

WHAT CAN EXPLAIN THE GENDER, ETHNIC AND SOCIAL GAPS IN DROPOUT AND DEGREE CLASS?

Evidence from the HESA student records

Angus Holford
with Emilia Del Bono

21st June 2018
NEON Summer Symposium

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Follow this link for the interactive bits:

<https://tinyurl.com/y7cd6tyf>

https://essex.eu.qualtrics.com/jfe/form/SV_eEVXcn3MiHNqOHZ

Hello

This year's theme: **Widening access** for underrepresented groups

- Into HE
- Into Employment after HE

This session is about the **step in between**.

- We've got them here, now we have to get them through.
- (Without dropping out / with the best possible degree class).
 - (For time reasons, focus on Black-White and Asian-White gaps)

From an ongoing project:

- What are the gender, ethnic, and socio-economic gaps in outcomes at university in the UK:
 - Who struggles in the first year, failing or not completing their modules?
 - Who withdraws from university before completing a degree?
 - Who gets a First or an Upper Second?
- How much of these raw gaps can be 'explained' by other differences between these groups?

The interactive(!) bits

Little quiz on our data:

- The things that surprised me most
- What / where / when do the standout problems seem to be?

Asking you:

- Do you agree?
- Who / when / where is best placed to intervene?

Our data:

- 10% sample of all students starting undergrad' courses between 2007-08 and 2014-15, who don't already have a degree.
- **167,000** seen through a **complete spell at university:**
- 12.7% of first year modules are failed or not completed.
- 20% don't complete degree at first attempt (withdraw or start again)
- So 80% (**133,000**) of these **complete their course**, of whom
 - 16% get a First
 - 48% get a 2:1
 - 23% get a 2:2
 - The rest get a third, a degree without honours, or a lower undergrad' degree.

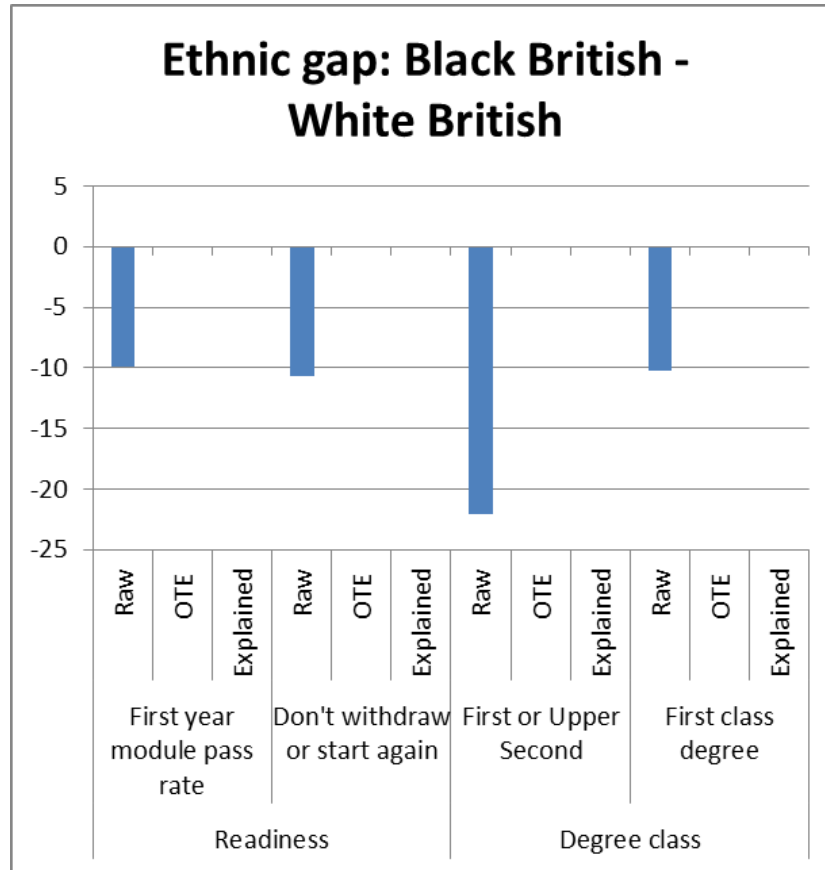
What's the size of the problem (if any)?

- **Quiz Question 1:** Without accounting for any contextual differences, what is the difference between Black British and White British students in?
 - First year module pass rate (population: 86.3%).
 - First-attempt degree completion (80%).
 - Getting at least an upper second (64%).
 - Getting a First (16%).
- [Use the sliders on your screens!]

The answers:

10 %pts less likely to pass each first year module

10 %pts more likely to withdraw or start again



22 %pts less likely to get at least an upper second

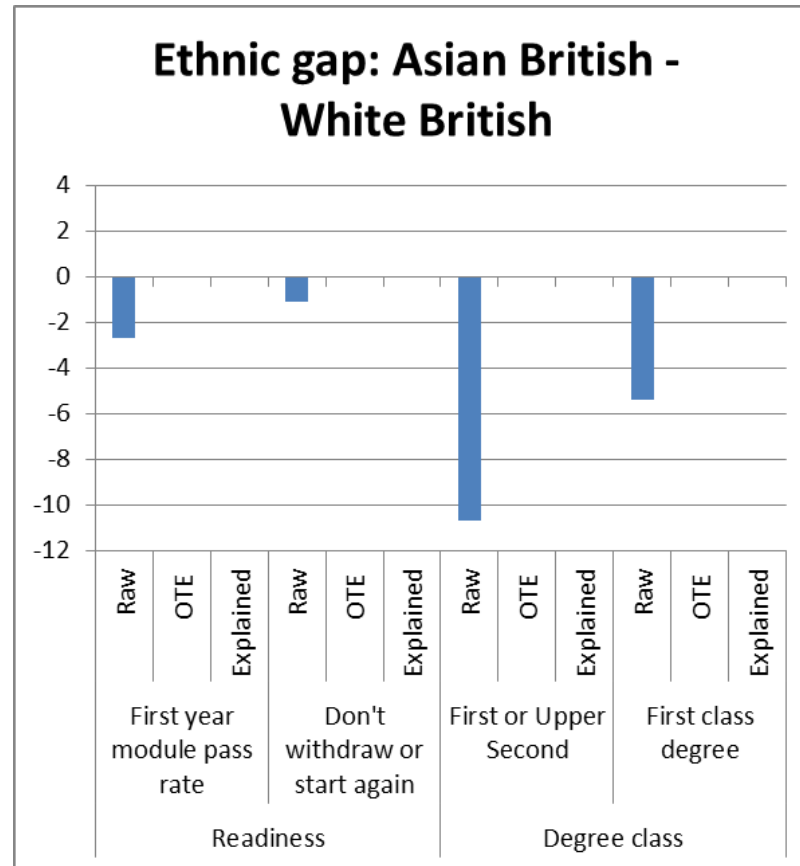
10 %pts less likely to get First

Straightforward difference between ethnic minority and white, not controlling for anything else

Much smaller gaps for Asian students

2.5 %pts less likely to pass each first year module

1 %pt more likely to withdraw or start again



11 %pts less likely to get at least an upper second

5 %pts less likely to get First

Straightforward difference between ethnic minority and white, not controlling for anything else

What can we account for, that might explain these gaps?

I'm sure we've all seen articles like this:

Schools


Rachel Williams
Fri 23 Jul 2010 18.20 BST

[f](#) [t](#) [e](#)

This article is over 7 years old

State school pupils 'fare better' at university

Students from state schools more likely to succeed than privately educated peers from similar backgrounds, study shows



▲ Hats off to students from state schools, who are more likely to outperform their privately educated peers from similar backgrounds, researchers from the London School of Economics found

Students from state schools do better at university than those from similar backgrounds who were privately educated, a study revealed today.

They are four percentage points more likely to get a first or 2:1, and also outperform their independent-school peers by almost as much at the country's top institutions, the team from the London School of Economics' Centre for Economic Performance found.

Researchers suggest it could be because the in-depth preparation to get into university given to pupils at independent schools - including intensive tuition to get the necessary grades and coaching and advice for applications

What can we account for, that might explain these gaps?

Schools

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This article is over 7 years old

13

When the results of all undergraduates are considered, those from private schools are more likely to get a first or 2:1, with 68% doing so, compared with 64% of those from state schools. But when students from the same family backgrounds, studying the same subjects at the same universities were considered alongside each other, it was the former state school pupils who got better degrees.

State school pupils 'fare better' at university

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What can we account for, that might explain these gaps?

Same exercise for Black – White and Asian-White gaps, similarly accounting for:

- Socio-economic status
- Private schooling
- University
- Subject being studied at university

Plus:

- A-Level subjects taken
- A-Level grades / Other qualifications
- 'Difficulty' of modules being taken.
- Higher Education participation in home neighbourhood
- Age (mature v.young)
- Disabilities

Raw gap = 'Other things equal gap' + 'Explained gap'

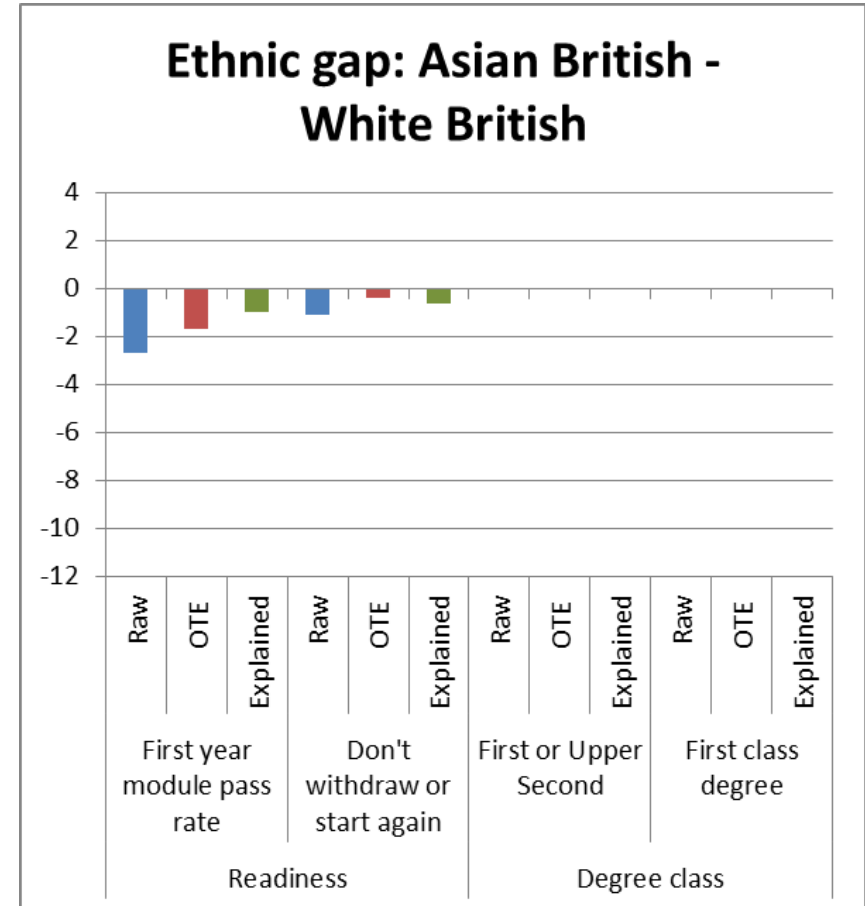
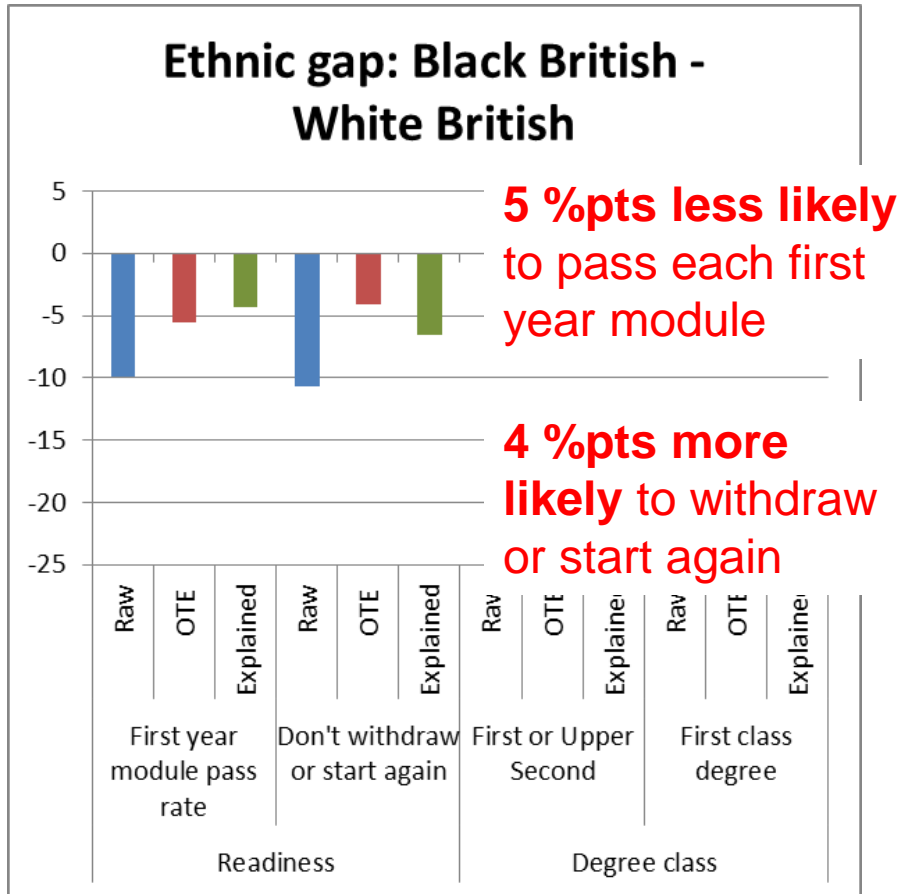
To understand why, we break down the **size and direction** of the '**explained gap**': e.g.

- How much difference does accounting (or not accounting) for **subjects studied at A-Level** make to the 'other things equal' ethnic gap.
versus
- How much difference does accounting (or not accounting) for **subject being studied at university** make to the 'other things equal' ethnic gap.
etc

How much of the difference do these factors 'explain'?

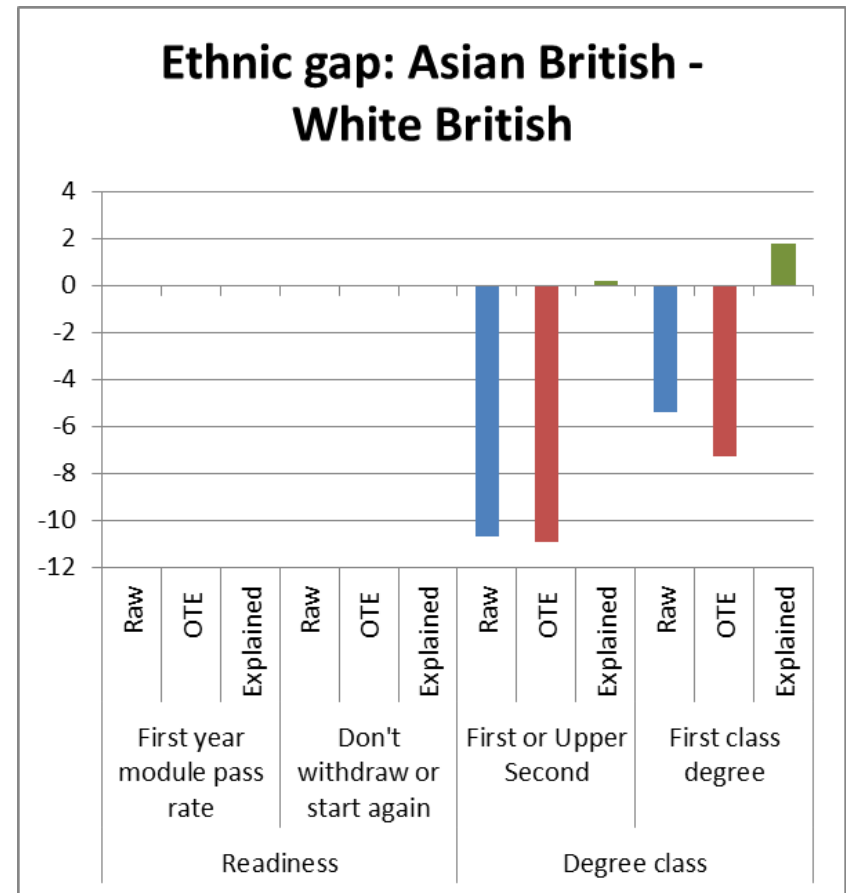
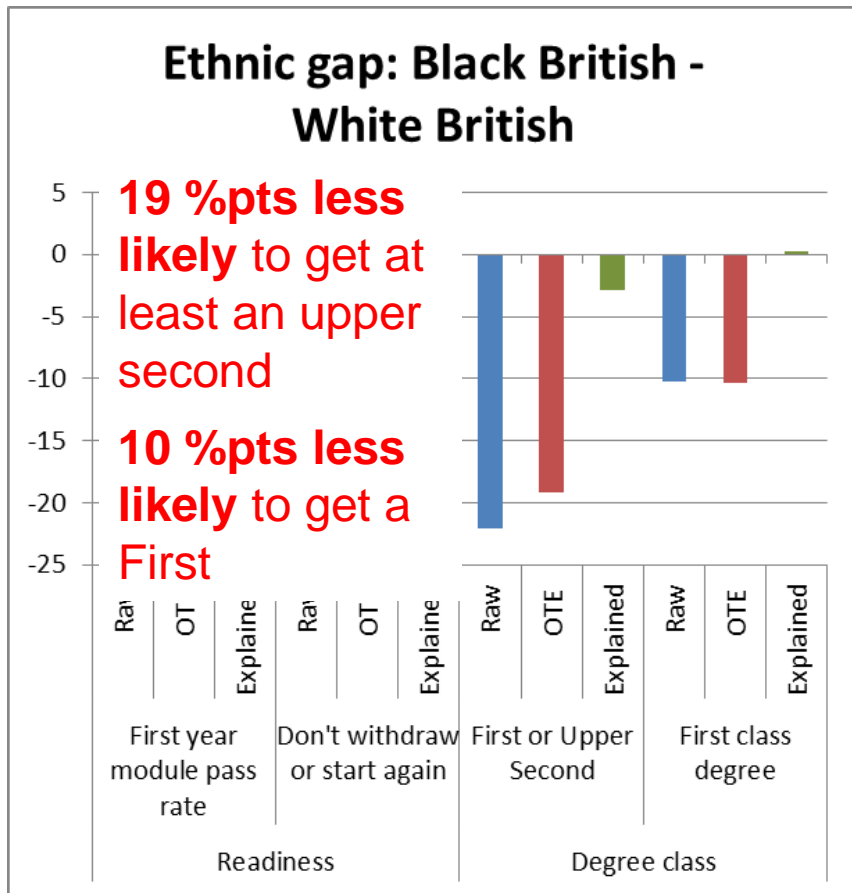
- **Quiz Question 2:** Now controlling for all those contextual differences, what is the difference between Black British and White British students in?
 - First year module pass rate (**raw gap: -10%**).
 - Withdrawal/starting again before reaching the end of their course? (**raw gap: -10%**).
 - Getting at least an upper second (**raw gap: -22%**).
 - Getting a First (**raw gap: -10%**).
- [Use the sliders on your screens!]

Raw gap = 'Other things equal gap' + 'Explained gap'



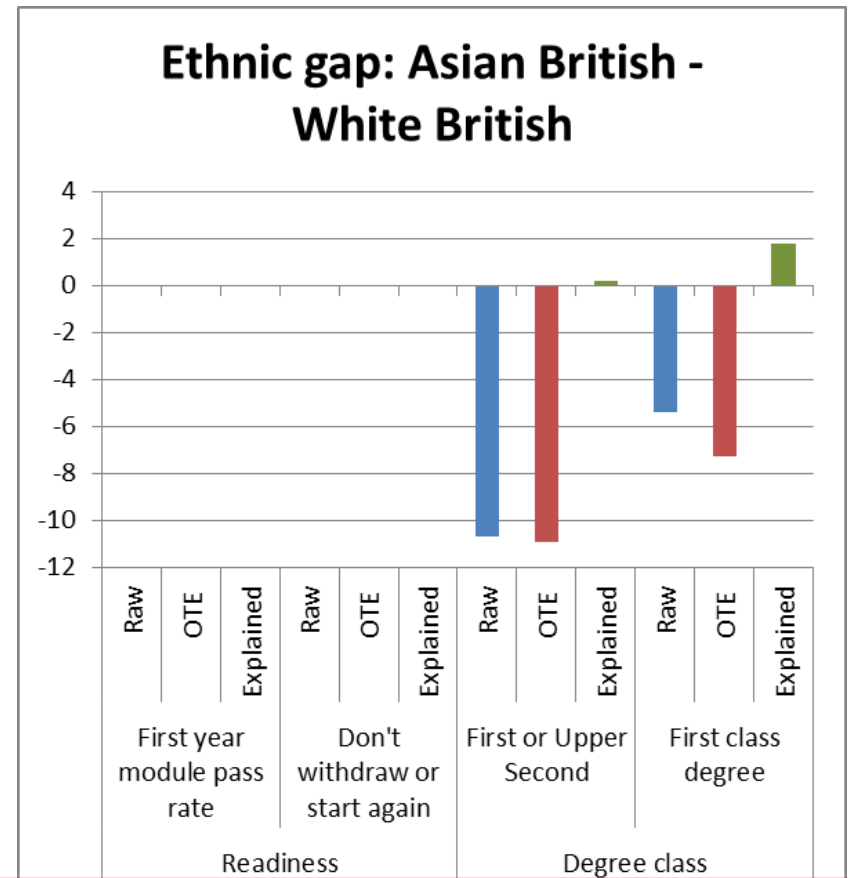
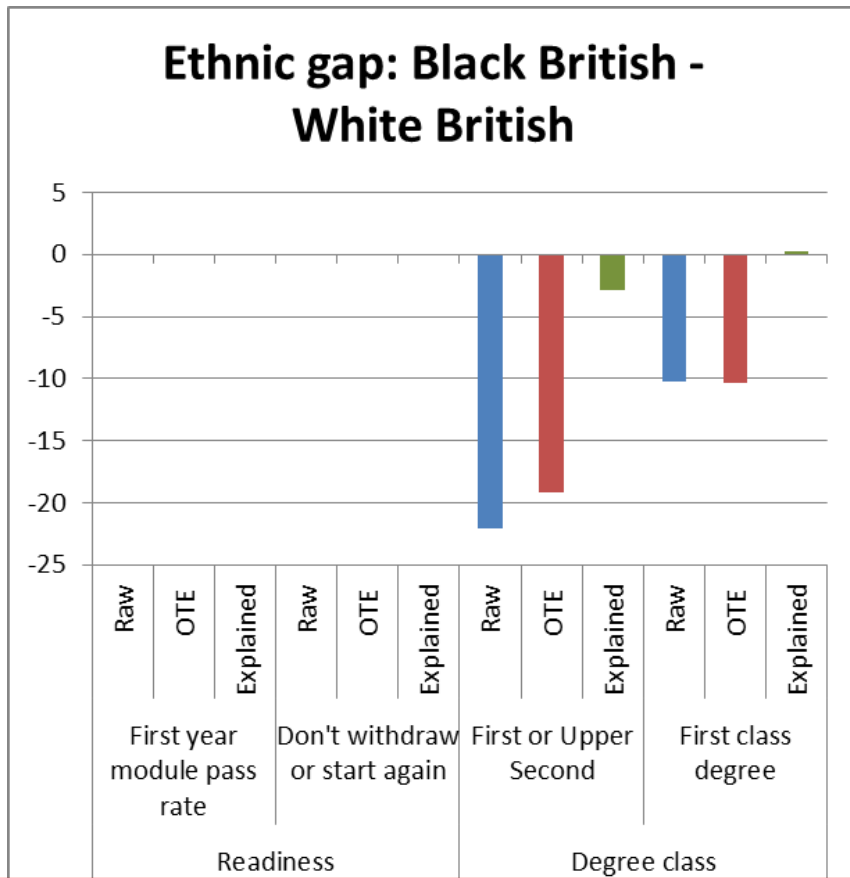
For university readiness', accounting for these other characteristics can explain **half to two-thirds** of the raw gap.

Raw gap = 'Other things equal gap' + 'Explained gap'



For degree class, accounting for these other characteristics can explain **virtually none** of the raw gap

Raw gap = 'Other things equal gap' + 'Explained gap'



- Different factors matter for Black and Asian, and for different outcomes.
- Gap even gets wider: ethnic minority students have advantages compared to white students in some ways.

Quiz question 3: Which factors...

Close the gap
(Black students are at a disadvantage compared to White students)

Make basically zero difference
(Makes no difference, or there's no difference between Black and White students)

Widen the gap
(Black students are at an advantage compared to White students)

Between Black and White students for getting an upper second or better? Two in each category!

A-Level / BTEC performance

Subjects studied at A-Level

Family and schooling background

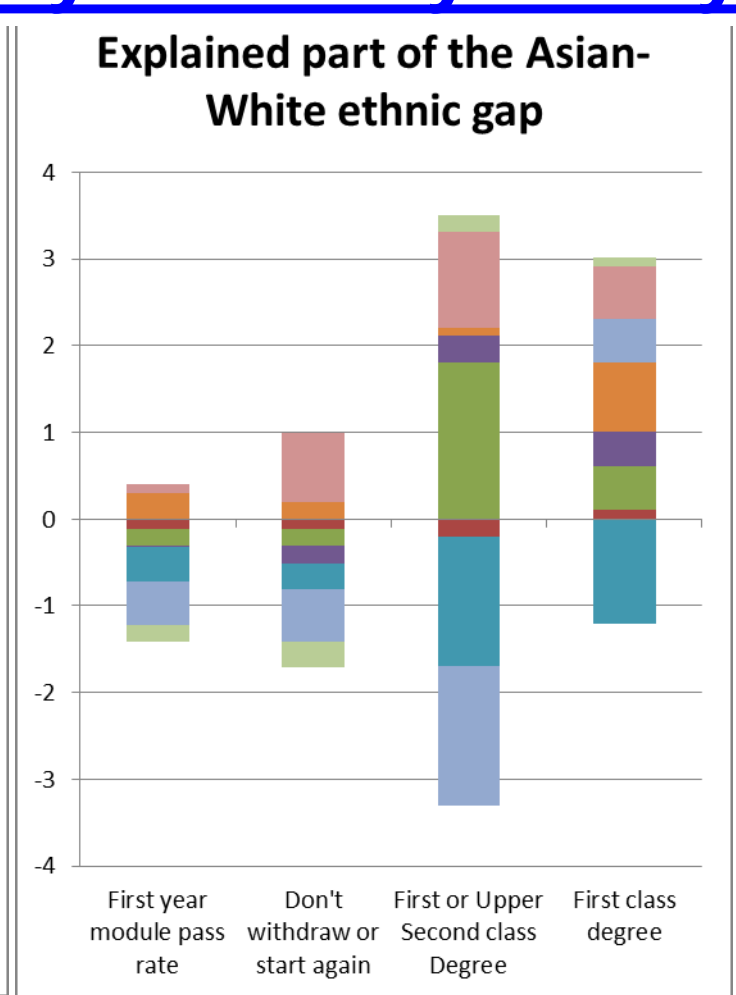
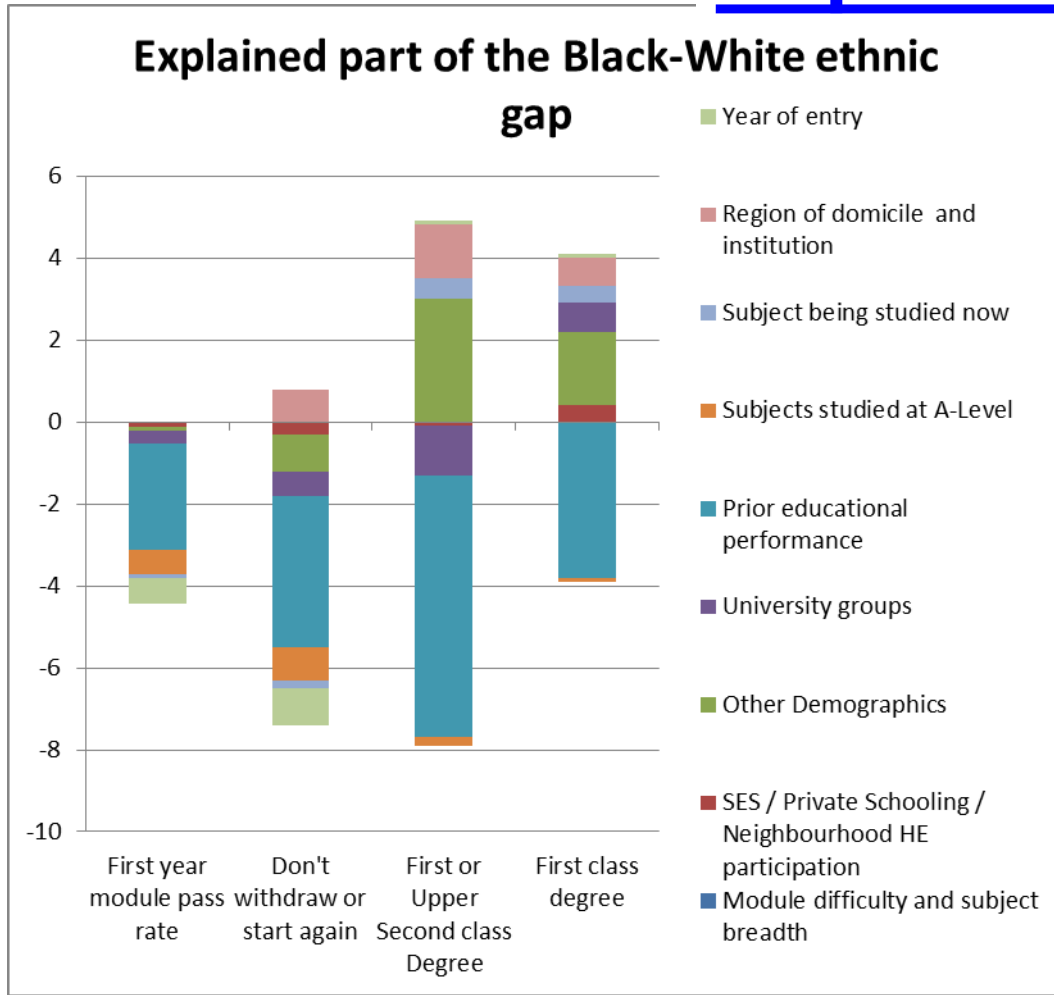
Difficulty of final year modules they choose to take

Overall degree subject

Other WP characteristics (age, disability)

Quiz question 3: Which factors...

| Close the gap (Black students are at a disadvantage compared to White students) | Make basically zero difference (Makes no difference, or there's no difference between Black and White students) | Widen the gap (Black students are at an advantage compared to White students) |
|---|---|--|
| <p data-bbox="81 905 554 1053">A-Level / BTEC performance</p> <p data-bbox="81 1125 554 1380">Subjects studied at A-Level</p> | <p data-bbox="645 802 1284 1125">Family and schooling background</p> <p data-bbox="691 1168 1244 1380">Difficulty of final year modules they choose to take</p> | <p data-bbox="1288 802 1924 1168">Other WP characteristics (age, disability)</p> <p data-bbox="1392 1200 1835 1349">Overall degree subject</p> |



- Different factors matter for Black and Asian, and for different outcomes.

“Advantages”:

Demographics:

- Black students are much more likely to be **mature** (24%!) than White (9%) or Asian (5%).
 - Mature students have lower progression rate but more likely to get a First or Upper Second if completing.

“Advantages”:

Demographics:

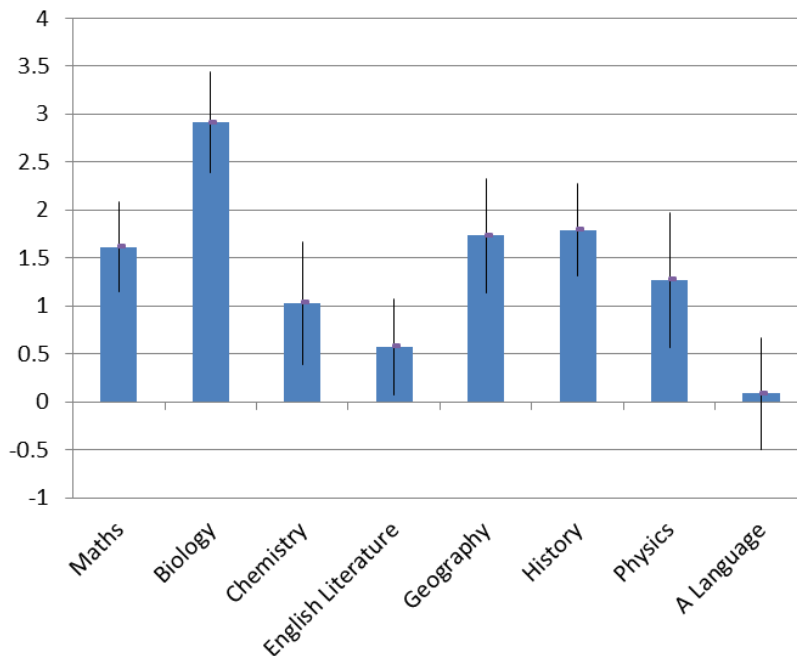
- Asian students are much less likely to have a **physical disability or a mental health condition** (4%, versus 9% of White).
 - Students with disabilities less likely to obtain First or Upper Second class degrees.
- **Either there is under-reporting or there is a big deficit in access to HE for Asian students with disabilities**

Opposite effects:

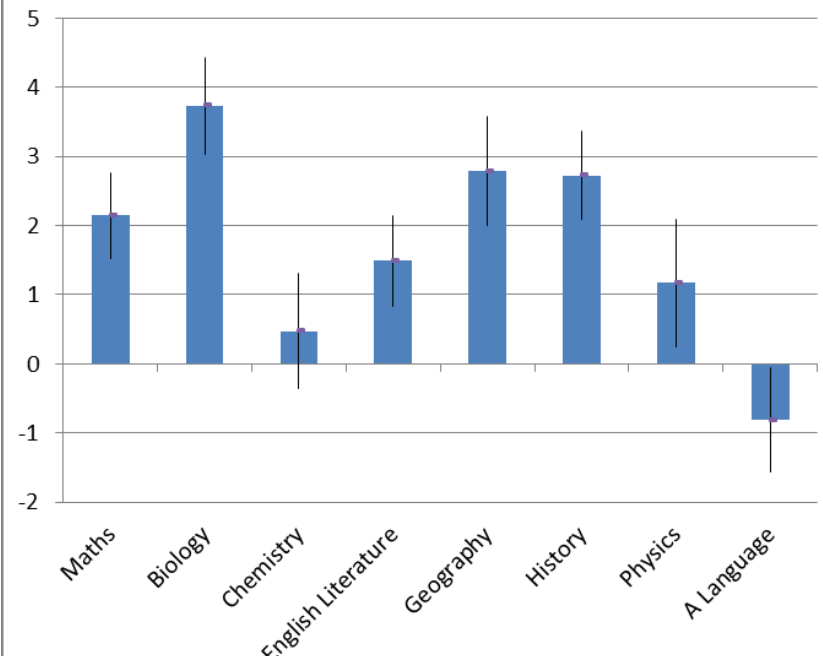
A-Level subject choices

- The Russell Group advises on eight 'core' or 'Facilitating' A-Level subjects that are supposed to prepare students well for university. These do seem to help:

Marginal effects of A-Levels in 'facilitating subjects' for First Year module pass rate, %pts



Marginal effects of A-Levels in 'facilitating subjects' for course completion, %pts



Opposite effects:

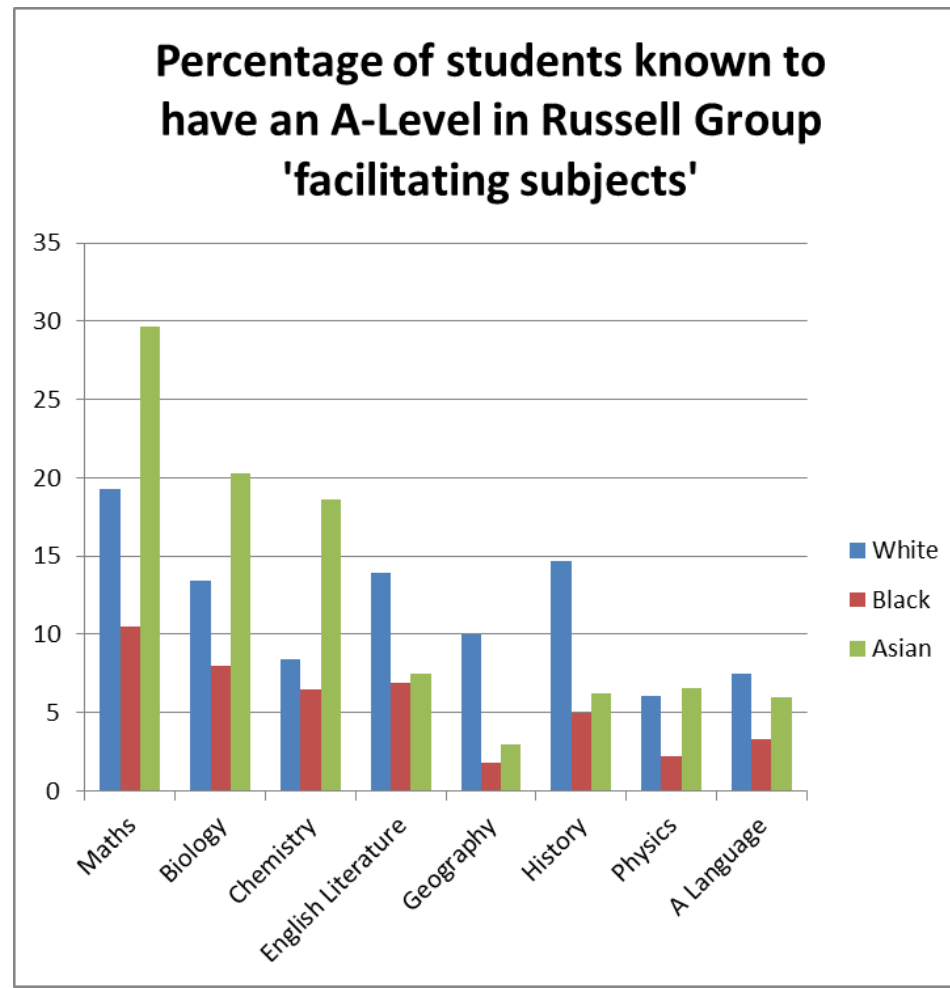
A-Level subject choices

Quiz questions 4 and 5:

- In which of these A-Level subject holders are Asian British students overrepresented, relative to White?
- In which of these A-Level subject holders are Black British students overrepresented, relative to White?
- [Tick all that apply]

| | | | |
|------------------|----------------|------------------|---------------------|
| Maths | Biology | Chemistry | English Lit' |
| Geography | History | Physics | A language |

- Black students are less likely than White to have each of these.
- Asian students are more likely to have the Science and Maths, and less likely to have the others than White



Opposite effects:

A-Level subject choices

Question 6:

- All these subjects are useful in terms of 'university readiness'. Which still make a positive difference at the end for **getting a First class degree?**
- **[It's only four of them]**

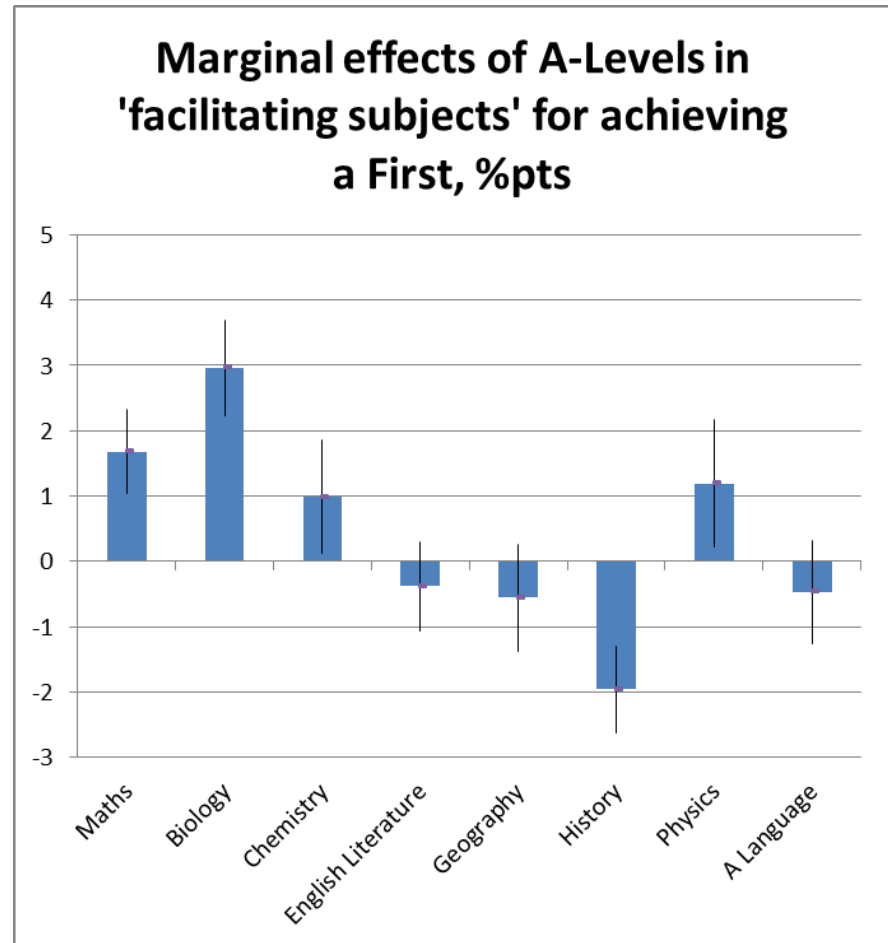
| | | | |
|-----------|---------|-----------|--------------|
| Maths | Biology | Chemistry | English Lit' |
| Geography | History | Physics | A language |

Opposite effects:

A-Level subject choices

It's Maths and the physical sciences (Biology, Chemistry, Physics).

These are the subjects in which British Asian students are overrepresented.



Opposite effects:

Overall degree subject

- Asian students choose university subjects which have higher module failure or non-completion rates, higher withdrawal rates, and lower chance of being awarded a 2:1 or better than white students.
 - Especially:
 - Pharmacy and Pharmacology:
 - 36% are Asian. (But only 0.8% of all Asian students)
 - 3.9%pts more likely to withdraw than median subject (Social Studies).
 - 4.6% pts less likely to get at least an upper second than Social Studies.
 - Maths
 - 13% are Asian (8% of all Asian students)
 - 3%pts more likely to withdraw than Social Studies
 - 7.2% pts less likely to get at least an upper second than Social Studies.

Opposite effects:

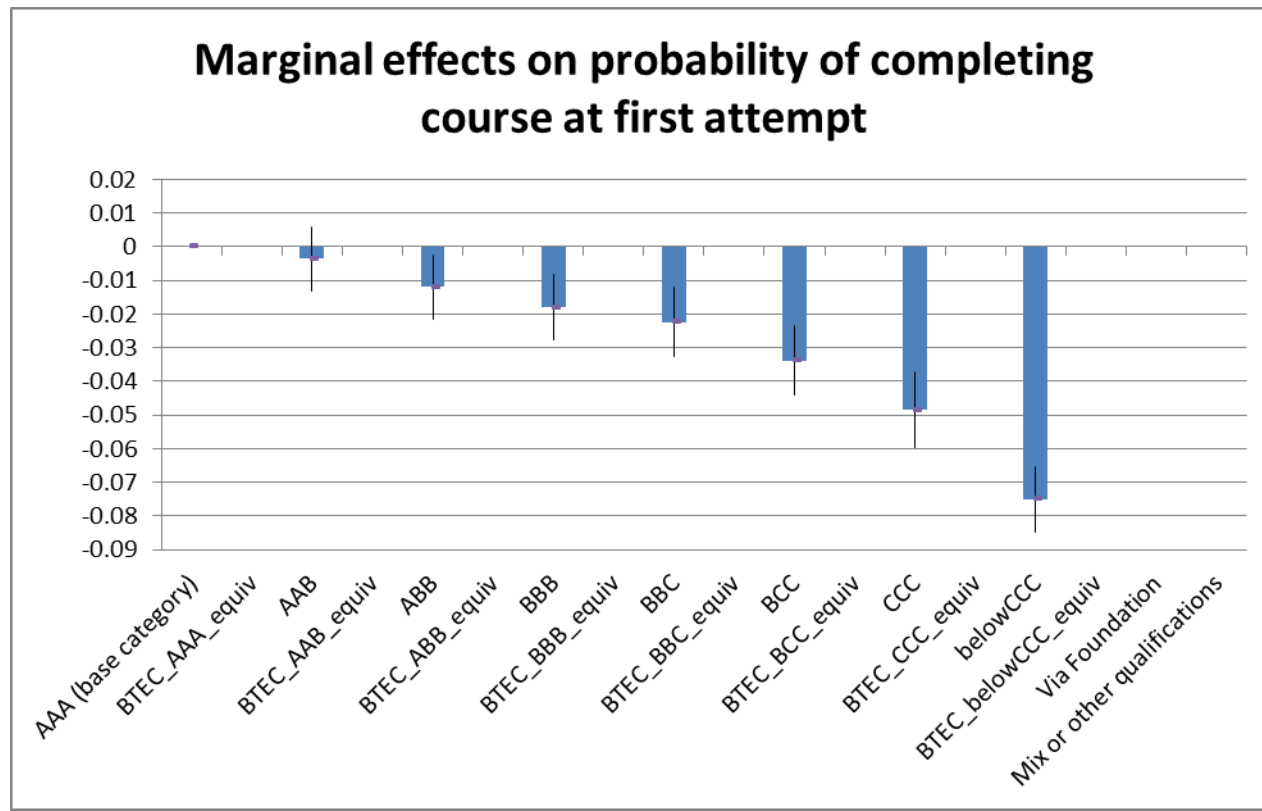
Overall degree subject

Students in quantitative subjects in general are less likely to be awarded at least an upper second, but more likely to be awarded Firsts (examinations - > easier to get close to 100%)

Outright “Disadvantages”:

Prior educational performance and qualification types:

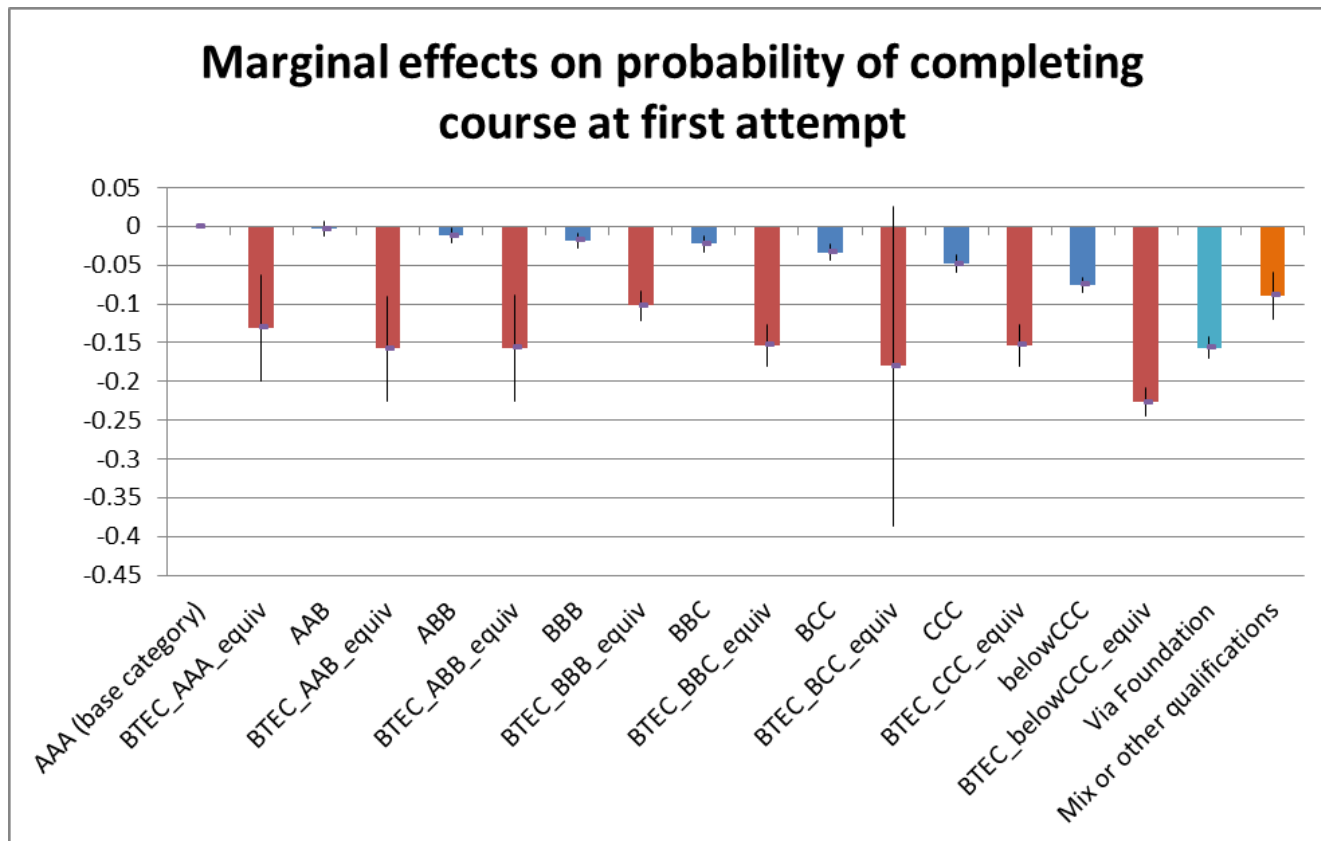
Arriving with lower A-Level results has a progressively worse effect on likelihood of course completion: [and on getting an upper second or First]



Outright “Disadvantages”:

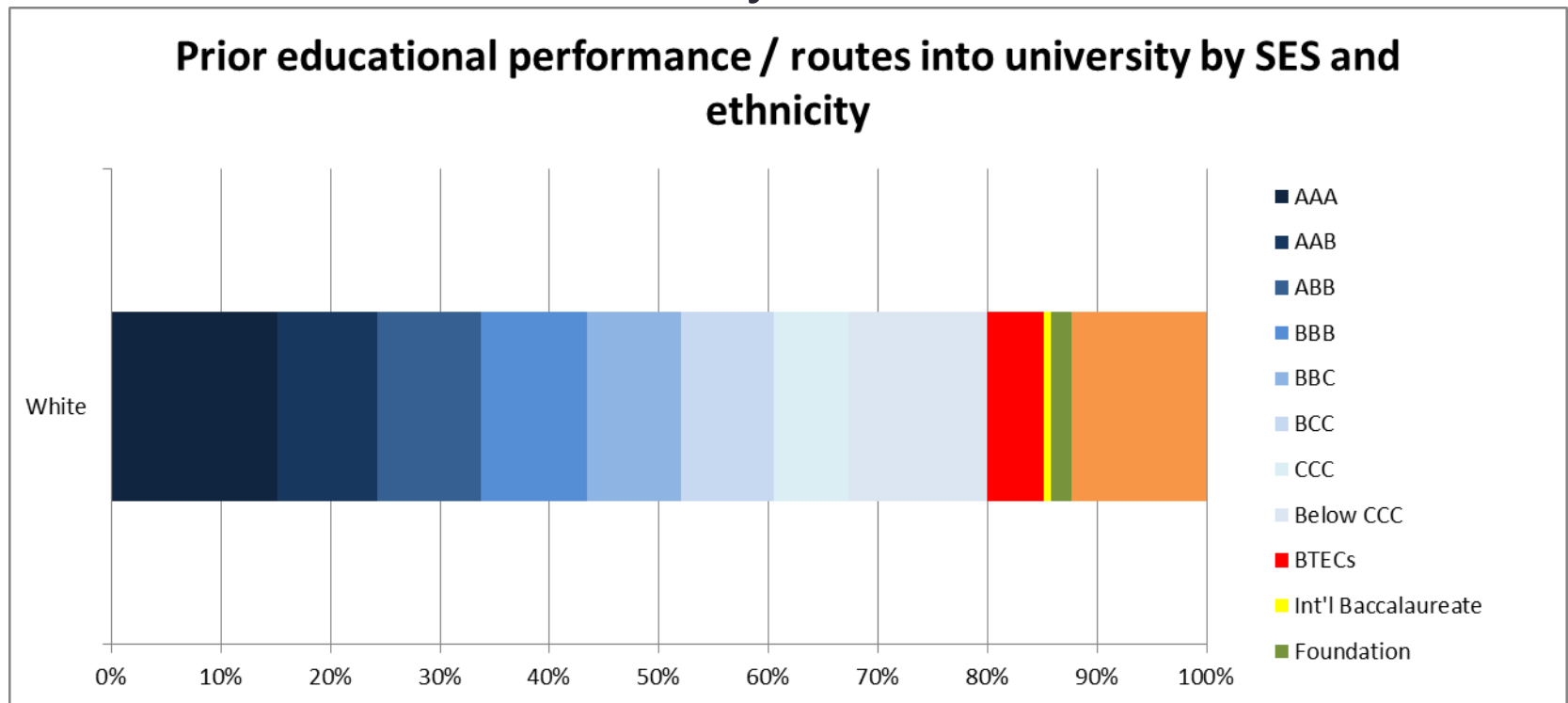
Prior educational performance and qualification types:

But this is dwarfed by the difference between those of holders of A-Levels and BTECs with the same tariff score:



Last quiz question, then open to floor:

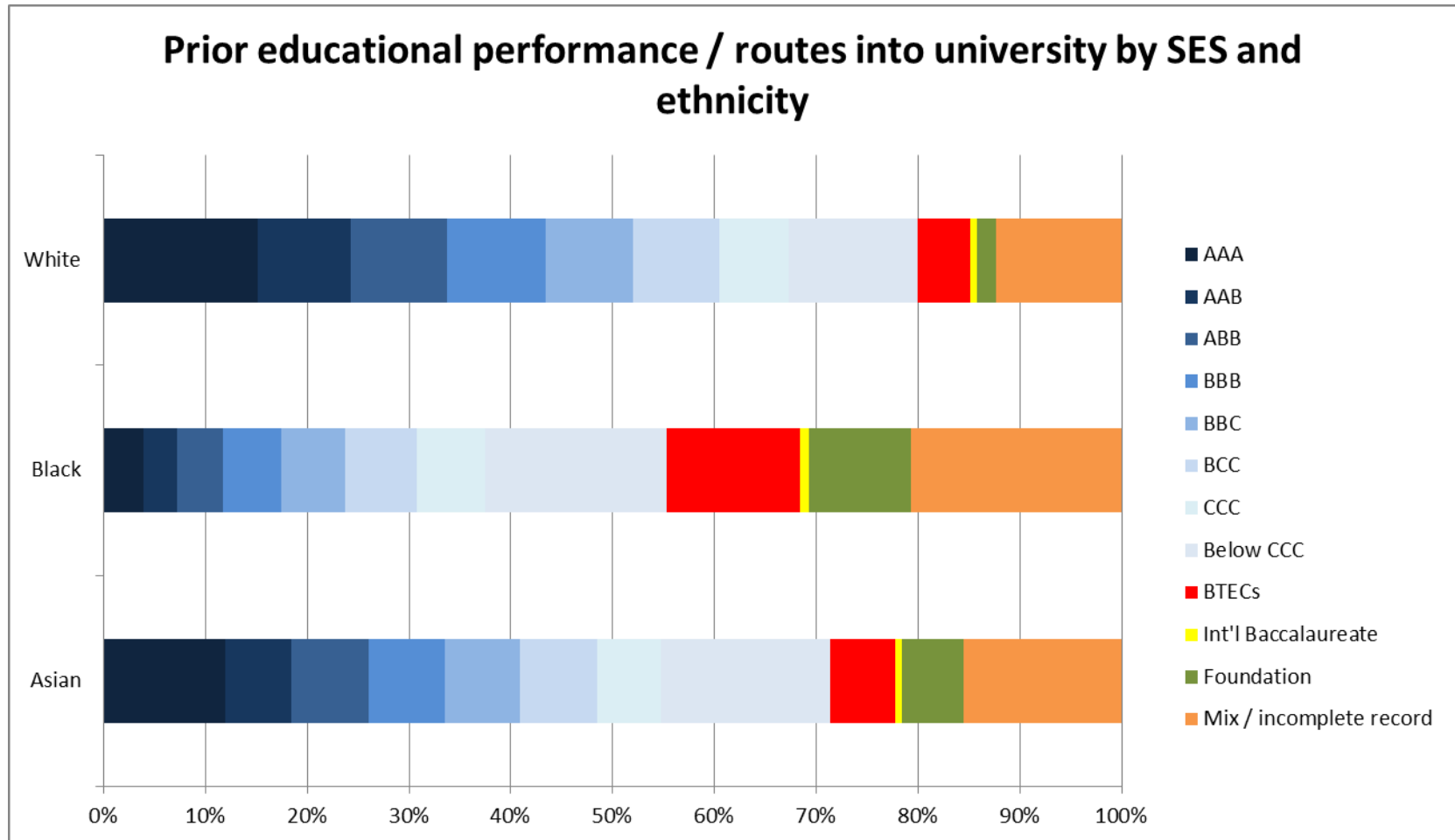
- Here's the profile of the qualifications that White British students' arrive at university with:



80% At least three A-Levels. **5%** only BTECs. **1%** Int'l Baccalaureate. **2%** via Foundation Year. **12%** with a mix or other qualifications.

What about Black British students?

- **Outright “Disadvantages”:**
- **Prior educational performance and qualification types:**



Closing the ethnic gaps: Lessons for policy (1)

- Having A-Levels at all, and especially in the ‘core’ ‘facilitating subjects,’ does make a big difference to university readiness.
 - Asian British students doing especially well on Maths and Sciences.
 - Black British students much less likely to have any of these subjects.
 - Black British students more likely to arrive via vocational route.
- Improve advice, academic aspirations, availability and uptake of core A-Levels before university.
- Targeted support in universities to help transition from practical/lab work (‘BTEC skills’) to academic writing and exam-based assessment (‘A-Level skills’).

Thank you for attention
