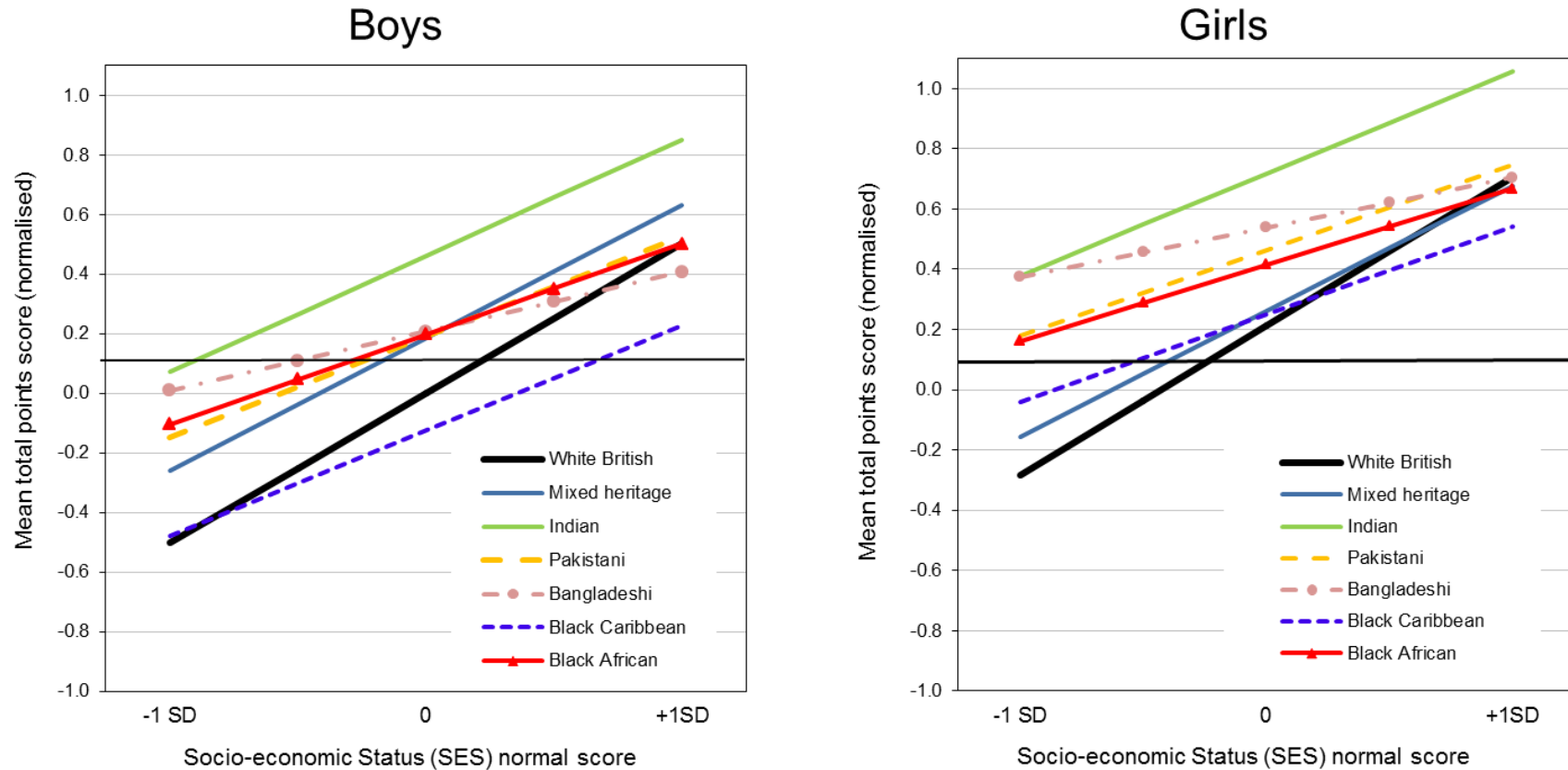


Figure 16: Percentage of students in each of five score bands based on IDACI: England 2011



Source: Both graphs authors own calculations based on all students aged 5-16 in January 2011 (See Strand, 2012).

Figure 17: GCSE results at age 16 adjusted for Socio-economic Status (SES)



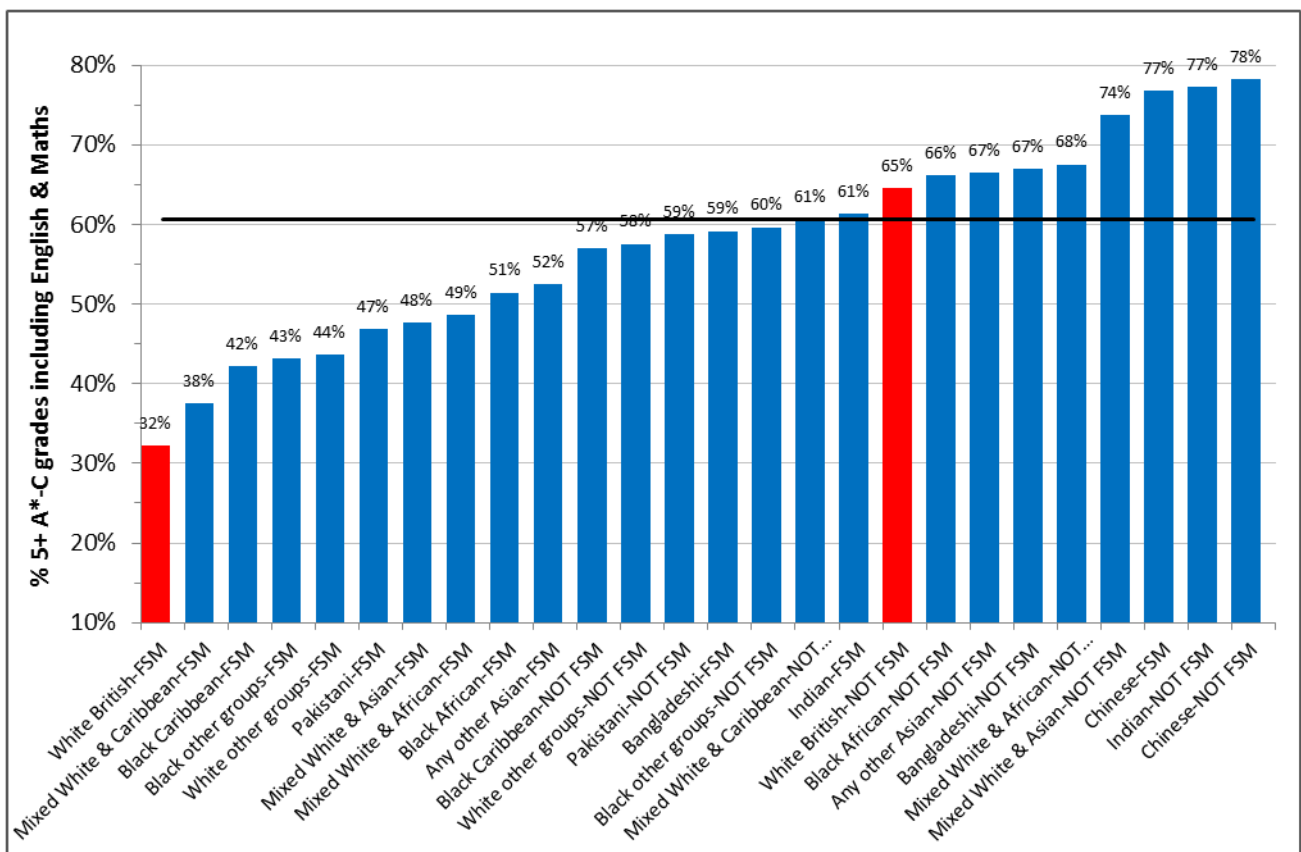
Notes: (1). Based on the LSYPE nationally representative sample of 15,000 students age 16 in 2006. (2) The outcome (total points score) is a measure of achievement based on all examinations completed by the young person at age 16, and is expressed on a scale where 0 is the mean (average) score for all Young People at age 16 and two-thirds of students score between -1 and 1. (3). The SES measure also has a mean (average) of zero and the effects for low SES are estimated at -1SD and of high SES at +1SD. Source: Strand (2014a) Figure 4 for full details.

Ethnic achievement gaps at primary school

It should not be assumed that achievement gaps observed at age 16 are necessarily the result of influences occurring during the secondary school phase. The gaps may reflect earlier gaps from primary school or the early years. To better understand the origins of the low achievement of White British students entitled to FSM at age 16 it is important to evaluate data from earlier in the educational system.

Figure 18 displays the age 16 5EM data in a form that (i) highlights the achievement of each ethnic and FSM combination and (ii) facilitates consistent comparison with the results from primary school assessments which follow. As we have seen earlier, at age 16 White British students on FSM are the lowest achieving group, and the FSM gap for White British students (indicated by the red bars) is the largest of all ethnic groups.

Figure 18: Age 16 5EM results by ethnic group and FSM: England 2013



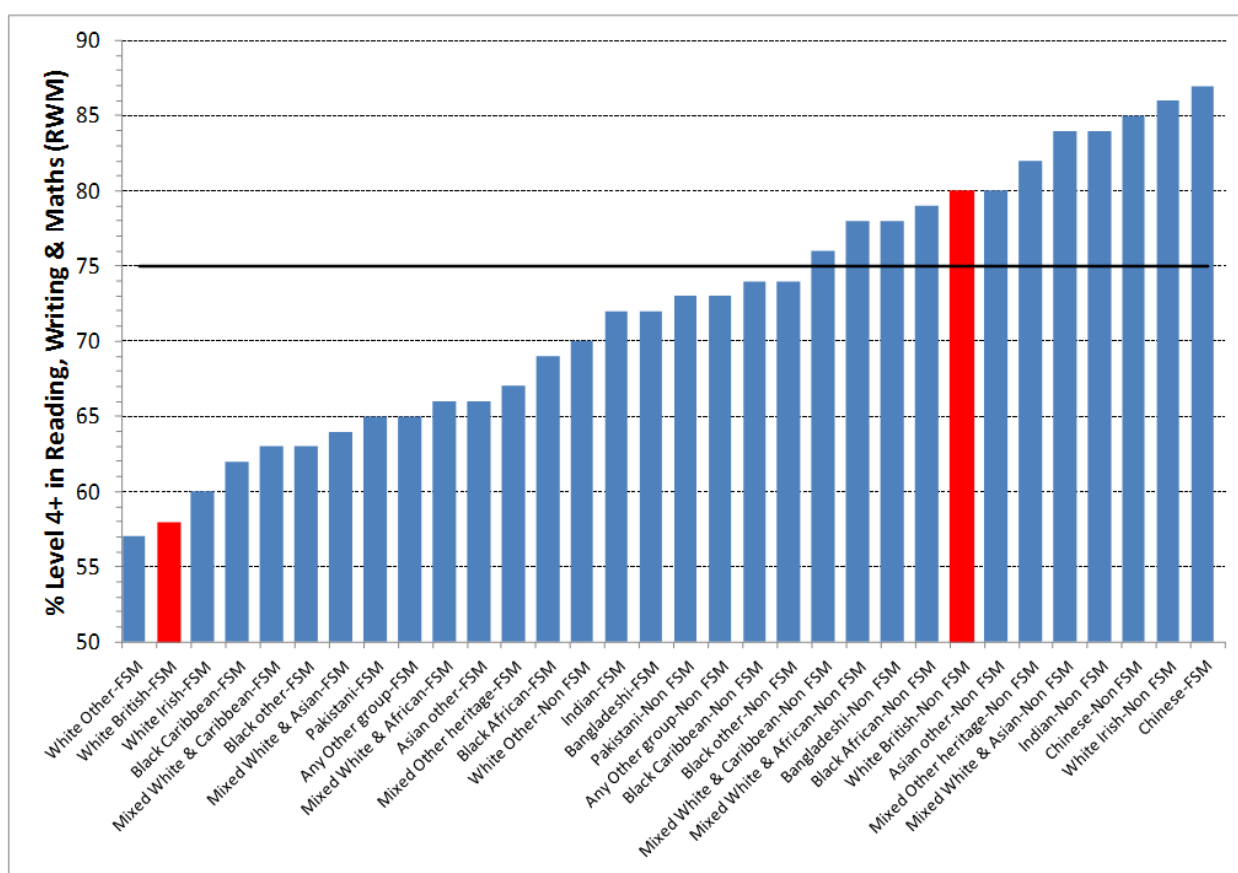
Source: Authors graphic based on data from DfE SFR 05/2014. Irish Traveller and Gypsy Roma Travellers not included because of small sample size. Black horizontal line indicates the England average.

End of Key Stage 2 (age 11)

Figure 19 presents the national end of key stage 2 (KS2) test results at age 11. The figure plots the KS2 threshold measure, which is the percentage of pupils gaining level 4 or above in all three domains of reading, writing and mathematics. Again there is a separate bar plotted for each ethnic group and FSM combination.

White British FSM pupils (58%), along with White Other FSM pupils (56%), are the lowest achieving groups⁶. It is apparent that the low achievement of White British FSM is not particular to the secondary phase and a substantial gap exists at age 11, although there is evidence that the gap grows even further during the secondary phase (e.g. Strand, 2014a).

Figure 19: Age 11 results by ethnic group and FSM: England 2013



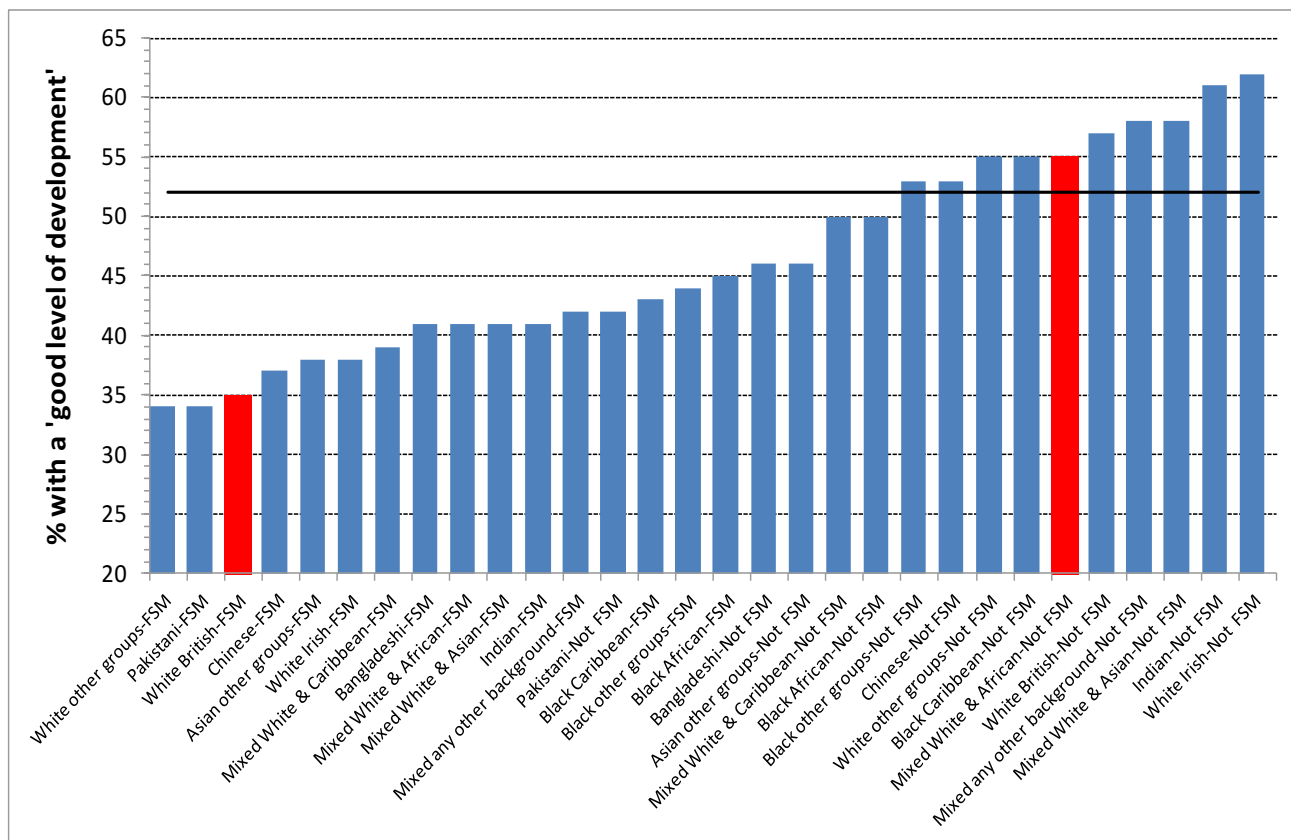
Source: Authors graphic based on tabulated data presented in Appendix 7. Irish Traveller and Gypsy Roma Travellers not included because of small sample size. Data source = DfE SFR 51/2013. Horizontal line indicates the England average.

⁶ We know that for many pupils in the White Other group their low achievement at age 11 reflects EAL issues associated with recent arrival in England and low fluency in the English language. Indeed when these factors are taken into account they make above average progress age 11-16 (See Strand et al. 2015 for a full analysis).

End of Foundation Stage (age 5)

The earliest national collection of data on educational attainment is the Early Years Foundation Stage Profile (EYFSP) completed at the end of reception year when children are aged 5. Figure 20 presents the proportion of pupils rated as achieving a good level of development (GLD)⁷. Again there is a separate bar plotted for each ethnic group and FSM combination.

Figure 20: Age 5 results by ethnic group and FSM: England 2013



Source: See Appendix 8 for tabulated data. Authors graphic based on data from DfE SFR 47/2013. Horizontal line indicates the England average.

White British pupils entitled to FSM (35%), along with White Other FSM (34%) and Pakistani FSM (34%) pupils are the lowest achieving groups. However, the results for Pakistani pupils, as for White Other groups, are related to the high number of pupils with EAL within these two groups. A recent analysis of the NPD (Strand, Malmberg & Hall, 2015) shows that EAL gaps are largest in the EYFSP at age 5 (GLD OR=0.67) and more or less disappear by age 16 (5EM OR=0.90).

⁷ The GLD measure is the most widely used single measure of child development in the early years. Children have been defined as reaching a GLD and the end of the EYFS if they achieved at least the expected level in the early learning goals in the prime areas of learning (personal, social & emotional development; physical development; and communication and language) and in the specific areas of language and literacy. See DfE SFR 47/2013 p13.

The above results indicate that any analysis of the drivers of the low educational achievement of White British pupils on FSM at age 16 must consider factors operating in the first five years of the child's life.

Other educational outcomes

This report has focussed on ethnic group differences in educational achievement. Data on two other educational outcomes, identification of special educational needs (SEN) and exclusion from school, are presented in Appendix 9.

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Appendices

Appendix 1: DfE Statistical First Releases (SFR) relating to age 16 attainment

Appendix 2: Pupil numbers by ethnic group, entitlement to FSM and gender for 2013

Appendix 3: Notes on Local Authority maps for percentage ethnic minority students 2003-2013

Appendix 4: Percentage of pupils achieving 5AC by ethnic group and gender: 2003-2013

Appendix 5: GCSE 5EM for pupils not entitled to FSM by ethnic group and gender: 2004-2013

Appendix 6: GCSE 5EM for pupils entitled to FSM by ethnic group and gender: 2004-2013

Appendix 7: Key stage 2 achievement by ethnic group, gender and entitlement to FSM: 2013

Appendix 8: Foundation Stage Profile achievement by ethnic group, gender and entitlement to FSM: 2013

Appendix 9: Special educational needs (SEN) and fixed term exclusions (FTE) by ethnic group.

Appendix 1: DfE Statistical First Releases (SFR) relating to age 16 attainment

Exam results year	SFR ID	Title
2003	SFR 2004-04	National Curriculum Assessment and GCSE/GNVQ Attainment by Pupil Characteristics in England 2002 (final) and 2003 (provisional)
2004	SFR 2005-08	National Curriculum Assessment, GCSE and Equivalent Attainment and Post-16 Attainment by Pupil Characteristics in England 2004
2005	SFR 2006-09	National Curriculum Assessment, GCSE and Equivalent Attainment and Post-16 Attainment by Pupil Characteristics in England 2005
2006	SFR 2007-04	National Curriculum Assessment, GCSE and Equivalent Attainment and Post-16 Attainment by Pupil Characteristics in England 2005/06
2007	SFR 2007-38	National Curriculum Assessment, GCSE and Equivalent Attainment and Post-16 Attainment by Pupil Characteristics in England 2006/07
2008	SFR 2008-32	Attainment by pupil characteristics in England, 2007/08
2009	SFR 2009-34	GCSE Attainment by Pupil Characteristics, in England 2008/09
2010	SFR 2010-37	GCSE and equivalent attainment by Pupil Characteristics, in England 2009/10
2011	SFR 2012-03	GCSE and equivalent attainment by Pupil Characteristics, in England 2010/11
2012	SFR 2013-04	GCSE and equivalent attainment by Pupil Characteristics, in England 2011/12
2013	SFR 2014-05	GCSE and equivalent attainment by Pupil Characteristics, in England 2012/13

Appendix 2: Pupil numbers at the end of key stage 4 by ethnic group, entitlement to FSM and gender for 2013

	Eligible for FSM			All Other Pupils			All pupils		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
White	29,790	28,636	58,426	205,023	197,141	402,164	234,813	225,777	460,590
White British	27,977	26,923	54,900	195,617	187,952	383,569	223,594	214,875	438,469
Irish	168	120	288	850	761	1,611	1,018	881	1,899
Traveller of Irish heritage	42	43	85	27	25	52	69	68	137
Gypsy / Roma	191	201	392	197	231	428	388	432	820
White other background	1,412	1,349	2,761	8,332	8,172	16,504	9,744	9,521	19,265
Mixed	2,290	2,270	4,560	8,480	8,571	17,051	10,770	10,841	21,611
White and Black Caribbean	915	913	1,828	2,676	2,829	5,505	3,591	3,742	7,333
White and Black African	249	288	537	909	885	1,794	1,158	1,173	2,331
White and Asian	362	343	705	1,901	1,828	3,729	2,263	2,171	4,434
Other mixed background	764	726	1,490	2,994	3,029	6,023	3,758	3,755	7,513
Asian	5,313	5,142	10,455	18,636	17,695	36,331	23,949	22,837	46,786
Indian	683	625	1,308	6,262	5,973	12,235	6,945	6,598	13,543
Pakistani	2,588	2,388	4,976	6,635	6,167	12,802	9,223	8,555	17,778
Bangladeshi	1,439	1,520	2,959	2,355	2,362	4,717	3,794	3,882	7,676
Other Asian background	603	609	1,212	3,384	3,193	6,577	3,987	3,802	7,789
Black	4,204	4,218	8,422	9,428	9,592	19,020	13,632	13,810	27,442
Black Caribbean	1,059	1,000	2,059	3,004	3,095	6,099	4,063	4,095	8,158
Black African	2,675	2,764	5,439	5,336	5,426	10,762	8,011	8,190	16,201
Black other background	470	454	924	1,088	1,071	2,159	1,558	1,525	3,083
Chinese	85	83	168	1,060	1,029	2,089	1,145	1,112	2,257
Any other ethnic group	1,161	1,100	2,261	2,640	2,343	4,983	3,801	3,443	7,244
All pupils	43,330	41,852	85,182	247,678	238,474	486,152	291,008	280,326	571,334

Source: DfE SFR 2014-05.

Appendix 3: Notes on the Local Authority maps for percentage ethnic minority students 2003 & 2013

The percentage categories that are shown in the Local Authority (LA) maps of the report are used to best represent the diversity of percentage values for the different LAs. The relatively extreme percentage values for the LAs – many having relatively small proportions of ethnic minority students and many having relatively high proportions of ethnic minority students – meant that determining percentage categories based on quintiles gave percentage categories of very different widths. Likewise, using categories that had equal widths (in terms of percentage) obscured the large diversity in the data. Therefore, the percentage categories were imputed using the Jenks natural breaks classification method. This method imputes category boundaries such that values in the category have a minimal standard deviation from the category's mean and a maximum deviation from the other categories. These category boundaries were then rounded to make more meaningful categories.

Number of LAs by category 2003 and 2013

Percentage categories (%)	Year	
	2003	2013
0 - 6.99	61	28
7 - 15.99	36	38
16 - 30.99	20	35
31 - 49.99	11	18
50+	24	33
Total	152	152

Two LAs were reorganised in 2009. The county of Bedfordshire was abolished and split into two LAs (Bedford & Central Bedfordshire) and the county of Cheshire was also abolished and split into two LAs (Cheshire East and Cheshire West and Chester). The new LAs, particularly Bedford & Central Bedfordshire, have very divergent ethnic profiles from each other and this is reflected in the 2013 data. However, for 2003 it is not possible to disaggregate data for the new LAs so the original LA average has to be used for both new LAs in each case.

Appendix 4: GCSE 5AC by ethnic group and gender: 2003-2013

Gender	Ethnic group	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Boys	White British	46.1	47.4	50.2	52.6	55.2	59.5	65.9	71.8	76.8	79.6	79.2
Boys	White Other groups	46.3	49.3	54.2	54.4	54.8	56.6	63.5	70.6	76.9	76.9	77.9
Boys	Mixed White & Black Carib.	32.3	34.1	37.6	39.3	42.0	49.7	58.6	66.1	70.8	75.1	76.7
Boys	Indian	60.3	61.6	64.8	66.7	69.7	74.3	78.8	85.0	87.6	89.3	88.6
Boys	Pakistani	35.7	38.8	43.2	44.9	47.0	52.7	61.2	69.8	77.4	79.9	81.0
Boys	Bangladeshi	38.5	41.0	46.7	50.3	52.3	56.0	65.5	72.0	79.4	82.9	81.5
Boys	Black Caribbean	25.1	27.3	33.3	35.9	41.5	46.9	56.4	64.2	72.2	75.3	76.3
Boys	Black African	34.1	37.3	42.9	44.3	50.0	53.5	65.7	71.6	79.1	80.5	81.3
Boys	Chinese	70.9	69.5	77.1	74.6	81.6	80.9	84.1	87.6	90.6	91.9	90.9
Boys	Black other groups	27.2	29.8	33.7	38.9	42.9	49.9	60.0	65.9	73.9	76.6	79.3
Boys	ALL BOYS	45.5	46.8	49.9	52.2	54.8	59.1	65.8	71.9	77.0	79.8	79.6
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Girls	White British	56.6	57.4	60.1	61.9	64.0	68.2	73.8	79.3	83.9	86.3	86.1
Girls	White Other groups	58.2	61.6	63.7	64.8	63.1	65.1	70.4	77.1	81.2	83.8	83.6
Girls	Mixed White & Black Carib.	46.8	44.9	50.0	53.8	55.8	60.6	67.9	75.5	80.1	82.7	84.0
Girls	Indian	70.3	71.9	75.8	76.5	79.4	82.7	85.8	89.7	92.8	93.1	93.6
Girls	Pakistani	48.1	52.1	54.1	57.6	59.6	64.0	72.0	78.4	84.1	85.6	86.4
Girls	Bangladeshi	52.6	55.2	58.5	61.8	64.4	68.9	73.8	79.9	86.2	87.6	88.4
Girls	Black Caribbean	40.3	43.8	49.4	52.4	56.2	60.8	69.9	76.2	82.6	83.9	84.5
Girls	Black African	46.8	48.9	53.3	56.1	61.1	66.8	74.1	80.5	84.7	86.7	87.1
Girls	Chinese	79.2	79.1	85.1	84.3	85.1	87.6	91.2	92.3	95.0	94.2	95.2
Girls	Black Other groups	40.3	43.0	50.8	55.7	57.3	62.5	68.4	77.3	84.1	82.8	85.6
Girls	ALL GIRLS	56.1	57.0	60.0	61.9	63.9	68.2	73.9	79.5	84.0	86.3	86.5
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All	White British	51.3	52.3	55.0	57.2	59.5	63.8	69.8	75.5	80.2	82.9	82.7
All	White Other groups	52.0	55.0	58.9	59.6	58.8	60.8	66.9	73.8	78.5	80.3	80.7
All	Mixed White & Black Carib.	39.9	39.7	44.1	46.9	48.8	55.3	63.4	70.9	75.6	79.0	80.4
All	Indian	65.2	66.6	70.1	71.4	74.4	78.3	82.3	87.3	90.1	91.1	91.0
All	Pakistani	41.5	45.2	48.4	50.9	53.0	58.2	66.4	74.0	80.5	82.7	83.6
All	Bangladeshi	45.5	48.4	52.7	56.2	58.4	62.3	69.7	75.9	82.8	85.3	85.0
All	Black Caribbean	32.9	35.7	41.7	44.4	49.1	54.0	63.3	70.3	77.5	79.7	80.4
All	Black African	40.7	43.3	48.3	50.3	55.6	60.3	70.0	76.2	82.0	83.8	84.2
All	Chinese	74.8	74.2	81.0	79.3	83.3	84.3	87.5	89.9	92.7	93.1	93.0
All	Black Other groups	33.6	36.2	41.7	46.9	49.7	56.2	64.2	71.4	78.9	79.6	82.4
All	ALL PUPILS	50.7	51.9	54.9	56.9	59.3	63.5	69.8	75.6	80.5	83.0	82.9
	Odds ratios	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All	White British	-	-	-	-	-	-	-	-	-	-	-
All	White Other groups	1.03	1.11	1.17	1.10	0.97	0.88	0.87	0.91	0.90	0.84	0.87
All	Mixed White & Black Carib.	0.63	0.60	0.65	0.66	0.65	0.70	0.75	0.79	0.76	0.78	0.86
All	Indian	1.78	1.82	1.92	1.87	1.98	2.05	2.01	2.23	2.25	2.11	2.12
All	Pakistani	0.67	0.75	0.77	0.78	0.77	0.79	0.86	0.92	1.02	0.99	1.07
All	Bangladeshi	0.79	0.86	0.91	0.96	0.96	0.94	1.00	1.02	1.19	1.20	1.19
All	Black Caribbean	0.47	0.51	0.59	0.60	0.66	0.67	0.75	0.77	0.85	0.81	0.86
All	Black African	0.65	0.70	0.76	0.76	0.85	0.86	1.01	1.04	1.12	1.07	1.11
All	Chinese	2.82	2.62	3.49	2.87	3.40	3.05	3.03	2.89	3.14	2.78	2.78
All	Black Other groups	0.48	0.52	0.59	0.66	0.67	0.73	0.78	0.81	0.92	0.80	0.98

Appendix 5: GCSE 5EM for pupils not entitled to FSM by ethnic group and gender: 2004-2013

Ethnic Group	Boys										Girls									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White	-	42.4	43.7	45.4	47.8	50.7	54.8	58.3	57.6	59.1	-	51.0	52.2	53.6	55.7	57.7	62.2	65.4	67.3	69.5
White British	40.9	42.2	43.6	45.3	47.8	50.8	55.0	58.5	57.9	59.4	49.1	50.8	52.1	53.6	55.8	57.8	62.4	65.6	67.7	69.8
Irish	47.4	51.6	52.7	53.9	57.9	62.9	66.4	70.3	67.7	69.9	56.9	62.2	60.0	62.2	67.0	65.3	71.7	73.1	77.4	79.1
Traveller of Irish Heritage	32.7	33.3	x	x	x	x	33.3	27.3	23.5	14.8	47.6	30.6	x	20.0	x	18.9	22.6	21.7	23.7	36.0
Gypsy / Roma	18.4	9.2	x	6.3	4.6	6.3	5.9	11.7	7.8	13.2	12.1	13.3	x	10.4	10.6	15.2	13.9	12.2	12.3	22.1
Any other White background	45.1	47.0	47.1	46.3	45.1	46.3	49.0	52.9	49.9	52.8	53.6	55.7	56.0	54.0	53.2	54.6	56.7	59.9	59.6	62.0
Mixed	-	42.8	44.1	45.4	48.6	53.3	55.7	59.4	60.3	62.7	-	52.4	52.8	54.1	55.6	59.3	63.3	67.1	69.1	72.3
White and Black Caribbean	29.3	29.8	31.7	32.9	38.6	42.9	45.8	48.8	52.5	54.8	35.8	40.2	42.8	44.6	46.8	50.5	54.0	58.8	63.4	66.3
White and Black African	37.0	41.6	43.4	46.7	49.3	50.8	58.2	58.5	58.8	61.4	46.5	51.6	53.5	47.9	55.3	62.2	62.7	65.1	69.3	74.2
White and Asian	59.3	58.5	60.4	61.3	60.4	65.2	65.5	68.0	69.9	70.5	66.2	64.6	67.9	67.6	65.9	68.8	73.9	77.0	74.3	77.2
Any other mixed background	43.1	46.1	47.2	48.1	51.6	57.1	58.3	63.7	61.6	65.3	51.7	57.5	54.7	58.1	59.0	62.3	66.3	69.6	71.2	74.4
Asian	-	46.3	46.9	48.0	50.2	52.4	57.6	61.5	61.4	62.4	-	55.2	56.7	59.3	60.9	62.9	66.8	70.2	70.7	72.8
Indian	52.9	55.2	57.0	59.3	62.4	64.8	69.6	72.5	72.3	72.0	62.0	65.7	66.7	69.7	72.3	73.7	77.0	80.3	80.6	82.7
Pakistani	32.4	34.5	34.8	36.5	38.9	41.9	49.3	53.1	53.1	54.2	42.3	41.6	43.3	46.8	48.8	52.4	56.8	60.9	62.2	63.8
Bangladeshi	33.4	35.9	39.8	41.8	41.7	48.7	51.6	59.2	60.6	62.3	41.2	43.9	46.9	51.7	54.6	57.0	61.6	65.9	68.5	71.7
Any other Asian background	48.9	51.6	48.4	46.4	48.8	48.7	52.6	57.8	57.7	60.7	59.1	60.9	64.7	62.7	62.2	63.8	69.0	70.8	70.6	72.5
Black	-	29.6	31.6	35.0	37.9	42.3	46.6	52.6	53.2	57.2	-	41.3	44.8	47.4	51.7	55.5	59.5	64.8	64.2	67.7
Black Caribbean	20.3	24.1	25.2	29.7	31.8	35.8	39.8	45.1	46.4	50.4	32.2	35.2	39.8	41.8	46.3	48.4	52.9	58.8	59.1	63.4
Black African	33.2	36.6	38.5	40.4	43.0	47.9	52.4	57.6	58.1	61.5	45.1	48.2	50.7	53.5	56.4	61.9	64.9	69.4	67.8	70.9
Any other Black background	23.7	26.6	29.3	31.7	36.5	38.9	43.8	52.9	48.1	54.8	33.1	40.3	41.5	43.0	49.4	49.7	56.5	61.5	60.5	64.4
Chinese	58.1	64.7	61.2	68.1	64.9	64.8	70.6	74.6	72.6	74.2	72.2	75.4	73.8	75.4	76.6	79.3	80.9	83.5	81.4	82.4
Any other ethnic group	40.9	42.7	43.5	41.9	43.6	44.8	50.3	51.5	52.7	59.3	48.8	51.9	53.4	52.7	55.7	56.1	59.4	62.5	63.8	66.6
All pupils	40.6	42.1	43.4	45.2	47.6	50.6	54.7	58.3	57.8	59.5	48.9	50.9	52.2	53.7	55.9	58.1	62.4	65.8	67.5	69.8
Odd-Ratio	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
White Other groups	1.19	1.21	1.15	1.04	0.90	0.84	0.79	0.80	0.72	0.76	1.20	1.22	1.17	1.02	0.90	0.88	0.79	0.78	0.70	0.71
Mixed White & Black Caribbean	0.60	0.58	0.60	0.59	0.69	0.73	0.69	0.68	0.80	0.83	0.58	0.65	0.69	0.70	0.70	0.74	0.71	0.75	0.83	0.85
Indian	1.62	1.69	1.71	1.76	1.81	1.78	1.87	1.87	1.90	1.76	1.69	1.86	1.84	1.99	2.07	2.05	2.02	2.14	1.98	2.07
Pakistani	0.69	0.72	0.69	0.69	0.70	0.70	0.80	0.80	0.82	0.81	0.76	0.69	0.70	0.76	0.75	0.80	0.79	0.82	0.79	0.76
Bangladeshi	0.72	0.77	0.86	0.87	0.78	0.92	0.87	1.03	1.12	1.13	0.73	0.76	0.81	0.93	0.95	0.97	0.97	1.01	1.04	1.10
Black African	0.72	0.79	0.81	0.82	0.82	0.89	0.90	0.96	1.01	1.09	0.85	0.90	0.95	1.00	1.02	1.19	1.11	1.19	1.00	1.05
Black Caribbean	0.37	0.43	0.44	0.51	0.51	0.54	0.54	0.58	0.63	0.69	0.49	0.53	0.61	0.62	0.68	0.68	0.68	0.75	0.69	0.75
Chinese	2.00	2.51	2.04	2.58	2.02	1.78	1.96	2.08	1.93	1.97	2.69	2.97	2.59	2.65	2.59	2.80	2.55	2.65	2.09	2.03

Appendix 6: GCSE 5EM for pupils entitled to FSM by ethnic group and gender: 2004-2013

Ethnic group	Boys											Girls										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
White	-	12.7	14.0	15.2	16.6	19.4	23.3	26.5	26.9	28.3	24.3	-	17.5	18.5	20.3	22.6	24.5	28.4	32.2	35.1	37.1	
White British	12.2	12.3	13.8	14.8	16.3	19.0	22.8	26.0	26.4	27.9	23.8	15.9	17.1	18.2	20.0	22.0	24.0	27.9	31.7	34.7	36.8	
Irish	17.8	22.1	16.5	22.8	17.8	22.4	28.8	35.3	29.2	38.7	21.9	21.4	20.8	22.4	25.3	30.8	26.0	29.5	31.7	36.4	38.3	
Traveller of Irish Heritage	x	0.0	x	0.0	0.0	x	13.3	11.8	17.6	11.9	13.2	5.3	3.7	x	x	x	x	19.4	12.8	7.0	14.0	
Gypsy / Roma	2.6	3.3	x	5.3	6.3	4.4	5.5	5.3	7.4	9.9	3.0	1.4	8.6	x	x	4.5	9.2	7.1	11.2	9.5	8.5	
Any other White background	17.5	20.1	20.9	23.8	24.2	29.1	34.5	37.8	37.7	39.1	36.3	23.2	27.3	26.7	29.8	34.5	34.6	39.5	45.6	46.3	48.6	
Mixed	-	17.6	18.5	18.1	24.3	26.6	31.7	36.1	36.3	39.5	32.8	-	24.5	25.3	30.8	31.2	34.7	38.3	42.8	46.3	48.2	
White and Black Caribbean	11.2	14.8	15.2	13.5	19.5	23.7	28.4	30.8	30.4	34.6	27.2	16.2	20.6	20.7	25.1	26.5	30.9	31.7	36.4	41.0	40.4	
White and Black African	21.5	15.6	20.8	20.0	28.2	26.2	33.7	35.7	37.8	44.2	34.9	27.1	31.0	29.3	34.1	28.0	31.5	42.2	50.2	51.9	52.4	
White and Asian	27.1	22.6	27.8	25.3	32.2	29.2	34.9	38.5	40.5	38.7	37.7	28.1	32.2	34.4	33.6	36.4	43.3	42.2	46.7	52.3	57.7	
Any other mixed background	16.5	20.1	18.9	20.8	25.9	29.3	34.1	41.5	40.6	44.2	36.4	20.3	24.6	26.4	36.6	36.6	37.4	43.7	46.4	49.2	51.9	
Asian	-	24.9	27.6	29.2	32.7	35.1	41.5	45.7	48.3	48.6	44.0	-	32.6	36.8	38.5	42.8	44.3	50.2	53.4	55.2	57.2	
Indian	29.6	32.4	33.9	36.2	41.3	43.3	51.0	51.3	54.9	56.7	50.1	41.2	42.9	45.7	48.3	50.5	52.6	59.5	63.0	60.7	66.7	
Pakistani	20.1	20.2	23.3	26.1	28.1	30.4	36.6	39.3	43.4	42.8	39.0	25.1	28.4	31.4	33.1	37.0	38.5	44.8	46.9	49.6	51.1	
Bangladeshi	25.6	27.4	31.6	31.6	35.9	37.7	46.8	53.6	55.7	55.5	51.5	32.7	33.4	38.8	41.0	47.6	47.8	54.0	58.7	61.4	62.8	
Any other Asian background	23.2	30.4	27.2	28.3	35.6	41.9	37.8	48.1	43.7	47.8	41.4	37.2	35.7	43.9	45.0	46.5	51.2	54.4	56.0	56.5	57.0	
Black	-	16.1	17.9	22.5	25.8	28.8	33.6	39.5	40.3	43.1	37.3	-	24.6	28.3	31.6	34.7	38.5	44.6	48.9	50.7	53.3	
Black Caribbean	9.7	13.6	14.9	17.8	23.3	22.4	27.6	33.2	32.1	36.9	30.9	18.1	24.2	24.0	30.2	29.0	36.0	38.7	42.1	47.7	47.7	
Black African	16.0	18.7	20.4	25.8	27.0	31.7	36.1	42.4	43.8	46.5	40.8	22.2	26.0	30.5	32.4	37.0	39.4	47.8	51.8	52.9	56.0	
Any other Black background	14.6	11.4	13.7	16.2	24.8	26.3	32.9	36.0	36.8	37.7	30.7	17.9	18.4	28.7	31.2	35.9	39.1	37.3	47.0	43.4	48.7	
Chinese	55.1	45.9	47.2	53.4	55.3	64.2	60.6	61.4	62.4	74.1	60.5	55.8	72.7	60.0	67.6	71.5	77.7	76.4	86.1	73.6	79.5	
Any other ethnic group	19.9	23.2	26.1	27.3	31.0	35.8	39.3	46.0	46.7	46.5	48.0	29.4	32.1	33.9	40.4	40.7	49.1	49.6	51.1	56.1	56.8	
All pupils	14.6	15.2	16.8	18.2	20.5	23.4	27.8	31.4	32.0	33.5	29.2	19.0	20.8	22.5	24.7	27.3	29.8	34.2	37.9	40.6	42.5	
Odd-Ratio	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
White Other groups	1.53	1.79	1.65	1.80	1.64	1.75	1.78	1.73	1.69	1.66	1.82	1.60	1.82	1.64	1.70	1.87	1.68	1.69	1.81	1.62	1.62	
Mixed White & Caribbean	0.91	1.24	1.12	0.90	1.24	1.32	1.34	1.27	1.22	1.37	1.20	1.02	1.26	1.17	1.34	1.28	1.42	1.20	1.23	1.31	1.16	
Indian	3.03	3.42	3.20	3.27	3.61	3.26	3.52	3.00	3.39	3.38	3.21	3.71	3.64	3.78	3.74	3.62	3.51	3.80	3.67	2.91	3.44	
Pakistani	1.81	1.80	1.90	2.03	2.01	1.86	1.95	1.84	2.14	1.93	2.05	1.77	1.92	2.06	1.98	2.08	1.98	2.10	1.90	1.85	1.79	
Bangladeshi	2.48	2.69	2.89	2.66	2.88	2.58	2.98	3.29	3.51	3.22	3.40	2.57	2.43	2.85	2.78	3.22	2.90	3.03	3.06	2.99	2.90	
Black African	1.37	1.64	1.60	2.00	1.90	1.98	1.91	2.10	2.17	2.25	2.21	1.51	1.70	1.97	1.92	2.08	2.06	2.37	2.32	2.11	2.19	
Black Caribbean	0.77	1.12	1.09	1.25	1.56	1.23	1.29	1.41	1.32	1.51	1.43	1.17	1.55	1.42	1.73	1.45	1.78	1.63	1.57	1.72	1.57	
Chinese	8.83	6.05	5.58	6.60	6.35	7.65	5.21	4.53	4.63	7.39	4.90	6.68	12.91	6.74	8.35	8.89	11.03	8.37	13.35	5.25	6.66	

Appendix 7: Key stage 2 achievement by ethnic group, gender and entitlement to FSM: 2013

Key Stage 2 Reading, writing & mathematics	Pupils known to be eligible for FSM						All other pupils ²						All pupils ²					
	Number of eligible pupils			Percentage achieving level 4 or above			Number of eligible pupils			Percentage achieving level 4 or above			Number of eligible pupils			Percentage achieving level 4 or above		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
All pupils³	50,036	47,713	97,749	56	65	60	222,787	212,579	435,366	76	82	79	272,823	260,292	533,115	72	79	75
White	34,313	32,287	66,600	52	62	57	177,352	168,718	346,070	76	83	79	211,665	201,005	412,670	72	79	76
white British	31,882	29,966	61,848	53	63	58	166,211	157,980	324,191	77	83	80	198,093	187,946	386,039	73	80	76
Irish	157	160	317	54	66	60	712	717	1,429	84	88	86	869	877	1,746	79	84	82
traveller of Irish heritage	161	122	283	29	39	33	54	45	99	26	53	38	215	167	382	28	43	35
Gypsy / Roma	409	370	779	17	19	18	378	365	743	24	31	28	787	735	1,522	21	25	23
any other white background	1,704	1,669	3,373	53	62	57	9,997	9,611	19,608	66	73	70	11,701	11,280	22,981	64	72	68
Mixed	3,166	3,132	6,298	61	69	65	8,923	8,560	17,483	78	84	81	12,089	11,692	23,781	73	80	77
white and black Caribbean	1,238	1,216	2,454	58	68	63	2,456	2,387	4,843	73	80	76	3,694	3,603	7,297	68	76	72
white and black African	392	361	753	60	72	66	1,020	986	2,006	75	82	78	1,412	1,347	2,759	71	79	75
white and Asian	481	483	964	60	69	64	2,149	2,045	4,194	82	87	84	2,630	2,528	5,158	78	83	81
any other mixed background	1,055	1,072	2,127	65	70	67	3,298	3,142	6,440	79	85	82	4,353	4,214	8,567	76	81	79
Asian	5,785	5,590	11,375	66	70	68	22,042	21,091	43,133	75	81	78	27,827	26,681	54,508	73	79	76
Indian	633	626	1,259	69	74	72	6,351	6,007	12,358	82	86	84	6,984	6,633	13,617	81	85	83
Pakistani	2,946	2,801	5,747	63	68	65	8,977	8,621	17,598	70	76	73	11,923	11,422	23,345	68	74	71
Bangladeshi	1,525	1,522	3,047	71	73	72	3,284	3,192	6,476	76	81	78	4,809	4,714	9,523	74	78	76
any other Asian background	681	641	1,322	64	69	66	3,430	3,271	6,701	77	84	80	4,111	3,912	8,023	75	81	78
Black	5,091	5,110	10,201	63	70	66	9,101	8,838	17,939	72	81	77	14,192	13,948	28,140	69	77	73
black Caribbean	1,285	1,303	2,588	57	67	62	2,456	2,392	4,848	68	79	74	3,741	3,695	7,436	64	75	70
black African	3,202	3,231	6,433	65	72	69	5,457	5,367	10,824	75	82	79	8,659	8,598	17,257	71	79	75
any other black background	604	576	1,180	61	66	63	1,188	1,079	2,267	69	80	74	1,792	1,655	3,447	66	75	70
Chinese	72	72	144	86	88	87	773	874	1,647	81	88	85	845	946	1,791	82	88	85
any other ethnic group	1,254	1,215	2,469	63	68	65	2,789	2,678	5,467	70	75	73	4,043	3,893	7,936	67	73	70

Source: National Pupil Database

1. Figures for 2012 are based on final data, 2013 figures are based on revised data.
2. Includes pupils not eligible for free school meals and for whom free school meal eligibility was unclassified or could not be determined.
3. Includes pupils for whom ethnicity was not obtained, refused or could not be determined.

Appendix 8: Foundation Stage Profile achievement by ethnic group, gender and entitlement to FSM

A good level of development	Pupils known to be eligible for free school meals						All other pupils ⁴						All pupils					
	Number of eligible pupils ²			% achieving a good level of development			Number of eligible pupils ²			% achieving a good level of development			Number of eligible pupils ²			% achieving a good level of development		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
All pupils⁸	60,642	58,303	118,945	29	44	36	268,562	255,795	524,357	47	63	55	329,204	314,098	643,302	44	60	52
White	39,473	38,112	77,585	27	42	34	191,467	181,379	372,846	49	66	57	230,940	219,491	450,431	45	62	53
white British	36,995	35,747	72,742	27	43	35	174,630	165,215	339,845	50	67	58	211,625	200,962	412,587	46	63	54
Irish	152	146	298	28	48	38	696	687	1,383	55	69	62	848	833	1,681	50	65	58
traveller of Irish heritage	139	159	298	12	16	14	123	121	244	29	40	35	262	280	542	20	27	24
Gypsy / Roma any other white background	337	314	651	9	17	12	393	399	792	14	26	20	730	713	1,443	11	22	16
Mixed	4,646	4,575	9,221	32	50	41	12,470	12,117	24,587	50	66	58	17,116	16,692	33,808	45	62	53
white and black Caribbean	1,747	1,661	3,408	31	48	39	2,807	2,704	5,511	47	65	55	4,554	4,365	8,919	41	59	49
white and black African	699	735	1,434	29	52	41	1,693	1,710	3,403	48	65	57	2,392	2,445	4,837	43	61	52
white and Asian any other mixed background	714	704	1,418	33	48	41	3,330	3,217	6,547	53	69	61	4,044	3,921	7,965	50	65	57
Asian	4,489	4,327	8,816	30	44	37	26,408	25,332	51,740	42	56	49	30,897	29,659	60,556	41	54	47
Indian	504	444	948	36	47	41	7,925	7,681	15,606	51	64	58	8,429	8,125	16,554	50	64	57
Pakistani	1,974	1,861	3,835	27	41	34	9,821	9,414	19,235	36	49	42	11,795	11,275	23,070	35	48	41
Bangladeshi any other Asian background	1,067	1,059	2,126	33	49	41	3,548	3,334	6,882	38	54	46	4,615	4,393	9,008	37	53	45
Black	5,727	5,516	11,243	37	52	44	10,611	10,451	21,062	46	62	54	16,338	15,967	32,305	43	59	51
black Caribbean	1,166	1,194	2,360	32	53	43	1,943	1,935	3,878	45	61	53	3,109	3,129	6,238	40	58	49
black African any other black background	3,788	3,591	7,379	38	52	45	7,308	7,175	14,483	47	63	55	11,096	10,766	21,862	44	59	51
Chinese	122	120	242	32	42	37	1,159	1,129	2,288	45	56	50	1,281	1,249	2,530	43	55	49
any other ethnic group	1,313	1,211	2,524	32	45	38	3,735	3,531	7,266	39	53	46	5,048	4,742	9,790	37	51	44

1. Figures based on final data.

2. Only includes pupils with a valid result for every achievement scale.

3. All English providers of state-funded early years education (including academies and free schools), private, voluntary and independent (PVI) sectors are within the scope of the EYFSP data collection. Data for any children in the PVI sector no longer in receipt of funding who were included in the return submitted by the LA to DfE will not be included in the figures. See technical notes in the accompanying SFR text for further information.

4. Includes pupils not eligible for free school meals and for whom free school meal eligibility was unclassified or could not be determined.

5. Achieved at least the expected standard all areas of learning (proportion achieving 'expected' or 'exceeded' in all 17 Early Learning Goals(ELGs))

6. A pupil achieving at least the expected level in the ELGs within the three prime areas of learning and within literacy and numeracy is classed as having "a good level of development".

7. Average point score for each characteristic grouping. This is a supporting measure taking into account performance across all 17 ELGs, 1 point for emerging, 2 for expected and 3 for exceeding. The sum is then taken for all pupils with that characteristic and the mean given.

8. Includes pupils for whom ethnicity was not obtained, was refused or could not be determined.

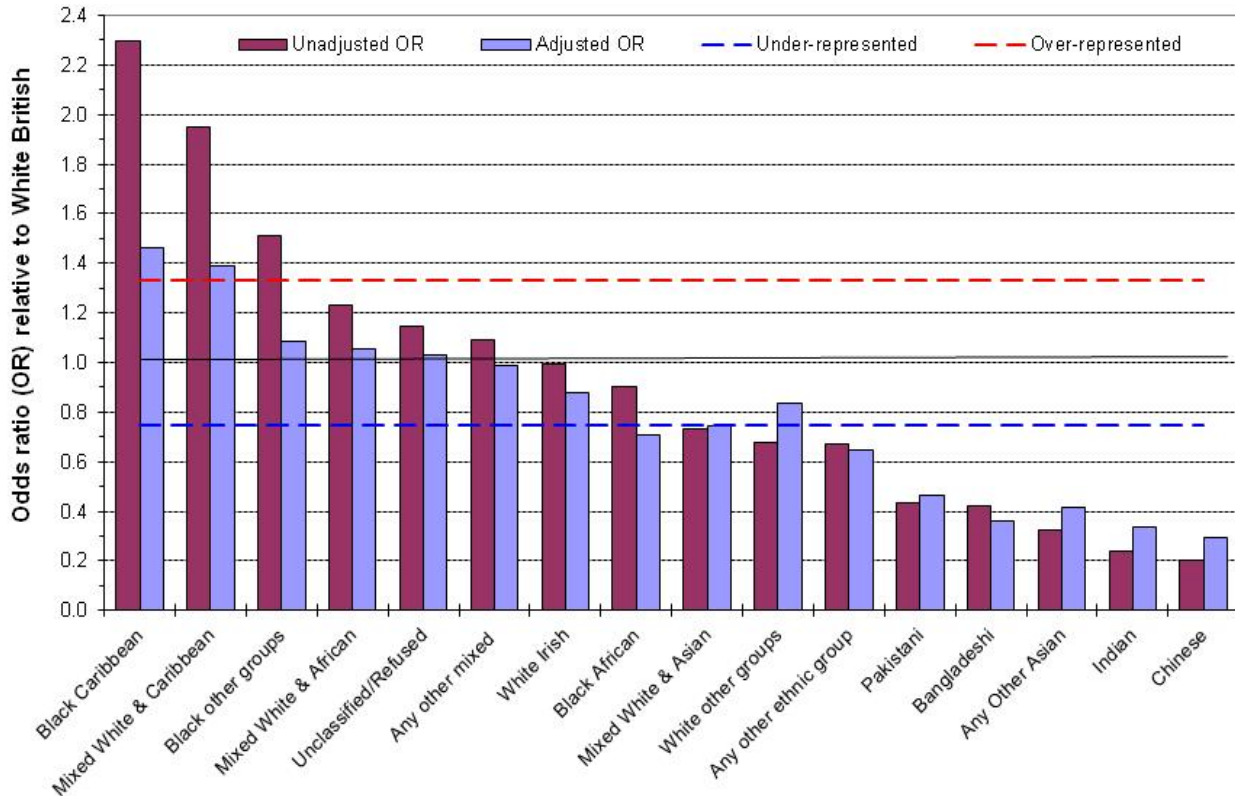
Appendix 9: Special educational needs (SEN) and fixed term exclusions (FTE)

Special educational needs (SEN)

There are wide variations in the proportion of students from different ethnic groups identified with various special educational needs (SEN). Overall 10% of students are identified with SEN at School Action Plus or with a formal statement so the numbers are not small (Strand, 2012). Strand & Lindsay (2009) analysed the 2005 national data for over 6.4M students aged 5-16 in England revealing that Black Caribbean and Mixed White & Black Caribbean students are twice as likely to be identified with behavioural, emotional and social difficulties (BESD) as White British students, and still 1.5 times more likely after adjusting for economic disadvantage. Strand (2012) updates the analysis for 2007, 2009 and 2011 but reports the over-representation has not decreased in subsequent years. Figure 19 shows the analysis for 2011.

Strand & Lindsay (2012) also identify Chinese and Black Caribbean students are over-identified in relation to speech language and communication needs (SLCN) even after control for SES, and all Asian groups were substantially under-represented relative to White British students for autistic spectrum disorders (ASD) indicating potential undiagnosed need.

Figure 21: Unadjusted and adjusted ethnic group Odds Ratios for identification of BESD: January 2011



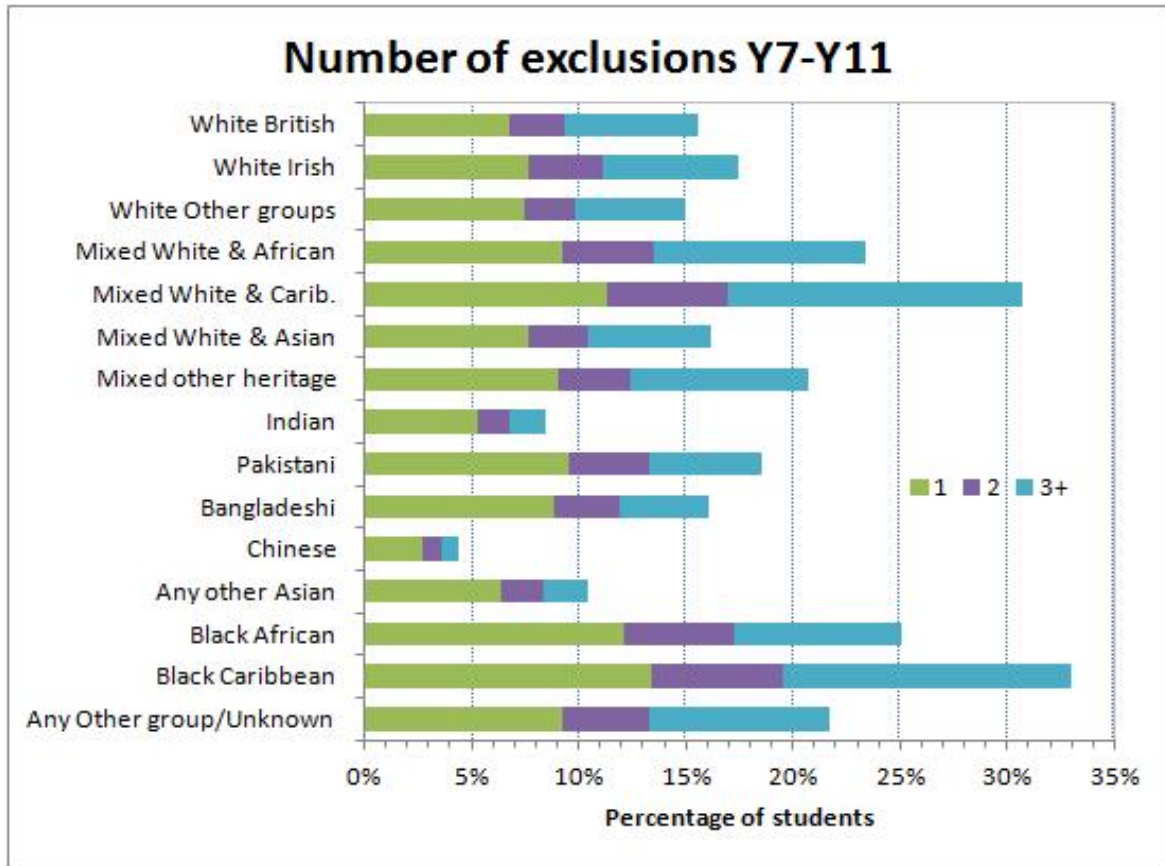
Source: Data for all students in England aged 5-16 as at January 2011. Outcome is all students at School Action Plus or statemented with a primary need of behavioural, emotional or social difficulties (BESD). Adjusted ORs taken account of age, gender, entitlement to FSM, IDACI. See Strand (2012) for details.

Exclusions from school

Strand and Fletcher (2014) tracked and analysed the fixed term exclusions for an England national cohort over 560,000 students between the age of 11 in 2007 until they were age 16 in 2011. The number of students experiencing one or more fixed-term exclusion was not small, with around 16% of students experiencing one or more fixed term exclusions during their secondary school career. However, the figure was substantially higher for Mixed White & Black Caribbean (31%) and for Black Caribbean (33%) students, while just 8% for Indian and 4% for Chinese students. The results are presented in Figure 20.

Again the over-representation of Black Caribbean and Mixed White & Black Caribbean students persisted (OR=1.75) compared to White British students even after adjusting for a range of pupil background covariates such as age, gender, poverty (FSM and IDACI), KS2 (age 11) test scores and level of attendance during the first term of Y7.

Figure 22: Number of exclusions during secondary school (Y7-Y11)



Source: Data drawn from a longitudinal sample of 550,000 students in England followed between the age of 11 (in 2007) and 16 (in 2011). See Strand & Fletcher (2014) for full details.



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