

# Inclusive approaches to understanding and addressing awarding gaps at Cambridge

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## Awarding gaps at Cambridge

The term 'awarding gaps' refers to patterns of differential degree outcomes which are experienced by particular groups of students and which cannot be explained by factors such as previous education, socio-economic background or other intersecting variables including gender.

In Cambridge, the [Business Information Team](#)<sup>1</sup> (BIT, 2020) undertook detailed statistical analyses of performance in classed examinations, looking in particular at Firsts, good honours (Firsts and Upper Seconds) and overall percentage marks. This analysis sought answers to the following questions:

- what factor or factors constituted the best predictors of attainment?
- did significant gaps remain in the attainment of different ethnic groups, when other predictor factors are controlled for?
- did significant gaps remain in the attainment of different disability groups, when other predictor factors are controlled for?

The analysis confirmed that the gaps in attainment for these specific students were persistent when controlling for factors such as prior attainment, deprivation index (IMD quintiles), and under-representation (POLAR4 quintiles). The key findings obtained from datasets covering periods from 2011-12 to 2018-19 were:

1. the results of the first-year examination and the choice of course/Tripods<sup>2</sup> were the strongest predictors of an awarding gap in the final year (listed in order of predictive strength)
2. Being from Black or Asian ethnic backgrounds had a statistically significant effect on attainment, with the gap being larger for Black students than Asian students. The difference is significant for First class and good honours outcomes in the final year (even when controlling for first-year exam results, see point 1)

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<sup>1</sup> Initial analyses were performed on individualised data source as supplied by the Office for Students and derived from the Higher Education Statistics Agency (HESA) student return for 2013-14 to 2017-18; final analyses were performed on individualised undergraduate examination results data for all University of Cambridge undergraduate-level examinations between 2011-12 and 2018-19.

<sup>2</sup> Course of study was also identified as a significant predictor, but its influence was found to be different depending on which type of outcome was considered. For example, several courses had significantly different average per cent mark but no significant difference in classed outcomes. This reflects the potentially different practices of converting marks obtained to classes and it can be recommended that further work is carried out to document such practices for each course in one place (BIT, 2020, p. 12).

- Students with declared mental health conditions were significantly less likely to obtain a 1<sup>st</sup> class degree when controlling for all other factors. Students with social and communication impairments had significantly higher gaps in being awarded ‘good honours’ outcomes. Students with mental health conditions also tended to have lower rates of progression.

During the first ‘pandemic’ academic year of 2019-20, there were clear increases in attainment and awarding gaps affecting Black students and students with declared mental health conditions nearly halved. During 2020-21, however, these gaps widened once again. BIT advise caution in interpreting assessment data, commenting that it is ‘nearly impossible from the numbers alone to infer any definite causal explanation for improvements’ owing to variables arising from changes to assessment during the disrupted period, including temporary but significant shifts in remote assessments, the format of assessments, introduction of safety nets, and more (BIT 2021, p. 2).

Discussion about the reasons for Black student awarding gaps tends to drift to discussions of prior educational attainment, socio-economic, school, or other cultural facts. However, multivariate statistical analysis of these factors has shown that they are not actually strong indicators of Black student performance at Cambridge, where students have entered with similar predicted outcomes as their White peers.

Key findings from the univariate and multivariate analysis of factors that might have an impact on differential student outcomes for Black students are summarised in Table 1.

Table 1: List of variables used as independent variables in univariate and multivariate modelling to examine their influence on the attainment outcome for Black students at Cambridge.

Black undergraduates	Prior educational attainment – measured by UCAS	x	
	Prior educational attainment – measured by A-levels	x	
	Course of study	x	
	Gender	x	
	Age group (young vs mature)	x	
	Secondary school type	x	
	Month of birth	x	
	Disability	x	
	POLAR4 quintile (underrepresented groups)	x	
	IMD quintile (deprivation index)	x	
	Ethnicity (race)		✓

Note: these findings are not interpreted as indicating that Black students’ race or ethnicity is the cause of an awarding gap; the findings prompt reflection about how Black students are perceived, supported, and develop a sense of belonging in the collegiate University.

For disabled students, the findings are more complex, as the HESA data does not account for multiple disabilities, or the declaration of a disability after admission or during their course of study at Cambridge.

## Limitations of the institutional data on awarding gaps at Cambridge

There are four key limitations of the quantitatively based institutional data:

1. Small student numbers can cause year-on-year fluctuations and occasional outliers
  - the Office for Students sets a limit of 25 students in a particular category in one academic year for inclusion in statistical analysis
  - for Black students in Cambridge, no final Tripos Part meets this criterion even if the results of the past 5 academic years are combined
  - several final Tripos Parts did not have a single Black candidate in the past 5 academic years
  - Triposes with no Black students did not have awarding gaps
  - to protect student anonymity, the data visualisations on differential outcomes (accessed via [Tableau](#)) do not include cohorts of students if the student number is less than 3.
2. The analysis about students with declared mental health conditions is based on HESA data collected prior to admission to Cambridge. It does not account for students who are at-risk or develop mental health conditions while at university and do not disclose this formally to the university (reasons for which could be many, e.g., getting timely diagnoses and barriers related to timely disclosures and help-seeking).
3. While the quantitative data controlled for a range of characteristics, several factors were not considered but which can still impact the educational attainment of students, including experiences of social integration and belongingness, academic skills support, extracurricular activities, different models of assessments etc. Additionally, the data does not provide granular-level analysis on intersectionality (e.g., Black students with mental health conditions).
4. The data describes what has already taken place at Cambridge, i.e., examination results. While it provides an evidential basis, it is limited in its ability to provide concrete recommendations to narrow or eliminate the gaps for the future cohorts of students. The BIT team conclude that quantitative analyses of assessment data confirm that there are unexplained awarding gaps, and they advocate the use of qualitative approaches to explore why these gaps arise, specifically focussing on 'exploring "softer" less numerical attributes relation to teaching & learning practices' (BIT, 2020, p. 13). Bearing in mind that the student population is expected to diversify further, it is timely to review sector research and to investigate current students' experience and perceptions of why gaps exist in order to develop research- and evidence-informed approaches to curricula, environments and practices which are more inclusive and more sustainable than those which assume categories of 'traditional' and 'non-traditional' students and which rely substantively on reactive responses to perceived needs.

## Understanding and addressing awarding gaps

### Overview of sector research

An influential report, commissioned by the then Higher Education Funding Council for England, on higher education experiences and differential student outcomes identifies four types of explanatory factors (Mountford-Zimdars et al, 2015, iii):

- curricular, learning, teaching, and assessment practices
- relationships between staff and students and amongst the student body (sense of belonging was identified as a key cause for differences in progression)
- social, cultural, and economic capital (e.g., hidden curriculum, lack of social and cultural capital to network and navigate the educational setting)
- psychosocial and identity factors (negative group stereotyping, peer mentoring)

The authors noted that

formulations which account for lower attainment in in terms of ‘student deficits’ (academic weaknesses, lack of ability or other individual factors or circumstances) or ‘wrong’ choices in subject selection have also largely been superseded (p. 25)<sup>3</sup>.

They set out a number of recommendations for national policy, institutions and individuals. At institutional level, these include

- encouraging ‘pedagogy-driven approaches’, underpinned by ‘a policy framework at the institutional level which rewards staff for innovating’ (p. 53)
- a move away from ‘approaches that aim at “integration” of “non-traditional students” towards a broader concept of “inclusive” HE’ (p. 56), with ‘targetting’ in individual circumstances rather than at ‘groups’, in order to avoid perceptions of stereotyping or stigmatising
- supporting and resourcing students for contributing to ‘student engagement initiatives’ and flexible approaches which allow ‘students themselves to determine the direction of the work (and any intervention)’ (p. 58)
- ‘embedding’ priorities of addressing awarding gaps ‘into institutional decision-making mechanisms (such as committees and other fora) and processes (such as quality assessments)’ (p. 60)
- promoting and recognising active staff engagement in the agenda and sharing resources and practice and celebrating success within the institution and across the sector (p. 100)
- encouraging students as partners to be involved in finding barriers and enablers for inclusive educational practices and experiences (p. 101)

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<sup>3</sup> Mountford-Zimdars et al cite, among others, Singh (2011) and Richardson (2015), who comments that ‘the phenomenon of an attainment gap in ethnic minority students is a finding that is correlational rather than causal in nature’ (p. 287). For a recent review of conceptualisations of deficit thinking and implications for scholarly research, see Davis (2019).

- considering how the support peer support and learning among students and student networks (p. 101)

Subsequent reviews of literature evaluating the impact of initiatives relating to access, retention, attainment, and progression include recommendations related to curriculum and pedagogy. Webb et al (2017) recommend ensuring ‘early opportunities for assessment and feedback which establish a culture of academic achievement and “success”’ (p. 88). Austen et al (2022) conclude that

pedagogical approaches which are based on student-centred approaches, namely active learning, experiential and peer-supported learning are shown to impact positively on student attainment outcomes (p. 43)

They comment that well designed ‘targetted approaches’ are ‘welcomed’, but caution against a ‘deficit approach’ (Austen et al, 2022, p. 43). Stevenson et al (2019), in a report to the Office for Students on ‘understanding and overcoming the challenges of targeting students from under-represented and disadvantaged ethnic backgrounds, propose two definitions of targeting:

inclusive interventions which are developed to benefit all students but in particular one or more ethnic groups and / or exclusive interventions explicitly directed at one or more minority ethnic groups (Stevenson et al, 2019, p. 5).

Austen et al recommend attention to ‘supporting psycho-social-behavioural aspects of learning’ which encourage students to feel that they ‘belong’ at university, which ‘affirm values’ and frame learning in terms of a ‘growth mindset’ (Austen et al, 2022, p. 43).

The notion of ‘belonging’, receiving widespread attention within higher education research, draws on sociological and psychological traditions and is connected with feelings of academic and social integration (Austen et al, 2022; Mountford-Zimdars et al, 2015; Thomas, 2012). At the individual level, ‘belonging’ ‘recognises students’ subjective feelings of relatedness or connectedness to the institution’ (Thomas, 2012, p. 12). In psychological terms, ‘belonging’ includes

the extent to which students feel personally accepted, included and supported by others in the [institutional] social environment

and is characterised by

regular contact and the perception that interpersonal relationships have stability, affective concern, and are ongoing (Thomas, 2012, p. 13).

Drawing on sociological traditions, ‘belonging’ includes

the extent to which ways of speaking, behaving, and interacting, which are learned through interactions with family and social institutions such as home and schools (‘cultural capital’)

is experienced as congruent with institutional customs, norms, and practices. Students who experience dissonance between their social and cultural practices and those of the institution may feel undervalued and ‘may be more inclined to withdraw early’ (Thomas, 2012, p. 13).

A report commissioned by Universities UK into awarding gaps affecting Black, Asian, and Minority Ethnic students at UK universities identified ‘fear’ and ‘unease’ among some staff and students at the prospect of ‘saying the wrong thing’ (UUK, 2019, p. 39) when talking about race. The report also

noted the likelihood that avoiding open discussions results in ‘deficit understandings of students [being] perpetuated, as opposed to challenging the structures and practices that underpin awarding gaps’ and, further perpetuates the burden falling on Black, Asian, and Minority Ethnic individuals if positioned as ‘sole representatives’ (UUK, 2019, p. 39). ‘Increasing staff diversity in institutions is widely perceived to be part of the development of an inclusive higher education’ (Mountford-Zimdars et al, 2015, p. 53). Acknowledging that recruiting a more diverse academic staff population will take time, initiatives to encourage institutions to become more ‘culturally proficient’ (Mountford-Zimdars et al, 2015, p. 53) are proposed as pragmatic ways forward in the shorter term.

The number of students declaring a pre-existing condition to the university rising (Office for Students, 2019), and Covid-19 disproportionately impacting these students (Disabled Students’ Commission, 2021) serves as an impetus to develop appropriate teaching and learning initiatives to not exacerbate the gaps in outcomes between students with and without mental health conditions.

Research into the educational experiences and outcomes of students with disabilities, including mental health conditions, advocates for inclusive approaches such as ‘universal design for learning’, as distinct to individualised adaptations (Disabled Students’ Commission, 2021; Hughes et al, 2019; Tai, Ajjawi & Umarova, 2021). A distinction is drawn between a ‘positive learning environment that fosters positive mental wellbeing’ (Houghton & Anderson, 2017) and mental health provision.

Identities and experiences are complex, as are the interplays between structures, experiences and outcomes. An intersectional approach enables exploration of complexity (Office for Students, 2019); qualitative methods are an important counterpoint to quantitative analysis as a means of gaining insight into experiences which are associated with negative as well as positive outcomes (Cohen et al, 2018; Mountford-Zimdars et al, 2015; Attridge, 2021).

### Student-led qualitative research: the APP Participatory Action Research (PAR) Project

The [APP PAR Project](#) was developed to seek students’ perspectives on the barriers that arise in relation to teaching and learning at Cambridge and to develop knowledge and evidence that can inform and catalyse meaningful progress and practical steps forward. This qualitative approach is intended as a means of investigating aspects of students’ experiences and perceptions, which may then

- prompt reflection and self-scrutiny on the part of individuals, academic institutions, and professional services in order to identify actions which may meaningfully and feasibly address complex issues and challenges, and
- inform subsequent cycles, which may extend lines of enquiry and / or refine the APP PAR Project’s outcomes.

In 2021-22, the APP PAR Project concluded its third of five cycles, during which student teams worked on six projects. A mid-stage evaluation of the impact of the APP PAR project is underway. This will add to a deeper understanding of the barriers to inclusive teaching and learning faced by students at Cambridge, as well as to examples of good or inclusive practice and to steps forward to removing the barriers for others.

Table 2 summarises some of the reasons identified for less than predicted academic performances by their peers in the two targeted student groups by student researchers in the three cycles of the APP PAR Project.

Table 2: Themes identified by students across Cycle 1-3 of the APP PAR Project as potential factors for differential degree outcomes, or as obstacles to academic performance.

Identified reasons for differential academic outcomes	Black British students	Students w/ mental health conditions
Negative group stereotypes	✓	✓
Poor sense of belonging	✓	✓
Imposter syndrome	✓	x
Unconscious bias in teaching and support	✓	✓
Representation in the curriculum	✓	x
Lack of awareness of decolonisation	✓	x
Time and mental health costs of self-advocacy	✓	✓
Lack of diversity/flexibility in assessment	✓	✓
Inconsistency of assessment expectations	x	✓
Feedback literacy of staff and students	x	✓
Supervisor and DoS training/educational development	✓	✓
Uncoordinated support across collegiate university	x	✓
Lack of structured support for peer learning	x	✓
Inconsistent transition support/provisions to first year	✓	✓

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