

'Fair and square': what do students think about the ethnicity degree awarding gap?

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'Fair and square': what do students think about the ethnicity degree awarding gap?

Billy Wong n, Reham ElMorally and Meggie Copsey-Blake

Institute of Education, University of Reading, Reading, UK

ARSTRACT

In UK higher education, minority ethnic students are less likely to graduate with a good degree than their White British counterparts, even when prior attainment is considered. Until recently, concerns about this ethnicity degree awarding gap have not received the research attention it deserves. In this paper, we contribute to this gap in knowledge with a focus on how students make sense of the difference in degree outcomes by ethnicity. Informed by 69 in-depth interviews with minority and majority ethnic students at a UK university, we explore their views towards the ethnicity degree awarding gap, why it exists and what would be their solution to reduce this difference. Although some students perceived the awarding gap as a reflection of individual aptitude, others have attributed social barriers for degree outcome differences. We present five recommendations as suggested by students for policy and practice. Firstly, the provision of greater economic support for minority ethnic students, which will improve access and a more diverse student population. Secondly, to establish an institutional commitment to challenge and eradicate all forms of racism on campus, including microaggressions. Thirdly, to increase representation of minority ethnic staff and students in higher education to improve students' sense of belongings and aspirations, with the emphasis on greater staff diversity. Fourthly, to diversify the curriculum with a wider range of values and perspectives incorporated into teaching. Finally, universities need to be proactive and reflective to ensure structural barriers are reduced or eliminated through additional support or alternative provisions.

ARTICI F HISTORY

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KEYWORDS

Attainment gap; degree outcome: degree differential: BAME students; racism; STEM

Background

Until recently, including the resurgence of the #blacklivesmatter movement in 2020, public engagement with the inequalities of Black, Asian and Minority Ethnic (BAME¹) people in the UK remains arguably limited, despite evidence of disparity from health to housing to education (Bryne, Alexander, Khan, Nazroo, & Shankley, 2020). Although educational research on ethnic inequalities has been around since at least the 1980s (Troyna 1987), this pool of research has stagnated, especially on post-compulsory education. Whilst educational studies on 'race'/ethnicity exist (see Singh's review in 2009), considerably more studies have examined inequalities of social class and gender, including those with an intersectional perspective or with a broader focus on non-traditional students (e.g. Leathwood and Read 2009; Reay, David, and Ball 2005; Reay, Crozier, and Clayton 2010; Wong 2018; Wong and Chiu 2019). In short, the university experiences of minority ethnic students merit further research, despite growing awareness of structural and institutional inequalities as



experienced by ethnic minorities, especially within UK higher education (Arday and Mirza 2018; Bunce et al. 2019; Mahmud and Gagnon 2020).

In the last few years, research attention on the experiences and outcomes of UK minority ethnic university students has gained momentum, especially studies led by student unions (e.g. Bristol SU 2017; Miller 2016; SOAS SU 2016; UUK/NUS 2019). A rising number of universities have also become members of AdvanceHe's Race Equality Charter (n = 75, although only 17 award holders by January 2021), which indicates a greater public commitment to race equality.

Despite institutional pledges to tackle racism, the standout concern continues to be the gap in 'good' degree outcomes (i.e. a first or upper-second-class degree classification) between white British and UK minority ethnic students. In 2019, the proportion of white students who graduated with a first or upper second-class degree was 81.4%, but this proportion fell to 58% amongst black African graduates, which equates to a 23.4%-point gap (AdvanceHE 2020). More concerning, an 'unexplained gap' still exists even when students' prior attainment (e.g. A-level grades or UCAS entry points) is considered. Albeit marginal improvements, ongoing actions to tackle racial and ethnic disparities in UK higher education fall short of the Office for Student's sector-wide key performance measure, which is to:

eliminate the unexplained gap in degree outcomes (1sts or 2:1s) between white students and black students by 2024-25, and to eliminate the absolute gap (the gap caused by both structural and unexplained factors) by 2030-31' (OfS 2018, 4).

Contributing to a gap in the literature, this paper presents an empirical account of what students think about the ethnicity degree awarding gap, including a focus on why they think there are differences in degree outcomes as well as their suggestions to reduce this awarding gap. The views of students – from minority and majority ethnic backgrounds – are under-researched in this context and will provide us with new insights and perspectives as universities continue to grapple with the challenge to reduce this outcome inequality.

The ethnicity degree awarding gap

In the UK, approximately 25% of university students are of minority ethnic backgrounds, a proportion that is expected to increase with the changing population (AdvanceHE 2020). Despite claims that we now live in a post-racial era (Yancy 2015), research continues to highlight varying levels of inequalities as experienced by ethnic minorities, including in higher education. An increasing number of universities and student unions have explored this issue, with movements such as Why is my Curriculum White? (Peters 2015). The ethnicity degree awarding gap has implications for students entering graduate-level jobs and post-graduate courses, as first class or upper-second class degrees are often the minimum requirements. Furthermore, with increased tuition fees, universities have a duty to address the awarding gaps and actively challenge institutional inequalities, despite apparent difficulties arising from the tide of reactionary conservatism to maintain the hegemony of the majority White population in the UK (Jones 2014).

Whilst other factors, such as gender and socioeconomic status, can also shape academic outcomes, minority ethnic students seem to undergo systemic inequalities that transcend other social identities. For example, Collins and Bilge's (2016) book, Intersectionality, highlights the realities of multiple and intersecting inequalities, especially on how these are manifested in different ways across social identities, such as gender and ethnicity, and for instance, the unique challenges of being a Black underprivileged woman (see also Crenshaw 1991). Similarly, Rollock et al. (2014) also demonstrated racial differences in terms of social class privilege, through Black Caribbean middle-class parents, who must negotiate or utilise different strategies and resources to maximise their socioeconomic advantage to support their children's education. Here, ethnic minorities are disadvantaged by being ethnic and racial minorities, even if seemingly privileged in other ways, which would reflect a society that privileges individuals who are racially white. Bhopal (2018) explained that White privilege is fundamental to the structural apparatus and therefore affords undue benefits to the social hegemonic bloc and the majority White population, through 'the maintenance of power, resources, accolades and systems of support through formal and informal structures and procedures' (p. 19).

Here, we can relate to the lens of *Critical Race Theory* (CRT), which has gained momentum in race-related research in the West (Delgado and Stefancic 2017), including higher education research (Hiraldo 2010). The starting point for CRT is to recognise and accept that racism exists, with the aim to challenge dominant (and often, White) discourses that neglect or undermine the knowledge, value and skills of those from racial minority backgrounds (Bullock 2017). Solórzano and Yosso (2002) argued that a CRT approach would focus on the centricity of race and racism with other forms of subordination, including racialised stereotypes related to gender, socioeconomic background and sociocultural influences, and challenge dominant ideology that exposes deficit-informed research in the interest of maintaining white supremacy, and in turn, silencing or distorting the epistemologies of learners from diverse ethnic backgrounds (Yosso 2005). Consistent with the intersectional approach, CRT localises the narrative from the perspectives of ethnic minorities, where subjects and objects are recognised as representatives of actual and lived experiences, as opposed to observational judgement (Gillborn 2015).

There are concerns that the current neoliberal mode for knowledge production and consumption illuminates the embeddedness of White privilege within the higher education system. This systemisation and normalisation of White privilege led arguments that 'whites are advantaged in ways that seem just the way things are, that are invisible to themselves and so not seen as advantages at all' (Vice 2010, 324). Systemised whiteness and seemingly reformative actions to establish more diverse and inclusive environments have been criticised by scholars for its shallow and inconsistent application (Museus, Nicholas, and Lambert 2008; Yosso et al. 2009). Existing research has also identified institutional shortcomings and recommended subject-appropriate training programmes to counter institutional bias and the comparative disadvantage of minority ethnic students (Arday and Mirza 2018; EHRC 2019).

However, policy discourses that strive for meritocracy and social mobility through education tend to imply that *all* students start out on a levelled playing field, regardless of their social, cultural and racial backgrounds. While formal and explicit manifestations of racism are nowadays less perceptible in policy and practice (Schur 2004), evidence suggests racial inequalities remain prolific in the education system, and therefore maintained by rhetorics of 'sameness' under the semblance of 'equal opportunity' (Ladson-Billings 1998). The 'one size fits all' approach to education may rather underpin the barriers it promises to resolve, while suggesting differential outcomes in student achievement are consequential of individual agency rather than structural inequality. This would appear to reinforce arguments that hold the hereditary talents and efforts of individuals as the main contributing factors to their academic attainment and success (Plomin 2018). However, such a focus on individualism as the sole explanation for gaps in attainment overlooks evidence of structural barriers in the education system.

Yet, through a meritocratic lens, the ethnicity degree awarding gap may be explained through the *Culture Deficit Model*, a disputed perspective that stipulates that 'racial/ethnic minority groups do not achieve as well as their White majority peers in school and life because their family culture is dysfunctional, and lacking important characteristics compared to the White [population]' (Salkind 2008, 217). However, the assumption of cultural superiority – by ethnicity – connotes a deserved right to elevated social statuses and accomplishments, which signals and justifies paternalistic and condescending encounters under the guise of cultural and social hegemony. It is therefore unsettling that those identified as a minority might be assumed as inferior or less deserving of support and attention. Having said that studies have found inequality presented as dominant-group advantage can at times drive minoritised groups to stay engaged in their studies, to overcome the existing barriers in their degrees, while majority groups are more likely to disengage yet achieve higher outcomes (Lowery and Wout 2010).

Social mobility and ethnicity studies are similarly concerned with whether society is progressing, and the extent to which discriminatory practices and processes still operate on the basis of ethnic, gender and socioeconomic hierarchies (Li and Heath 2016). Yet, mainstream sociological theories on educational attainment, including deficit-informed models, still tend to focus on students' family resources in terms of parental occupation, education, socioeconomic status or social networks, seemingly overlooking the intersectional dimensions of social stratification and inequalities. Li (2018) asserts that minority ethnic students face additional barriers arising from 'cumulative discrimination in the labour market', which give 'pervasive signals that they are going to face heightened risks of unfair treatment both when they try to find a job and when they wish to make progress in their career life' (p. 472). To offset the anticipated impact of unfair structures and practices, minority ethnic students seem to view higher education favourably, with the hope that a degree will strengthen their employability. Khattab (2018) explained that a university degree can be seen as a 'strategy for resistance' to overcome anticipated ethnic and racialised barriers in the labour market. Yet, the prominence of the ethnicity degree awarding gap suggests existing policy and practice to facilitate social mobility through education continue to fail minority ethnic students. Thus, critical scholars have argued that race, ethnicity and cultural background can intersect with other social locations such as gender and sexuality in the production and reproduction of White privilege and, by extension, inferiority-superiority complexes (Collins and Bilge 2016). The formalisation of unconscious biases and solidification of White ideals within higher education has contributed to the realisation that one cannot reject the centricity of race in educational contexts. On the contrary, isolating race from the formative equation could worsen racial inequalities and contribute towards a culture of White supremacy and privilege (Bhopal 2018). It is therefore crucial that curriculum designers, policymakers and organisational apparatuses do not essentialise the minority ethnic experience (i.e. treating minority ethnic individuals as a homogenous, unified group). There is a danger of neglecting intersectionality and recognising differences within groups, which can minimise the experiences of the individual for the sake of prejudiced group ideas.

As such, we need to identify and tackle these systemic and societal barriers and appreciate the essence of individual experiences and how they affect the whole, as opposed to vice versa. Adopting a bottom-up qualitative approach could therefore work to identify the root of racial inequalities and microaggressions that minority ethnic students are often subjugated to (Wong et al. 2020). The subtly of racism can make this difficult to discern, particularly in large contexts such as universities (Singh 2009). Moreover, framing microaggressions as purposeful acts could assist in ethnic minorities feeling validated and listened to, instead of dismissed and belittled, which can result in feelings of isolation, exclusion and even self-doubt in their abilities (Ahmed 2012; Harris 2017; Smith, Senter, and Strachan 2013; Trugong, Museus & McGuire, 2016). This in turn can affect academic performance, contributing to the ethnicity degree awarding gap.

Existing literature has highlighted that negative stereotypes, which inform attitudes and environments, can have adverse and detrimental effects on a students' sense of belonging, and, by extension, their academic performance and achievement, leading to the intensification of racial inequalities (Chang et al. 2011). Similarly, the lack of diversity in UK higher education, from student population to the curricula, can also foster entitlement and the normalisation of Anglocentric perspectives, which can blind the White majority from realising the gravity of White privilege and racial inequalities (Leonardo and Porter 2010). Thus, efforts by institutions to close or reduce the ethnicity degree awarding gap will struggle if not substantiated by an admission of institutional racism to counter hostile and racially charged academic environments. Minority ethnic students appear to experience socio-cultural challenges in addition to systemic and structural barriers, which have led to a lack of integration, assimilation and conformity, and by extension has taken its toll on their academic performance and achievement (Dortcha & Patel, 2017; McGee and Bentley 2017).

To reduce differential outcomes, Fisher (2015) recommends the utilisation of evidence-based instruction, rigorising curricula to emphasise basic comprehension skills and balancing modes of delivery and, *inter alia*, increased supplemented instruction to smaller class sizes so lecturers'

attention would be channelled towards fewer students for better comprehension. Additionally, pedagogical reform is necessary to educate instructors by instigating 'professional development for teachers related to content, pedagogy, and working with minority and poor students' (Ratcliff et al. 2016, 102). For instance, the creation of safe spaces that listen and engage with the voices of minority ethnic students can potentially counter systemic barriers and inequalities (Ong, Smith, and Ko 2018). These changes are believed to strengthen overall standard of educational outcomes, including the narrowing of outcomes between ethnic groups.

As the voices of students are still largely absent on their views on the ethnicity degree awarding gap, this paper focuses on what students think about this inequality in degree outcome and their ideas to address differential outcomes.

The study

The paper draws on data collected in the first two years of a three-year qualitative study that investigates the lived experiences of minority ethnic undergraduate students in England, in response to concerns over the ethnicity degree awarding gap. We are interested in how students describe, articulate and reflect on their everyday lives as a university student (Ellis and Flaherty 1992; Gale and Parker 2014), with a focus on 'race'/ethnicity. As an exploratory study, the project focused on Science, Technology, Engineering and Mathematics (STEM) disciplines, where minority ethnic students are proportionally better represented when compared to non-STEM degrees. Around 25% of all UK-domiciled university students were identified as an ethnic minority, which converts to 26.9% in STEM and 17.4% in non-STEM undergraduate degrees (AdvanceHE 2020).

The value of STEM is widely acknowledged by governments around the world. However, in Western countries such as the UK, there are concerns that the experiences and trajectories of minority ethnic students in STEM education are more challenging and difficult than their White counterparts, including issues of underrepresentation, subtle and implicit racisms and microaggressions, and racialised stereotypes (Wong 2016a). The lens of Critical Race Theory would suggest that the STEM education landscape is in deficit of enriching its knowledge economies through its Western-centric curriculum and perspectives, which lacks students, scholars and practitioners from minority ethnic backgrounds (Ladson-Billings 1998). Indeed, the metaphor of the 'leaky pipeline' has been used to describe the relationship between 'race'/ethnicity and STEM participation (AdvanceHE 2020; Elias, Jones and McWhinnie 2006). Students from minority ethnic backgrounds tend to gradually drop out of the STEM talent pool. Previous studies suggest that widespread images and discourses of science/scientists as typically for privileged white men can contribute towards the general lack of interest in science for students without these advertised characteristics, particularly minority ethnic students (Losh 2010; Ong 2005). Yet, careers from STEM are often highly valued by minority ethnic families and viewed as a tool of social mobility in terms of attracting higher social status and earning potential (Wong 2016). The study aims to provide rich qualitative data to enable us a more authentic understanding of the experiences, opportunities, challenges and attainments of university students, with a particular focus on the views of students towards the ethnicity degree awarding gap.

Collected over two years, this paper draws on 69 in-depth interviews with undergraduate students from disciplines such as biological science, computer science, mathematics, pharmacy, and psychological science. Our recruitment and interviews were focused on minority ethnic student participants (n = 51), although we also conducted interviews White British students (n = 18). Most students were female (74%) but a range of minority ethnic groups were recruited, including Black (n = 8), East Asian (n = 8), Middle Eastern (n = 5), Mixed (n = 8), South Asian (n = 11) and White European (n = 9) and 'other' (n = 2). The study is situated in a medium-sized English university with a student composition that broadly reflects the national population, including the ethnicity degree awarding gap. Whilst each university is unique in their own rights, the case-study institution is neither extreme nor atypical in terms of student diversity and outcome.

Following ethical approval from the researchers' university, the project began in Autumn 2018 with a call for participants in any STEM undergraduate degrees, with an emphasis for those who self-identify as being from a minority ethnic background. Using personal contacts as well as staff emails from STEM department websites, we approached over 100 staff to seek permission and support to promote recruitment, including over 60 short presentations to students about the project at the beginning or end of a subject lecture. Further details were also disseminated through students' virtual learning environment. Although our target was UK-domiciled minority ethnic undergraduates, to be inclusive, we also accepted interest from those who self-identify as White British or as an international student. Participants were provided with an information sheet and a consent form to be signed and returned, explaining the research and the process to protect their confidentiality and anonymity, as well as the right to withdraw without reason and the flexibility to skip any questions asked (although no student exercised these options in the end).

Students were interviewed for an hour on average and were asked to share their views on a range of topics, including their experiences of university, the role of 'race'/ethnicity in their education, and their thoughts on the ethnicity awarding gap. We asked students to share their experiences and stories on the issue of race and racism in higher education study. For some, this constituted an opportunity to share or voice frustrations. For others, the topic on ethnicity was a learning experience, especially for White British and international students, when statistics of racism were shared as part of a prompt to initiate a topic conversation. Although discussions of 'race'/ethnicity can be sensitive and uncomfortable, our reflection is that students in the study appear open and honest in their own views and perspectives. We also reminded participants that our interest is in their opinions and reassured students that there are no right or wrong answers. The interviews were audio recorded and transcribed verbatim, with sensitive details removed. An e-voucher was provided as a token of appreciation.

For information, the authors all have a social science background with no associations or interactions with participants outside of the project. We are ethnically diverse, comprising of heritage including British East Asian, Middle Eastern and White British. At the time of research, Wong was an academic staff with a departmental role that champions equality, diversity and inclusion, ElMorally was a doctoral student and Copsey-Blake was completing a Master's degree.

Data analysis was informed by a social constructionist perspective, which understands social phenomena as socially constructed and discursively produced (Burr 2003). Interview transcripts were imported into the qualitative data analysis software, NVivo and provisional codes were created as we moved back and forth between the data and analyses in an iterative process through which the dimensions of concepts and themes were refined or expanded through the comparison of data (Corbin and Strauss 2014). A coding framework was then established, with a guided list of definitions for each code after the authors independently coded five interview transcripts by relevant themes. These themes were then discussed and compared, with any differences on the application of codes debated until a consensus was reached. The codes were also grouped together into higher-level themes, corresponding to the study aims and purposes, which is to understand the lived experiences of minority ethnic students, with a focus on their views about the ethnicity degree awarding gap and the possible ways to address this difference. On the cause, students' views and explanations seem to mirror the agency structure debate, with responsibilities placed on the individual but also recognitions of social barriers and inequalities. These subthemes are grouped into two overarching themes, which we discuss below. On the solutions, students suggested a range of possible initiatives and policy change, which can be discussed as five recommendations (see 'Addressing the ethnicity degree awarding gap'). Within minority ethnic groups, we did not find ethnicity-specific viewpoints on the awarding gap, which may reflect the relatively small number of students within each ethnic group, and therefore our focus was on the prominent themes as articulated by students irrespective of their backgrounds. Similarly, there were negligible differences by gender or particular STEM degrees, although we acknowledge we did not probe into the potential influence of degree

structures, especially programmes that include work placements or practical experiences (e.g. pharmacy).

Most students were unaware, and a few were surprised to learn about a gap in degree outcome by ethnicity when we used the national figure in interviews as a prompt to initiate a discussion about the ethnicity degree awarding gap. We asked students to reflect and comment on the degree outcome differences, including possible reasons as to why such gap exists. Given STEM disciplines are often presumed to be more objective (Miller 2007), differences in student comprehension and attainment could easily be regarded as a mere a reflection of individual aptitude, although as discussed already, minoritised students are often subjected to more social barriers than others.

Individual difference and aptitude

Through the lens of meritocracy, educational success and failure would reflect individual effort, ability and merit. The degree awarding gap, in the context of ethnicity or other social characteristics, is considered by some students to be normal, natural and nothing extraordinary because there ought to be differences in aptitude between individuals. Highly competent students are rightfully rewarded with high grades whilst less competent students would receive grades reflective of their comprehension in their respective degree discipline.

Most of our White students expressed an individualised perspective on degree outcome differences but struggled, when probed, to articulate their thoughts on why an ethnicity degree awarding gap exists. Most responses here were short and vague, with 'don't know' or 'no comment' the popular comments, which may also hint a level of unease or unawareness of the issue. Mandy (White British female) speculated weakness in academic study skills and said that 'grammar might be an issue which is picked up quite a lot and just like misunderstanding', whilst Rachel (White British female) speculated poor social integration might explain why minority ethnic students end up with lower academic grade:

If they're not doing social things [or] they're far away from home and they feel quite lonely then if they're depressed and anxious it just makes it so much harder to do work and to motivate themselves to do work because they don't have more of a life.

More broadly, Harry (White British male) also suggested that 'it might go down to culture perhaps, in the sense that like, different cultures have different expectations of what should be done', which might align with cultural deficit theory that focuses on what individual groups lacked (Harry and Klingner 2007). Similarly, Gamby (White European female) suspected that the ethnicity awarding gap 'is more of a social thing [because] ... if minorities haven't made the social connections, then that might make it more difficult for them to make it to the end of their degree'. Here, their apparent lack of initiative or willingness to participate in social groups or events were framed as an individual choice that have contributed to their struggles to adapt and achieve.

Some minority ethnic students were also unsure in their responses and seemed reluctant to place any blame on others for their academic attainment, and thus, opted to take full responsibility themselves if their degree outcomes were poor. As Nancy (British East Asian female) said, 'I think it's really down to the individuals' as she offered examples of her minority ethnic flatmates who appeared unmotivated to attend lectures, even though Nancy anticipated students with immigrant parents (who are most likely also ethnic minorities) 'be more hardworking ... cos their parents usually really push them'. Similarly, Carol (Black British female) felt that ethnic minorities often have to 'work twice as hard' for the same recognition or outcome as their White peers, which means, as discussed later, the degree awarding gap is beyond just the reflection of individual aptitude. The potential danger of this 'hard work' discourse is an implied message that lower-achieving students can only blame themselves for not working as hard as their higher-achieving minority ethnic peers, despite unequal starting points and barriers.

An interesting but potentially contentious viewpoint comes from Penny, an international East Asian female, who suspected that the ethnicity degree awarding gap was due to UK minority ethnic students having a 'higher risk, higher chance in abusing drugs ... or drinking for alcohol abuse'. Although this view is controversial, Penny's perspective may offer insights into wider social stereotypes and perceptions, especially in different parts of the world. Thus, further research is merited.

Meritocratic ideals, which celebrate individual agency, may empower students to believe that educational outcomes are fair reflections of their aptitude. Yet, as discussed below, our students also recognised that such perspectives can dangerously hide and neglect the invisible but active disadvantages that operate at the structural level.

Social barriers and structural challenges

Our students also identified a range of social and structural barriers that could explain the ethnicity degree awarding gap. Although these views were mostly articulated by minority ethnic students, some were recognised by White British students, especially those who have studied sociology or learned about social inequalities in school. Melony (White British female), for example, recalled that 'in Sociology we learned a lot about different groups of people and how it affects education, and it was typically ethnic minorities who have poor[er] ... quality of education', which is linked to family and financial resources but also wider racial inequalities.

Unpacking the possible reasons for the ethnicity awarding gap, a popular view from our students is the perception that UK minority ethnic people often stem 'from a slightly disadvantaged financial background [so] they're just going to be disadvantaged at some stage' (Mawiya, British Middle Eastern female). Unlike secondary education, where minority ethnic families (including those with lower incomes) may strive to provide their children with additional support, such as private tuition (Holloway and Kirby 2020), these supplementary resources tend to cease by the time students attend higher education. According to Lazda (White European female), 'there are so many things you have to do by yourself [at university] so it will be harder'. Others have suspected that minority ethnic students may be poorly prepared for higher education, being unfamiliar or found it difficult to 'fit in' with university cultures and expectations (Reay, Crozier, and Clayton 2010; Wong and Chiu 2021). According to Sachini (British South Asian female):

I think your initial schooling and background in education might have a big factor to play into how well you do at university and the sort of degree that you end up with ... White people might do better ... [because of] better schooling and they have learnt key essential skills and then that would have prepared them well for university.

In addition to resource disadvantage, our students also recognised broader structural challenges, especially racism (which we elaborate elsewhere, see Wong et al. 2020), as a key factor in understanding ethnicity degree outcome inequalities. Racial mistreatment and microaggression, often in subtle and implicit forms, can be detrimental to minority ethnic students and their sense of belonging at university.

Shu (East Asian male), for instance, had concerns about xenophobia and accepted that in the UK, 'my ethnicity will be disadvantageous for me because [White] UK people tend to like ... their own people ... they will see us as foreigners', resulting in preferential treatments and unequal experiences. Tenner (Black British male) agreed that 'people will judge you based on their perception of you' and stressed that 'a lot of other people from White backgrounds just have no idea and would never experience' the everyday realities of racial inequalities as lived by minority ethnic people.

An interesting theme that also emerged was a perceived language barrier, with the emphasis on those with a non-English speaking home environment. The ethnicity degree awarding gap might therefore reflect the challenges that some students experience when assessed in English, especially in disciplines that also use technical terminologies. According to Rebeka (White European female), 'science is really hard, you have to know a lot of terms and specific terms and you have to be okay with the English [words]'. Similar comments were made by Kevin (Black British male), who concluded



that the language of science can be exclusive and inaccessible. More broadly, Lazda (White European female) argued that:

Some courses are essay-based, and you have to write a lot and your grammar should be perfect, and there are like grammar rule that not every foreign people understand ... this is marked as mistakes.

Whilst competence in academic English may impact grades, some students, especially White British, also seem to have conflated minority ethnic students with international students, who are imagined to possess weaker academic English. Yet, the concerning statistics on the ethnicity degree awarding gap is for UK-domiciled students, which can be baffling since most Black, Asian and mixed ethnicity students achieved above the national averages prior to university (DfE 2019). Following this logic, either the language used in higher education is drastically different to schools in a way that disproportionately disadvantage ethnic minorities, or that language is not a key barrier as some envisaged.

On their experiences of teaching and learning, students were probed to comment on the content and structure of their curricula, especially on concerns that UK universities are 'too white' (Peters 2015). Here, our students generally believed that the nature of their STEM degrees are objective and should therefore be independent of any cultural biases and influences. For instance, Natalie (White British female) argued that 'maths is just maths . . . I'm assuming it's the same in every single country'. Similarly, Ali (British South Asian male) was confident that 'in computer science ... we learn from these algorithms. It's not like the country, whoever discovered it or where it's from or the origin, that doesn't matter too much'. Yet, another computer science student, Nancy (British East Asian female), lamented the lack of diversity on the history of different contributors to the discipline. She noticed that lecturers 'don't really talk about many historical figures' and when they do, 'they mentioned Alan Turing and stuff, who was [White] British'. For applied sciences, including psychology, students appear more critical on the lack of diversity in content or research examples. Lutah (British South Asian male) said that 'in psychology, a lot of the stuff they teach is Western psychology . . . there must be other research out there in other countries'. The suggestion here is that the narrowness of the curriculum can potentially demoralise minority ethnic students, resulting in poorer engagement and thus attainment.

Addressing the ethnicity degree awarding gap

So far, we have highlighted the reasons from students to explain the ethnicity degree awarding gap, which have focused on individual aptitudes as well as social barriers, notably socioeconomic differences, experiences of racism, possible struggles with academic English and the impacts of Anglocentric curriculums. Whilst the strengths of these factors merit a deeper investigation, and most likely the inclusion of various metrics and indicators, our emphasis has been on the voices of students and their views on degree awarding gap. When asked for their suggestions, most students agreed that universities have a responsibility to improve the outcomes of all students, even though individuals must also play their part. This section draws on student ideas and suggestions as we present five recommendations to address the ethnicity degree awarding gap.

In recognition of financial challenges and constraints, the first recommendation for universities is to provide greater economic support for minority ethnic students, which will improve access and a more diverse student population that can also promote their sense of belonging (Bunce et al. 2019; Dortch and Patel 2017). Farzana (British South Asian female), for instance, suggested that universities could 'offer scholarship programmes for people from minority backgrounds and stuff, so more people would come. I guess that would make it more diverse'. With less economic stress and concerns, the mental health and wellbeing of students are likely to improve, which in turn, can positively influence their academic engagement and outcome (Benson-Egglenton 2019; Gross, Torres, and Zerquera 2013; Nora, Barlow, and Crisp 2006). However, a handful of students, such as



Georgia (White British female), felt additional or targeted support for minority ethnic groups (i.e. affirmative or positive action, see Weisskopf 2001) would be unfair for the White majority:

If say they had their quota for students, say on my course, that might mean that say if only one ethnic minority person did apply, obviously they'd let that person on, but then that means that White people would miss out, if there wasn't enough space for them.

Whilst there are debates on the merits and dangers of a quota system, and affirmative action in education more broadly, UK universities are moving towards a greater use of contextual data to widen student access to higher education (Boliver, Gorard, and Siddigui 2019; Mountford-Zimdars, Moore, and Graham 2016) – an important step that recognises but also attempts to rectify unequal starting points. Although contextual admission is predominately underpinned by concerns of social class inequality, these principles, we argue, can be applied for minority ethnic students to acknowledge their lived experiences of racial disadvantages. Universities should therefore provide targeted support for disadvantaged students, although we appreciate there are concerns about student support provisions that may be available to some but not all students (see Zhou 2017 in the healthcare context). In practice, to strike a balance, it may be that certain initiatives are promoted more aggressively for targeted students even though it is accessible for all students (Wong and Chiu 2019). For financial assistance, there are few but growing number of scholarships with ethnicity as a selection criterion, which we believe would be an effective strategy to reduce the ethnicity degree awarding gap.

There are caveats. Economics are important but constitute just one of many facets of racial inequality that can influence student outcome. So, in addition to better support, especially on finance, the second recommendation for universities is to ensure there is institutional commitment to challenge and eradicate all forms of racism on campus, including microaggression (UUK/NSS 2019). According to Lazda (White European female), the first step would be to promote awareness through greater transparency and acknowledgement of the issue, 'I feel like it's just sharing the information, the real statistics . . . and maybe just giving people the real information in the light of the factors that might affect these statistics', especially racism. Bella (White British female) believes simple initiatives such as posters 'can actually raise awareness for [people like] us' because, as she admits, 'I don't really know what those barriers are because I haven't seen it myself and I haven't experienced it'. Belle argued that if everyone has a greater understanding of issues of racism then she, and others like her, would not only be better informed to support minority ethnic peers, but also better prepared to recognise and fight against racial inequalities (Katz 2003). To support this aspiration, we argue there is a need to implement an education and training programme for both students and staff to appreciate the challenges and complexities of racial inequalities, from implicit bias to structural racism (see Wong et al. 2020).

The third recommendation focuses on the representation of minority ethnic staff and students in higher education, with the emphasis on greater staff diversity. Our students believe that exposure to tutors from different ethnic and cultural backgrounds will not only improve the breadth and content of the curriculum, but also provide lived examples of how the discipline is actively contributed by people from different backgrounds, which can strengthen students' self-identities and aspirations (Borrego and Henderson 2014; Whittaker and Montgomery 2014). For students such as Chetachi (Black British male), staff representation is important for students to develop a sense of belonging, 'if all I see is white male [staff], middle to old-aged, I wouldn't be really encouraged to pursue that degree'. Melony (White British female) elaborated that 'if there was a range of people from different ethnicities and genders and things, acting as a role model for students and showing that anyone can do this subject ... then young students might be more likely to aim for that'. Existing literature broadly supports Melony's view, although there can be variations between different STEM disciplines and the intersecting influences of gender and ethnicity (Riegle-Crumb and King 2010). Indeed, Alish (British East Asian female) argued that 'the thing is, I've heard more of STEM encouraging women to take part in for like engineering, but I haven't heard it trying to actively recruit the minority ethnic groups'. Nancy (British East Asian female) concluded that 'having more students of an ethnic minority background would encourage other ethnic minority students; it would make them feel more welcome' as their presence are normalised through greater numbers and representations. As such, our students called for greater ethnic diversity in higher education, especially the staff population.

The fourth recommendation by students highlights the value of a diverse curriculum. The anticipation here is that with greater staff diversity, a wider range of values and perspectives will be incorporated into STEM teaching, especially away from Anglocentric curriculums (Bianchini et al. 2002). According to Mawiya (British Middle Eastern female):

[Staff] can certainly find something that is written or represents someone who's BAME because I'm guessing most of these sources are from just white dudes or white women. But I think they should try and include some BAME [people] ... so the student doesn't have to do all that digging.

We appreciate there are institutional efforts to diversify and decolonise the curriculum in higher education (Liyanage 2020; UCL 2020), although Winberg et al. (2019) found in their recent review that such work within STEM disciplines is actually very limited. Furthermore, Haynes and Patton (2019) warned that STEM staff, especially those from White ethnic backgrounds, often view their disciplines as 'race-neutral', informed by a positivist and objective paradigm. Perhaps the prerequisite of a diverse and inclusive STEM curriculum ought to begin with staff and their acknowledgement of potential racial bias within their discipline. Carol (Black British female) remained hopeful as she praised her tutor who initiated a support group for minority ethnic students, providing students like her with a platform 'to network, talk to each other . . . [and] overcome difficulties'. In short, a diverse and inclusive curriculum is seen to be a contributing issue that can strengthen the educational experiences and outcomes of minority ethnic students, although this requires, first and foremost, active support from staff (Kawas and Wong 2019).

The fifth recommendation focuses on student empowerment and how universities ought to support students, especially those from minority ethnic backgrounds, to capitalise on the different opportunities afforded by higher education (see Brooms, Clark, and Smith 2018). Existing literature has warned that minority ethnic students are more reluctant to seek available support at university (Wong and Chiu 2019) and less likely to participate in extracurricular activities (Dickinson, Griffiths, and Bredice 2020; Miles and Benn 2016), due to differences in cultural expectations or obligations, which can negatively impact on their degree outcomes (Stuart et al. 2011). To maximise the values offered by the breath of available resources and activities, we suggest that universities need to be proactive and reflective to ensure that barriers to these participations are reduced or eliminated through additional support or alternative provisions. All students would then be encouraged to embody and exert greater agency to broaden their experiences and horizons. Yet, one of our students cautioned that for any strategies or initiatives to work, all stakeholders must play their part, including students themselves. The chances of success are low 'if people don't want to be involved' (Lily, White British female), although such concerns might not materialise if structural barriers are removed.

Going forward

Addressing the ethnicity degree awarding gap is likely to require a long-term strategy with investment not only at the national and senior levels (OfS 2018), but also commitment and support from departments and individuals, especially staff. Going forward, we suggest that institutions wishing to close the ethnicity degree awarding gap ought to survey staff perceptions on the issue, in order to gain a holistic understanding of their awareness and observational capacities so to model an appropriate professional training module. This might include possible explanations for differential degree outcome, potential solutions, as well as general areas of improvement as recited by instructors. Since universities have different structural and socio-cultural configurations,

the individuality of the institutions should be respected and accounted for to supplement existing research on awarding gaps. However, there are no silver bullets or straightforward answers because the issues are complex and intersectional, especially when we consider differences within minority ethnic groups. A range of policies and initiatives will be needed, each designed to tackle specific inequalities that contribute to unequal degree outcomes, considering differences across degree disciplines and the structure of the curriculum and its assessments (UCL 2020). We believe that the five recommendations we set out, if fully adopted, will make a real difference to the experiences and outcomes of minority ethnic students. We encourage further research and suggestions for policy and practice, but for now, we hope universities who are serious about the ethnicity degree awarding gap would at the very least take note of the recommendations we devised alongside the views and voices of students.

Note

1. We acknowledge that the acronym BAME is not an uncontested term. There are diverse and different experiences between minority ethnic groups and there is a danger that grouping all ethnicities under BAME neglects the specific challenges of particular ethnicities.

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Notes on contributors

Billy Wong is an Associate Professor at the Institute of Education, University of Reading. His areas of research are educational identities and inequalities, especially in the context of higher education and STEM (science, technology, engineering and mathematics) education.

Reham ElMorally is a doctoral candidate in the Department of International Development, University of Reading. Her research focuses on gender and politics of the Middle East, particularly the role of political re-sacralization in subordinating and oppressing historically marginalized groups (women, children and proletariat).

Meggie Copsey-Blake recently completed her MA in Education at the University of Reading. Her BA was in English Language and Applied Linguistics. Her research interests are in language learning, motivation and usage, and identities, inequalities and aspirations in education.

ORCID

Billy Wong http://orcid.org/0000-0002-7310-6418

References

AdvanceHE. 2020. Students statistical report 2020. York: AdvanceHE

Ahmed, S. 2012. On Being Included: Racism and Diversity in Institutional Life. Durham/London: Duke University Press

Arday, J., and H. S. Mirza, Eds. 2018. Dismantling Race in Higher Education: Racism, Whiteness and Decolonising the Academy. Basingstoke: Palgrave Macmillan.

Benson-Egglenton, J. 2019. "The Financial Circumstances Associated with High and Low Wellbeing in Undergraduate Students: A Case Study of an English Russell Group Institution." Journal of Further and Higher Education 43 (7): 901-913. doi:10.1080/0309877X.2017.1421621.

Bhopal, K. 2018. White Privilege: The Myth of a Post-Racial Society. Bristol: Bristol University Press.



- Bianchini, J. A., D. J. Whitney, T. D. Breton, and B. A. Hilton-Brown. 2002. "Toward Inclusive Science Education: University Scientists' Views of Students, Instructional Practices, and the Nature of Science." Science Education 86 (1): 42–78. doi:10.1002/sce.1043.
- Boliver, V., S. Gorard, and N. Siddiqui. 2019. "Using Contextual Data to Widen Access to Higher Education." *Perspectives: Policy and Practice in Higher Education*. doi:10.1080/13603108.2019.1678076.
- Borrego, M., and C. Henderson. 2014. "Increasing the Use of Evidence-Based Teaching in STEM Higher Education: A Comparison of Eight Change Strategies." *Journal of Engineering Education* 103 (2): 220–252. doi:10.1002/jee.20040. Bristol, SU. 2017. *BME Attainment Gap Report*. Bristol: Bristol Student Union, University of Bristol.
- Brooms, D.R., J. Clark, and M. Smith. 2018. Empowering Men of Color on Campus: Building Student Community in Higher Education. New Brunswick, NJ: Rutgers University Press.
- Bullock, E. C. 2017. "Only STEM Can Save Us? Examining Race, Place, and STEM Education as Property." *Educational Studies* 53 (6): 628–641. doi:10.1080/00131946.2017.1369082.
- Bunce, L., N. King, S. Saran, and N. Talib. 2019. "Experiences of Black and Minority Ethnic (BME) Students in Higher Education: Applying Self-determination Theory to Understand the BME Attainment Gap." Studies in Higher Education. doi:10.1080/03075079.2019.1643305.
- Burr, V. 2003. Social Constructionism. East Sussex: Routledge.
- Byrne, B., C. Alexander, O. Khan, J. Nazroo, and W. Shankley, Eds. 2020. Ethnicity, Race and Inequality in the UK: State of the Nation. Bristol: Policy Press.
- Chang, M. J., M. K. Eagan, M. H. Lin, and S. Hurtado. 2011. "Considering the Impact of Racial Stigmas and Science Identity: Persistence among Biomedical and Behavioral Science Aspirants." *The Journal of Higher Education* 82 (5): 564–596. doi:10.1353/jhe.2011.0030.
- Collins, P. H., and S. Bilge. 2016. Intersectionality. Cambridge: Polity Press.
- Corbin, J., and A. Strauss. 2014. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.* 4th ed. London: Sage.
- Crenshaw, K. 1991. "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color." Stanford Law Review 43 (6): 1241–1299. doi:10.2307/1229039.
- Delgado, R., and J. Stefancic. 2017. Critical Race Theory (3rd Edition): An Introduction. New York, NY: NYU Press.
- DfE. 2019. Level 2 and 3 Attainment in England: Attainment by Age 19 in 2018. London: Department for Education.
- Dickinson, J., T.-L. Griffiths, and A. Bredice. 2020. "'It's Just Another Thing to Think About': Encouraging Students' Engagement in Extracurricular Activities." *Journal of Further and Higher Education* 1–14. doi:10.1080/0309877X.2020.1813263.
- Dortch, D., and C. Patel. 2017. "Black Undergraduate Women and Their Sense of Belonging in STEM at Predominantly White Institutions." NASPA Journal about Women in Higher Education 10 (2): 202–215. doi:10.1080/19407882.2017.1331854.
- EHRC. 2019. Racial Harassment at British Universities: Qualitative Research Findings. Manchester: Equality and Human Rights Commission.
- Elias, P., P. Jones, and S. McWhinnie. 2006. Representation of Ethnic Groups in Chemistry and Physics: A Report Prepared for the Royal Society of Chemistry and the Institute of Physics. London: Royal Society of Chemistry/Institute of Physics.
- Ellis, C., and M. Flaherty, Eds. 1992. Investigating Subjectivity: Research on Lived Experience. London: Sage.
- Fisher, O. 2015. "8 Proven Ways to Help Close the Achievement Gap." Accessed 01 October 2020. https://www.edsurge.com/news/2015-10-27-8-proven-ways-to-help-close-the-achievement-gap
- Gale, T., and S. Parker. 2014. "Navigating Change: A Typology of Student Transition in Higher Education." Studies in Higher Education 39 (5): 734–753. doi:10.1080/03075079.2012.721351.
- Gillborn, D. 2015. "Intersectionality, Critical Race Theory, and Primacy of Racism: Race, Class, Gender, and Disability in Education." *Qualitative Inquiry* 21 (3): 277–287. doi:10.1177/1077800414557827.
- Gross, J.P.K., V. Torres, and D. Zerquera. 2013. "Financial Aid and Attainment among Students in a State with Changing Demographics." *Research in Higher Education* 54 (4): 383–406. doi:10.1007/s11162-012-9276-1.
- Harris, J. C. 2017. "Multiracial College Students' Experiences with Multiracial Microaggressions." Race Ethnicity and Education 20 (4): 429–445. doi:10.1080/13613324.2016.1248836.
- Harry, B., and J. Klingner. 2007. "Discarding the Deficit Model." *Educational Leadership* 64 (5): 16–21. http://www.ascd. org/publications/educational-leadership/feb07/vol64/num05/Discarding-the-Deficit-Model.aspx
- Haynes, C., and L. D. Patton. 2019. "From Racial Resistance to Racial Consciousness: Engaging White STEM Faculty in Pedagogical Transformation." *Journal of Cases in Educational Leadership* 22 (2): 85–98. doi:10.1177/1555458919829845.
- Hiraldo, P. 2010. "The Role of Critical Race Theory in Higher Education." *The Vermont Connection* 31 (1): 53–59. https://scholarworks.uvm.edu/tvc/vol31/iss1/7
- Holloway, S.L., and P. Kirby. 2020. "Neoliberalising Education: New Geographies of Private Tuition, Class Privilege, and Minority Ethnic Advancement." *Antipode* 52 (1): 164–184. doi:10.1111/anti.12587.
- Jones, K. 2014. "Conservatism and Educational Crisis: The Case of England." *Education Inquiry* 5 (1): 89–108. doi:10.3402/edui.v5.24046.
- Katz, J. H. 2003. White Awareness: Handbook for Anti-racism Training. Norman: University of Oklahoma Press.



- Kawas, L., and B. Wong. 2019. Race, Ethnicity and Diversity: The Challenges and Opportunities for Lecturers in STEM. Reading: University of Reading.
- Khattab, N. 2018. "Ethnicity and Higher Education: The Role of Aspirations, Expectations and Beliefs in Overcoming Disadvantage." Ethnicities 18 (4): 457–470. doi:10.1177/1468796818777545.
- Ladson-Billings, G. 1998. "Just What Is Critical Race Theory and What's It Doing in a Nice Field like Education?" International Journal of Qualitative Studies in Education 11 (1): 7–24. doi:10.1080/095183998236863.
- Leathwood, C., and B. Read. 2009. *Gender and the Changing Face of Higher Education. A Feminized Future?* Maidenhead: Open University Press.
- Leonardo, Z., and R.K. Porter. 2010. "Pedagogy of Fear: Toward a Fanonian Theory of 'Safety' in Race Dialogue." *Race Ethnicity and Education* 13 (2): 139–157. doi:10.1080/13613324.2010.482898.
- Li, Y. 2018. "Against the Odds? A Study of Educational Attainment and Labour Market Position of the Second-generation Ethnic Minority Members in the UK." *Ethnicities* 18 (4): 471–495. doi:10.1177/1468796818777546.
- Li, Y., and A. Heath. 2016. "Class Matters: A Study of Minority and Majority Social Mobility in Britain, 1982–2011." American Journal of Sociology 122 (1): 162–200. doi:10.1086/686696.
- Liyanage, M. 2020. Miseducation: Decolonising Curricula, Culture and Pedagogy in UK Universities. Oxford: HEPI.
- Losh, S. C. 2010. "Stereotypes About Scientists Over Time Among US Adults: 1983 and 2001." Public Understanding of Science 19 (3): 372–82. 10.1177/0963662508098576.
- Lowery, B. S., and D. A. Wout. 2010. "When Inequality Matters: The Effect of Inequality Frames on Academic Engagement." *Journal of Personality and Social Psychology* 98 (6): 956–966. doi:10.1037/a0017926.
- Mahmud, A., and J. Gagnon. 2020. "Racial Disparities in Student Outcomes in British Higher Education: Examining Mindsets and Bias." *Teaching in Higher Education* 1–16. doi:10.1080/13562517.2020.1796619.
- McGee, E. O., and L. Bentley. 2017. "The Troubled Success of Black Women in STEM." Cognition and Instruction 35 (4): 265–289. doi:10.1080/07370008.2017.1355211.
- Miles, C., and T. Benn. 2016. "A Case Study on the Experiences of University-based Muslim Women in Physical Activity during Their Studies at One UK Higher Education Institution." Sport, Education and Society 21 (5): 723–740. doi:10.1080/13573322.2014.942623.
- Miller, D.W. 2007. "The Objectives of Science." *Philosophia Scientiæ* 11 (1): 21–43. doi:10.4000/philosophiascientiae.314. Miller, M. 2016. "The Ethnicity Attainment Gap: Literature Review." Sheffield: University of Sheffield.
- Mountford-Zimdars, A., J. Moore, and J. Graham. 2016. "Is Contextualised Admission the Answer to the Access Challenge?" *Perspectives: Policy and Practice in Higher Education* 20 (4): 143–150. doi:10.1080/13603108.2016.1203369.
- Museus, S.D., A.H. Nicholas, and A. Lambert. 2008. "Racial Differences in the Effects of Campus Racial Climate on Degree Completion: A Structural Model." *The Review of Higher Education* 32 (1): 107–134. doi:10.1353/rhe.0.0030.
- Nora, A., L. Barlow, and G. Crisp. 2006. "Examining the Tangible and Psychosocial Benefits of Financial Aid with Student Access, Engagement, and Degree Attainment." *American Behavioral Scientist* 49 (12): 1636–1651. doi:10.1177/0002764206289143.
- OfS. 2018. A New Approach to Regulating Access and Participation in English Higher Education. Bristol: Office for Students. Ong, M. 2005. "Body Projects of Young Women of Color in Physics: Intersections of Gender, Race, and Science." Social Problems 52 (4): 593–617. doi:10.1525/sp.2005.52.4.593.
- Ong, M., J. M. Smith, and L. T. Ko. 2018. "Counterspaces for Women of Color in STEM Higher Education: Marginal and Central Spaces for Persistence and Success." *Journal of Research in Science Teaching* 55 (2): 206–245. doi:10.1002/tea.21417.
- Peters, M.A. 2015. "Why Is My Curriculum White?" Educational Philosophy and Theory 47 (7): 641–646. doi:10.1080/00131857.2015.1037227.
- Plomin, R. 2018. Blueprint. London: Penguin Books.
- Ratcliff, N.J., R.H. Costner, K.L. Carroll, C.R. Jones, H.C. Sheehan, and G.H. Hunt. 2016. "Causes of and Solutions to the Achievement Gap: Teachers' Perceptions." *The Teacher Educators' Journal* 9: 97–111. https://www.ateva.org/s/The-Teacher-Educators-Journal-spring-2016.pdf
- Reay, D., G. Crozier, and J. Clayton. 2010. "Fitting In' or 'Standing Out': Working-class Students in UK Higher Education." British Educational Research Journal 36 (1): 107–124. doi:10.1080/01411920902878925.
- Reay, D., M.E. David, and S.J. Ball. 2005. *Degrees of Choice: Class, Race, Gender and Higher Education*. Staffordshire: Trentham Books.
- Riegle-Crumb, C., and B. King. 2010. "Questioning a White Male Advantage in STEM: Examining Disparities in College Major by Gender and Race/Ethnicity." *Educational Researcher* 39 (9): 656–664. doi:10.3102/0013189X10391657.
- Rollock, N., D. Gillborn, C. Vincent, and S. J. Ball. 2014. *The Colour of Class: The Educational Strategies of the Black Middle Classes*. Oxon: Routledge.
- Salkind, N. J. 2008. "Cultural Deficit Model." *Encyclopedia of Educational Psychology* 1: 217. doi:10.4135/9781412963848. n60.
- Schur, R. L. 2004. "Locating 'Paradise' in the Post-Civil Rights Era: Toni Morrison and Critical Race Theory." *Contemporary Literature* 45 (2): 276–299. doi:10.2307/3593567.
- Singh, G. 2009. Black and Minority Ethnic (BME) Students' Participation in Higher Education: Improving Retention and Success. A Synthesis of Research Evidence. York: Higher Education Academy.



- Smith, J. M., M. Senter, and J. C. Strachan. 2013. "Gender and White College Students' Racial Attitudes." Sociological Inquiry 83 (4): 570–590. doi:10.1111/soin.2013.83.issue-4.
- SOAS SU. 2016. Degrees of Racism. London: SOAS Student Union: SOAS.
- Solórzano, D. G., and T. J. Yosso. 2002. "Critical Race Methodology: Counter-Storytelling as an Analytical Framework for Education Research." *Qualitative Inquiry* 8 (1): 23–44. doi:10.1177/107780040200800103.
- Stuart, M., C. Lido, J. Morgan, L. Solomon, and S. May. 2011. "The Impact of Engagement with Extracurricular Activities on the Student Experience and Graduate Outcomes for Widening Participation Populations." *Active Learning in Higher Education* 12 (3): 203–215. doi:10.1177/1469787411415081.
- Troyna, B. 1987. "Beyond Multiculturalism: Towards the Enactment of Anti-racist Education in Policy, Provision and Pedagogy." Oxford Review of Education 13 (3): 307–320. doi:10.1080/0305498870130306.
- Truong, K. A., S. D. Museus, and K. M. McGuire. 2016. "Vicarious Racism: A Qualitative Analysis of Experiences with Second-hand Racism in Graduate Education." *International Journal of Qualitative Studies in Education* 29 (2): 224–247. doi:10.1080/09518398.2015.1023234.
- UCL. 2020. BAME Awarding Gap Project: Staff Toolkit 2020. London: University College London.
- UUK/NSS. 2019. Black, Asian and Minority Ethnic Student Attainment at UK Universities: #closingthegap. London: Universities UK.
- Vice, S. 2010. "How Do I Live in This Strange Place?" *Journal of Social Philosophy* 41 (3): 323–342. doi:10.1111/j.1467-9833.2010.01496.x.
- Weisskopf, T. E. 2001. "Consequences of Affirmative Action in US Higher Education: A Review of Recent Empirical Studies." *Economic and Political Weekly* 36 (51): 4719–4734. https://www.jstor.org/stable/4411507
- Whittaker, J. A., and B. L. Montgomery. 2014. "Cultivating Institutional Transformation and Sustainable STEM Diversity in Higher Education through Integrative Faculty Development." *Innovative Higher Education* 39 (4): 263–275. doi:10.1007/s10755-013-9277-9.
- Winberg, C., H. Adendorff, V. Bozalek, H. Conana, N. Pallitt, K. Wolff, T. Olsson, and T. Roxå. 2019. "Learning to Teach STEM Disciplines in Higher Education: A Critical Review of the Literature." *Teaching in Higher Education* 24 (8): 930–947. doi:10.1080/13562517.2018.1517735.
- Wong, B. 2016. Science Education, Career Aspirations and Minority Ethnic Students. Basingstoke: Palgrave MacMillan.
- Wong, B. 2018. "By Chance or by Plan?: The Academic Success of Nontraditional Students in Higher Education." AERA Open 4 (2): 1–14. doi:10.1177/2332858418782195.
- Wong, B., R. ElMorally, M. Copsey-Blake, E. Highwood, and J. Singarayer. 2020. "Is Race Still Relevant? Student Perceptions and Experiences of Racism in Higher Education." *Cambridge Journal of Education*. doi:10.1080/0305764X.2020.1831441.
- Wong, B., and Y.L.T. Chiu. 2021. "Exploring the Concept of 'Ideal' University Student." Studies in Higher Education 46 (2): 497–508. doi:10.1080/03075079.2019.1643302.
- Wong, B., and Yuan-Li Tiffany. Chiu. 2019. "Swallow Your Pride and Fear': The Educational Strategies of High-achieving Non-traditional University Students." *British Journal of Sociology of Education* 40 (7): 868–882. doi:10.1080/01425692.2019.1604209.
- Yancy, G., Ed. 2015. White Self-Criticality beyond Anti-Racism: How Does It Feel to Be a White Problem? London: Lexington Books.
- Yosso, T. J. 2005. "Whose Culture Has Capital? A Critical Race Theory Discussion of Community Cultural Wealth." *Race Ethnicity and Education* 8 (1): 69–91. 10.1080/1361332052000341006.6.
- Yosso, T. J., W.A. Smith, M. Ceja, and D. Solorzano. 2009. "Critical Race Theory, Racial Microaggressions, and Campus Racial Climate for Latina/o Undergraduates." *Harvard Educational Review* 79 (4): 659–691. doi:10.17763/haer.79.4. m6867014157m707l.
- Zhou, A. 2017. "Serving Some and Serving All: How Providers Navigate the Challenges of Providing Racially Targeted Health Services." Ethnicity & Health 22 (5): 443–457. doi:10.1080/13557858.2016.1244627.