

Are university admissions fair? Researchers need access to non-personal applicant data to find out for sure.

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Summary: Academic research using anonymised university admissions data has found that UK universities in general, and highly selective universities in particular, are less likely to offer places to British ethnic minority applicants than to white British applicants even when they have the same grades and ‘facilitating subjects’ at A-level and have applied to equally popular courses. However, the findings of these academic studies have been called into question by research carried out by the Universities and Colleges Admissions Service (UCAS) which found no ethnic bias in university acceptance rates after taking into account applicants’ predicted A-level grades and the popularity of their chosen degree course and institution. But serious methodological flaws in UCAS’s research – including the questionable exclusion of applicants to Oxford, Cambridge, and Medicine and of applicants predicted three A-stars – mean that its findings are far from conclusive. Further research using fully representative, detailed, non-personal applicant data is needed to find out for sure whether university admissions are fair or not. UCAS is planning to share applicant data with researchers in the future, but only for applicants who explicitly consent to share what UCAS is terming “personal data”, which the Information Commissioner’s Office (ICO) defines as data where the risk that an individual could be identified is “greater than remote and reasonably likely”. UCAS is concerned that sharing “personal data” with researchers without applicants’ expressed consent would undermine applicants’ trust in their service. This seems entirely fair. But it is important to be clear that researchers are not asking UCAS to share “personal data”. Researchers are in fact asking UCAS to share non-personal data in a safe and secure manner which would ensure that the risk that an individual applicant could be identified in the shared data would be remote or even non-existent. This paper therefore calls on UCAS to share fully representative and detailed non-personal applicant data with researchers so that questions about the fairness of admission to UK universities can be properly addressed.

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British ethnic minorities from Black Caribbean, Pakistani and Bangladeshi backgrounds are only about half as well represented among students at Russell Group universities as we might expect given their representation among young people nationally. However, other groups such as British Indians and British Chinese are not under-represented at Russell Group universities (see Table 1, below).

Table 1. Ethnic composition of young people, university students, and students at Russell Group universities in 2012

	% 15-29 year olds in England and Wales	% students attending UK universities	% students attending Russell Group universities
White	81.2	80.4	82.8
Black Caribbean	1.1	1.5	0.5
Black African	2.2	4.4	2.1
Black Other	0.6	0.3	0.1
Pakistani	2.8	2.4	1.8
Bangladeshi	1.2	0.8	0.6
Indian	3.2	3.4	4.2
Chinese	1.5	0.9	1.5
Other Asian	1.9	1.7	1.8
Other (incl. mixed)	4.5	4.2	4.5

Source: Boliver, V. (2015). [Why are British Ethnic Minorities Less Likely to be Offered Places at Highly Selective Universities?](#) in Alexander, C. and Arday, J. (eds) *Aiming Higher: Race, Inequality and Diversity in the Academy. Runnymede Perspectives* 15-18.

A big part of the reason for the underrepresentation of some British ethnic minorities at Russell Group universities is that they are less likely to achieve the high grades needed to be eligible for courses with high academic entry requirements.

But academic researchers (including myself¹ and others²) have analysed anonymised university applications and admissions data (UCAS data) and found that British ethnic minority applicants to highly selective universities are less likely to be offered places than White British applicants with the same grades and subjects at A-level. For example, my own research on admission to Russell Group universities found that offer rates were between 7 and 16 percentage points lower for applicants from a range of British ethnic minority backgrounds (specifically the Black Caribbean, Black African, Pakistani, Bangladeshi, Chinese and Indian groups) in comparison with applicants from the white British group, after controlling statistically for applicants' grades at A-level, whether or not they possessed any of eight so-called 'facilitating subjects'³ at A-level, and the popularity of their chosen

¹ Boliver, V. (2013). [How fair is access to more prestigious UK Universities?](#) *British Journal of Sociology* 64(2): 344-364.
 Boliver, V. (2015a). [Why are British Ethnic Minorities Less Likely to be Offered Places at Highly Selective Universities?](#) in Alexander, C. and Arday, J. (eds) *Aiming Higher: Race, Inequality and Diversity in the Academy. Runnymede Perspectives* 15-18.

Boliver, V. (2015b). [Exploring ethnic inequalities in admission to Russell Group universities.](#) *Sociology*. Published online on May 12 2015.

² Zimdars, A., Sullivan, A. and Heath, A. (2009) [Elite Higher Education Admissions in the Arts and Sciences: Is Cultural Capital the Key?](#) *Sociology*, 43:648.

Noden P., Shiner, M. and Modood T. (2014) [University offer rates for candidates from different ethnic categories.](#) *Oxford Review of Education*. 40(3): 349-69.

³ The eight subjects identified by the Russell Group as 'facilitating' access to Russell Group universities are: Biology, Chemistry, Physics, Mathematics, English Literature, Geography, History, and Languages.
<http://www.russellgroup.org/InformedChoices-latest.pdf>

degree subject area at their chosen university. A similar pattern is evident for other universities too – although the differences in offer rates are of a smaller magnitude – suggesting that this is a sector-wide issue (see Table 2, below).

Table 2. Ethnic group differences in offer rates from Russell Group, other Old, and New universities, before and after controlling for A-level attainment (entry in 2010-2012)

Applicant ethnicity	Russell Group universities		other Old universities		New Universities	
	No controls	Controls for grades and facilitating subjects at A-level and course popularity	No Controls	Controls for grades and facilitating subjects at A-level and course popularity	No controls	Controls for grades and facilitating subjects at A-level and course popularity
White British	54.6	52.0	64.4	62.1	60.1	60.8
Black Caribbean	29.6	44.7	44.0	57.8	46.3	56.7
Black African	21.9	35.7	35.8	50.6	36.8	50.7
Pakistani	30.3	39.6	47.8	58.3	58.2	58.5
Bangladeshi	31.2	42.6	48.9	57.9	61.3	62.3
Indian	43.1	47.6	58.6	61.9	62.8	60.9
Chinese	49.6	48.4	63.5	62.0	61.9	59.7
Mixed	47.8	48.8	58.2	59.7	56.1	59.0
Other	36.1	44.2	50.0	59.7	53.2	58.4

The figures in columns 2, 4 and 6 are calculated from models which include statistical controls for: number of A-levels (excluding general studies) at grade A*, A, B, C, D and E (or total UCAS points for holders of qualifications other than A-level); whether or not any of eight facilitating subjects were studied at A-level; year of application; timing of application (before the Oxbridge deadline, by the UCAS main deadline, or late), and the numerical competitiveness of the chosen degree subject area at the chosen institution.

Source: Boliver, V. (2015). [Why are British Ethnic Minorities Less Likely to be Offered Places at Highly Selective Universities?](#) in Alexander, C. and Arday, J. (eds) *Aiming Higher: Race, Inequality and Diversity in the Academy. Runnymede Perspectives* 15-18

Studies by academic researchers have also found that applicants to highly selective universities from lower social class backgrounds (Zimdars, Sullivan and Heath 2009; Boliver 2013; Noden, Shiner and Modood 2014), low HE participation neighbourhoods (Boliver 2015b) and state schools (Boliver 2013; Noden, Shiner and Modood 2014; Boliver 2015b) are less likely to be offered places than comparably qualified peers from higher social class backgrounds, high HE participation neighbourhoods and private schools.

Commenting on my research findings, the Russell Group has said:

“As the author herself admits, a crucial piece of the jigsaw is missing because the research takes no account of the entry requirements for the courses that students apply to. Many good students haven’t taken the subjects needed for entry. Our institutions are constantly trying to spread the word that with the right grades in the right subjects a place at a Russell Group university is well within grasp. However, students need good advice and information from a range of key sources. In addition, the research does not take account of the quality of the application overall, including factors such as the personal statement, or an applicant’s performance at interview.”⁴

This statement from the Russell Group raises an important caveat to my research: the UCAS data supplied to me did not contain detailed information on the specific degree programme to which applicants had applied. As a result I was only able to take into account the broad degree subject area they had chosen (e.g. Medicine and Dentistry, or Biological Sciences, or Social Studies, etc.), the particular university they had applied to (anonymised in the data supplied to me), how many A-levels they had at grades A*, A, B, C, D and E (or the equivalent UCAS points for non-A-level applicants), whether or not they had studied any of 8 ‘facilitating subjects’ at A-level, and the popularity of their

⁴ <http://russellgroup.ac.uk/news/university-access-research/> 20th August 2015

chosen degree subject area at their chosen university. However, it would be possible to undertake the further analysis that the Russell Group acknowledges is needed if UCAS agreed to share with researchers the sufficiently detailed (anonymised) data that would be required. Disappointingly, the Russell Group has repeatedly dismissed concerns about ethnic group differences in offer rates on the grounds that the evidence is incomplete, rather than calling for a more thorough and complete analysis to be undertaken. This is despite the fact that the Russell Group has been aware of my findings and those of other academic researchers since at least 2013.

UCAS research suggests no ethnic bias in acceptance rates at highly selective universities – but their analysis is highly flawed

In September 2015 UCAS published a short analysis note claiming to find that ethnic group differences in offer rates at highly selective universities are negligible after controlling for applicants' predicted A-level grades and the popularity of their chosen degree course and institution.⁵

UCAS's findings may seem to refute those of previous studies, but UCAS's conclusions rest on a highly flawed methodology involving the questionable exclusion of all applicants who had applied by the October 15 deadline to Oxford, Cambridge, and Medicine (10% of all applicants and perhaps as much as 30% of all applicants to highly selective courses) and the questionable exclusion of all applicants predicted A*A*A* at A-level.⁶ It is quite possible that UCAS's conclusions would have been quite different if they had included these applicants in their analysis, and certainly the conclusions are at odds with what other researchers have found using more complete datasets.

Currently external researchers cannot verify UCAS's claims or challenge them by means of alternative analyses of the data. UCAS has claimed that it has shared the data underpinning the analysis it reported on in September 2015, but this is not the case – the data UCAS has shared is not detailed enough to enable anyone else to replicate their analysis or explore different ways of analysing the data.

For the past two years or so UCAS has been unwilling to provide researchers with the kind of data previously used by academic researchers, including myself, in the peer reviewed studies referred to above. The fact that researchers and policy makers are currently unable to access detailed anonymised UCAS data for research purposes has been highlighted by the Social Mobility and Child Poverty Commission as a major obstacle to identifying and removing the barriers to fair access to higher education.⁷

UCAS claims that sharing applicants' "personal data" with researchers without consent would undermine trust – but researchers aren't asking UCAS to share "personal data"

Recently UCAS agreed that it will begin to share detailed anonymised data with researchers via the secure service provided by the Administrative Data Research Network (ADRN), but only for applicants who consent on an opt-in basis to share their data.⁸

It appears that UCAS feels that only through using an opt-in consent approach to sharing what UCAS terms "personal data" will applicant trust in its services be maintained.⁹ However, the guidance given by the Information Commissioner's Office suggests that anonymised UCAS data should not in fact be classified as "personal data" given that "the risk of identification [of an individual in the dataset] must be greater than remote and reasonably likely for information to be classed as personal data" (p.16) under the Data Protection Act.¹⁰

The data researchers are asking UCAS to share would not constitute "personal data" first and foremost because all personal identifiers would be removed prior to sharing data (i.e. name, address, date of birth, etc. would be completely removed). This anonymised data would be shared via the

⁵ UCAS Analysis note 2015/05 – 'Offer rates to different ethnic groups are close to expected values', available at <https://www.ucas.com/corporate/data-and-analysis/ucas-undergraduate-releases/ucas-undergraduate-analysis-notes>

⁶ For a brief discussion of the methodological flaws of UCAS's analysis note please see: <https://theconversation.com/fewer-top-university-offers-go-to-black-and-asian-students-but-ucas-research-doesnt-explain-why-47738>

⁷ Machin D (2015) *Data and Public Policy: Trying to Make Social Progress Blindfolded. A Report for the Social Mobility and Child Poverty Commission*. London: HMSO.

⁸ https://twitter.com/ucas_analysis/status/652097185161592832

⁹ https://www.ucas.com/sites/default/files/ucas_applicant_data_survey_key_results_0.pdf

¹⁰ <https://ico.org.uk/media/1061/anonymisation-code.pdf>

ADRN in a safe and secure manner that protects applicant confidentiality in compliance with the requirements of the Data Protection Act. The ADRN carefully vets researchers and research projects before granting access to anonymised data, and researchers are required to sign legally binding data licence agreements that expressly prohibit them from attempting to identify individuals in the data, from sharing the raw data with third parties, and from publishing analysis results in which individual cases are identifiable. If it is deemed necessary the actual analysis of that data may take place in a completely secure environment which ensures that researchers cannot make copies of the raw data and any results taken away are carefully scrutinised to make sure that no individuals are identifiable. Under this framework, the risk that any individual could be identified in the shared UCAS data would be remote.

It could be argued that anonymised UCAS data still represents “personal data” if there are unique cases in the shared dataset. If so, one solution to this would be to apply data perturbation techniques to the data prior to sharing, which involves introducing ‘random noise’ into the dataset so that unique cases are altered in ways that mean they no longer relate to actual individuals (but because these alterations are made at random the data would remain representative). Under this framework, the risk that any individual could be identified in the data would be zero.

The Information Commissioner’s Office advises that it is not necessary to obtain consent in order to anonymise data for research purposes (pp.28-29). Moreover, consent is not a legal requirement (or a moral necessity) for sharing data that is completely anonymised because it is not “personal data”. Many organisations routinely share anonymised and non-personal data with researchers in a safe and secure manner without the expressed consent of the data subjects. The Higher Education Statistics Agency (HESA), for example, regularly shares anonymised data on students in higher education institutions for research purposes.¹¹ It is not clear what makes UCAS data an exceptional case.

It appears that UCAS is proposing to seek applicants’ consent to share data via an email sent to students after they have registered with the UCAS service. This framework will be implemented for the 2016 applications cycle and data for those who choose to opt-in will be made available to the ADRN from January 2017. No historical data will be made available. From 2016, each student might opt in to data sharing, they might opt out, or they might not reply to the email. There is a real risk that a substantial percentage of applicants will not choose to opt in, and importantly we cannot assume that those who opt in will be a representative sub-sample of the whole applicant population. If opt-in rates are low, researchers and policy-makers may only have access to a distorted sample of the relevant population and so any research results obtained from this data may well be inaccurate. This risk could be easily removed if UCAS shared all (suitably anonymized) student data via the secure data sharing service provided by the ADRN.¹²

It could be argued that if the opt-in sample of applicants is clearly unrepresentative in relation to certain applicant characteristics then it is possible to correct for this using survey weights. For example, if 60% of university applicants are female but females make up 80% of those who opt in to share their data, then the sample could be reweighted accordingly. But it is important to recognise that sub-set of applicants who opt in to share their data may well be very different from those who do not opt-in in relation to applicant characteristics for which sample weights are impossible to apply.

It could be argued that if substantially less than 100% of UCAS applicants opt into sharing their data then the resulting datasets would be similar to other datasets regularly used in policy research such as the Labour Force Survey (LFS) which typically achieve response rates of around 50%. But it is important to be clear that surveys like the LFS are designed with the intention of achieving a 100% representative sample – a random sample is drawn from the population of interest, and great efforts go into trying to achieve a 100% participation rate. A participation rate of less than 100% is subsequently settled for not because it is adequate but because it is the best that can be done given the limited resources available. UCAS’s opt-in system is the reverse of this: it starts from a 0% participation rate and works upwards. This seems perverse given that UCAS actually holds fully representative data for the entire population of university applicants making 100% representative data achievable from the outset.

If questions about the fairness of admission to UK universities are to be properly addressed, researchers must have access to fully representative and detailed non-personal UCAS data.

¹¹ <https://www.hesa.ac.uk/ bespoke-data-service>

¹² <http://adrn.ac.uk/protecting-privacy>