The role of gender, social class and ethnicity in participation and academic attainment in UK higher education: an update

The role of gender, social class and ethnicity in participation and academic attainment in UK higher education: An update

John T. E. Richardson (ORCiD 0000-0002-6267-0603)[a], Jenna Mittelmeier (ORCiD 0000-0002-6037-822X)[b], and Bart Rienties (ORCiD 0000-0003-3749-9629)[a]

[a]The Open University, Milton Keynes, UK; [b]University of Manchester, UK

CONTACT ✉ John.T.E.Richardson@open.ac.uk

ABSTRACT

Richardson (2008b) outlined known relationships between gender, ethnicity, and academic attainment in UK higher education. In the period since this publication, many changes to the higher education sector have occurred, including raising tuition fees, an increased focus on widening participation, and an increasing interest in diversifying the curriculum. There is a need for an updated and expanded literature review to highlight whether the relationships between gender, ethnicity, and academic attainment remain the same one decade later. This article synthesises the current literature related to the impact of gender, social class, and ethnicity on higher education participation and academic attainment. We highlight the important role of intersectionality in understanding overarching trends. Altogether, this literature review shows that there are persisting inequalities in both participation and attainment based on gender, social class, and ethnicity. To conclude, we provide several suggestions for improving our understanding of these phenomena in the decades to come.

KEYWORDS

Attainment in higher education; entry qualifications; ethnicity; gender; inequality in higher education; participation in higher education; social class

Word count (inclusive of abstract, text, references, and table): 7,919

Introduction

Richardson (2008b) reviewed the literature regarding what was then known about degree attainment, ethnicity and gender in UK higher education. In this context, degree attainment refers to the class of honours awarded for the first degree (normally a Bachelor's degree); a 'good' degree is usually defined as one that is awarded with either first-class or upper second-class honours. Richardson's review led to two main conclusions. Regarding ethnicity, White students were consistently more likely to obtain good degrees and more likely to obtain first-class honours than students from other ethnic groups. Regarding gender, the difference in attainment between men and women had reversed over the previous 50 years: until 1990 men had been more likely to obtain good degrees than women, but since 1990 women had been more likely to obtain good degrees than men.

Richardson's review made it clear that one problem facing research in this area was that little was known about the root causes of unequal degree attainment. However, several ideas were put forward for future consideration. For example, an interesting relationship between attainment and participation (defined by students' registration on a higher education programme) was highlighted: Asian or Black students participated in higher education at a higher rate than their White peers but were less likely to obtain first-class honours degrees and were less likely to obtain good degrees (Connor, Tyers, Modood, & Hillage, 2004). Similarly, it was pointed out that few studies had considered intersectional relationships among factors such as gender, social class, and ethnicity. Indeed, much work at that time had been based on additive models rather than exploring interactive effects.

It has now been more than a decade since the publication of this review. In the meantime, the UK higher education landscape has experienced significant changes (Harrison, 2017; Hordósy & Clark, 2018). For example, the National Collaborative Outreach Programme has established partnerships between universities and colleges to create higher

education outreach programmes for widening participation, building on the previous National Networks for Collaborative Outreach and AimHigher initiatives. Increases in sixth-form college attendance and Business and Technology Education Council Level 3 qualifications (S. Smith, Joslin, & Jameson, 2015) may also have had wide-ranging effects on participation and attainment in higher education. Since Richardson's (2008b) review was published, tuition fees in England have dramatically risen, strongly impacting the experiences of lower-income students in particular (Hordósy & Clark, 2018). At the same time, attempts have been made to push for increased inclusivity and diversity in higher education curricula, such as the National Union of Students' 'Why is My Curriculum White?' campaign, which has been running since 2015. There is clearly a need to update and expand Richardson's (2008b) review to explore whether more recent literature on this topic reveals new trends.

The present article reviews the literature since 2008 on the roles of gender and ethnicity as determinants of students' participation in UK higher education and of their academic attainment, as measured by their class of final degree. Given increasing suggestions about the influential role of social class (Bathmaker et al., 2016; Blackburn, Kadar-Satat, Riddell, & Weedon, 2016; Burke, 2015; Hordósy & Clark, 2018), we also expand on prior work by summarising what is known about the influence of social class on participation and degree attainment in UK higher education. Finally, we explore the intersectionality among gender, social class, and ethnicity and outline known interactive effects of these three factors on participation and attainment.

Altogether, we consider the following substantive questions in this review:

- What have we learned about higher education participation and degree attainment in the period since Richardson's (2008b) review?
- What is still currently left unknown about higher education participation and students'

degree attainment?

- In what areas should research on these topics focus in the decades to come?

The answers to such questions serve three purposes. First, we aim to provide a much-needed update and expansion on participation and degree attainment trends in UK higher education in the light of the aforementioned sector changes. Second, this review serves as a resource regarding the impact of factors such as gender, social class, and ethnicity for those working within and alongside higher education institutions. Finally, we provide suggestions for future research to support ongoing evaluations into the trends illuminated thus far.

Given the range of existing publications and data on this topic, we take the approach of a thematic literature review to synthesise current understandings. Some preliminary remarks are needed about the measurement of these characteristics.

Methods for measuring gender, social class and ethnicity

Gender

The classification of students as ‘female’ or ‘male’ is typically based on self-identification, and so *gender* is the appropriate term to refer to this distinction rather than *sex,* which would refer to biological differences. In national statistics relating to higher education, gender has been historically recorded as a binary classification, and non-binary students are not recognised. (There is some research on this topic from the United States: see Nicolazzo, 2016.) In line with national statistics, we use the terms *girls* and *boys* when talking about students in secondary education, and the terms *men* and *women* when talking about students in higher education. Analyses of the participation and attainment of men and women in UK higher education have usually been restricted to people domiciled in the United Kingdom.

Social class

A variety of measures have been used to classify social class in the United Kingdom, and each is problematic in different ways (Savage, 2011). The classification of social class for students domiciled in the United Kingdom has in the past been based on the occupations of their parents using a categorisation due to the UK Registrar General. However, since 2005, an alternative classification has been based on Participation of Local Areas (POLAR). This estimates the proportion of young people within a particular geographical area who proceed to higher education by the age of 19. This classification can be useful for evaluating the impact of interventions aimed at widening participation. However, there are a variety of problems with POLAR data (Boliver, Gorard, & Siddiqui, 2019, pp. 5–6; Harrison & McCaig, 2015). Some disadvantaged families live outside the areas that are designated as disadvantaged, while some families who live in such areas are not themselves disadvantaged. Moreover, when using POLAR as a proxy for social class, it becomes circular to maintain that participation in higher education is higher in people from a middle-class background than in people from a working-class background.

Since 2007, an alternative Index of Multiple Deprivation (IMD) has been used. This adopts several different measures of the social deprivation of individual neighbourhoods. Different measures of deprivation have since been derived for application in the constituent nations of the United Kingdom (see T. Smith, Noble, Wright, McLennan, & Plunkett, 2015). These include a dimension relating to participation in higher education (albeit one of several dimensions), and so again there is an element of circularity in maintaining that participation is higher in people from a middle-class background if IMD is used as a proxy for social class. These measures, too, are restricted to people who are domiciled in the constituent nations of the United Kingdom. Even so, it is questionable whether lower social class can be identified with social deprivation without using other contextual information (Boliver et al., 2019).

Ethnicity

Researchers in the United Kingdom frequently use the term *ethnicity* rather than *race*, because the latter is associated with long-discredited theories concerning human behaviour, character, and social organisation (Fenton, 1996; Platt, 2011, pp. 71–72; Tobias, 1996). Ethnicity is a fundamental category of social organisation: members of an ethnic group have a sense of common historical origins and may also share a distinctive culture, religion, or language (Stone, 1996). The labels used to identify different ethnic groups vary from one country to another and evolve over time in each country. For instance, in the United States, the term *Asian* often refers to people with origins in East or South-East Asia. In the United Kingdom, however, the term normally refers only to people with origins in the Indian subcontinent, and many Chinese people living in the United Kingdom would not describe themselves as 'Asian'. In many societies, there is a dominant ethnic group and one or more minority groups. In these situations, structural inequalities often impair the educational achievement of people from ethnic minority groups. (The classic study is by Ogbu, 1978.)

In the context of UK higher education, *ethnicity* applies to all students. As the note to Table 1 explains, we follow current practice in using *ethnic minorities* to refer to subgroups of non-White students. The classification of students' ethnicity is typically based on their self-identification, often using a list of categories similar to those in the national census. Table 1 shows the ethnic classification used in the 2001 UK census. As Fenton (1996) remarked regarding the classification used in a previous UK census, the categories are a confusing mixture based partly on skin colour and partly on national, regional or continental origin. Such categories mainly reflect the messy cultural and colonial history of the United Kingdom, rather than the reality of individuals' identities. Nevertheless, they are valid to the extent that such categories are used consistently by various official entities across the United Kingdom, and to the extent that people (in particular students) from different ethnic groups

are prepared to use them to describe themselves. They should only be used to refer to people domiciled in the United Kingdom because alternative categories are used in other countries.

(Insert Table 1 about here)

In the following sections, the research literature related to these three characteristics is synthesised and organised into two overarching topics: participation in higher education; and degree attainment in higher education.

Participation in higher education

Gender

In the United Kingdom, girls are more likely than boys to proceed from secondary education to higher education. Crawford and Greaves (2015, pp. 40–41) found a continued difference of around 8 percentage points in the participation rates of girls and boys in higher education over the period between 2003 and 2008 (although their figures omitted children who had attended public schools, roughly 6% of the population). This disparity between girls and boys may well have increased in recent years: in 2017 the difference in entry rates was 11.4 percentage points (Universities and Colleges Admissions Service, 2017, p. 28). At the same time, participation inequalities are seen between subjects: for instance, girls are less likely to participate in General Certificate of Education (GCE) Advanced Level (the most common university-entrance qualification) or higher education courses in pure sciences (E. Smith, 2011), despite a wide range of resources being devised for encouraging their participation. The underlying causes of this disparity require future research.

Crawford and Greaves (2015) found that the differences in overall participation rates between girls and boys could be largely explained by differences in attainment at Key Stage 4 (Years 10–11, when children are aged 14–16). In other words, the fact that boys tended to obtain poorer General Certificate of Secondary Education (GCSE) or equivalent results than

girls seemed to play a key role in explaining why they were less likely to go to university. Other variables seemed to have little or no influence on participation in higher education. When they were matched on the basis of Key Stage 4 results and other background variables, the participation rates of boys and girls were relatively similar (p. 40).

Nevertheless, research indicates that girls and boys differ in their aspirations to participate in higher education even before they have taken their GCSEs. Berrington, Roberts, and Tammes (2016) obtained data from the United Kingdom Household Panel Survey relating to children aged 10–15 years who were surveyed in 2009 and 2010. They found that 73.8% of girls expressed a positive aspiration to attend college or university, but that only 58.2% of boys did so. Whether this difference in aspiration led to a difference in attainment remains unclear. Even so, both figures were higher than the corresponding participation rates, leading these researchers to conclude that children's aspirations for participation in higher education remained high. Platt and Parsons (2018, p. 5) obtained similar findings from 14-year-old children interviewed in the Millennium Cohort Study.

Social class

Children from socially advantaged areas are more likely to participate in higher education than children from socially disadvantaged areas (Blackburn et al., 2016; Harrison, 2017). This disparity is greater in Scotland than in the rest of the United Kingdom. Scottish universities currently do not charge Scottish students tuition fees, but there remains a cap on university places. This means that there is increased competition for places, especially at the more selective universities, and this has had a disproportionately negative effect on students from socially disadvantaged areas (Blackburn et al., 2016).

In England, Crawford and Greaves (2015) classified children on the basis of their neighbourhoods' scores on the IMD. They found a consistent difference of around 38

percentage points in the participation rates of children in the top and bottom quintiles of the IMD (i.e., the least deprived and the most deprived neighbourhoods). They obtained similar results when the children were classified into quintiles according to the POLAR measure (pp. 31–32). Once again, the differences in participation rates could be largely explained by differences in attainment at Key Stage 4 (pp. 33–34). This led the authors to conclude that increasing attainment at Key Stage 4 was the best way to influence participation in higher education (pp. 34–36).

Harrison (2017) noted that this participation gap between economically advantaged and disadvantaged students (measured by POLAR) had decreased in recent years from 43 percentage points in 2005 to 35 percentage points in 2014. Similar trends were found when relating participation in higher education to the provision of free school meals and to parental occupation. However, he suggested that one reason for this decreasing gap was declining participation on the part of more advantaged students, perhaps as a result of changing fee structures or foregone ‘gap years’.

Similarly, Berrington et al. (2016) compared children’s aspirations to participate in higher education based on their parents’ occupation. They found that positive aspirations were higher among children from managerial and professional backgrounds than among those from intermediate or routine class backgrounds. This difference in aspirations was larger in boys than in girls, but the interaction between the effects of gender and class was not statistically significant. The overall trend was supported by analyses carried out by Boliver (2013) using data from 1996 to 2006 from the Universities and College Admissions Service (UCAS), the body responsible for processing applications to UK higher education. These showed that students from disadvantaged backgrounds (judged by their parents’ occupations) were less likely to apply to Russell Group universities (prestigious research-intensive institutions) than socially advantaged students, even when they held similar qualifications.

Nevertheless, other research has indicated that aspirations for higher education and professional occupations are not different for students from more deprived neighbourhoods (Archer, DeWitt, & Wong, 2014; Baker et al., 2014). For example, St. Clair and Benjamin (2011) interviewed 12- and 13-year-old children from three schools in Glasgow, London and Nottingham where the majority fell into the lowest IMD quintile. They asked students about their occupational aspirations and found that most of the children aspired to professional or technical occupations (in other words, occupations for which qualifications at the first-degree level or beyond would be required).

Ethnicity

Children from all ethnic minority groups are more likely than White children to proceed from secondary education to higher education. Connor et al. (2004, pp. 42–43) estimated that in 2001–2002 the participation rate in UK higher education was 38% for White people but 56% for people from all ethnic minority backgrounds. More recently, the Department for Education (2015, p. 10) reported that in 2012–2013, 45% of White school-leavers had entered higher education compared with 64% of Asian and 62% of Black school-leavers.

Jackson (2012) focused on children who had been interviewed aged 16 in the Youth Cohort Studies carried out in England and Wales in 1998, 2000 and 2002. She classified those from ethnic minorities into ten categories. White children were less likely than most other ethnic groups to proceed to GCE A-level at age 18. However, children categorised in the ‘Black Caribbean’ and ‘Other Black’ ethnic categories were the least likely to proceed to GCE A-level. This trend continued for those who went on to take A-level examinations, with children in most ethnic minority categories more likely to proceed than White children, and children categorised as ‘Black Caribbean’ and ‘Other Black’ least likely to take A-levels. These patterns remained very similar even when variations in the children’s social class (as

measured by parental occupation) had been taken into account.

Crawford and Greaves (2015, pp. 44–45) also classified children from ethnic minorities into ten categories, and they too found large differences in participation in higher education. In 2003, all ethnic minority groups except for ‘Black Caribbean’ and ‘Other Black’ children had higher participation rates than White British children. Moreover, between 2003 and 2008 the participation rates of all ethnic minority groups increased more than that of White British children. As a result, by 2008 *all* ethnic minority groups had higher participation rates than White British children. Nonetheless, evaluation of UCAS data by Boliver (2013) indicated that Black and Asian students were less likely to receive offers from prestigious Russell Group institutions than were White students with similar qualifications.

At the same time, Crawford and Greaves (2015) found that attainment at Key Stage 4 was lower in children from all ethnic minority groups than in White children (pp. 26–27). Given that attainment at Key Stage 4 is *positively* related to participation in higher education, it is not surprising that they found that the differences in participation rates across different ethnic groups were if anything somewhat more pronounced when differences in their attainment at Key Stage 4 had been statistically taken into account (pp. 45–48). In other words, the differences in higher education participation across ethnic groups came about *despite* the differences in their attainment at Key Stage 4, rather than because of them.

Aspirations for higher education show similar patterns. Berrington et al. (2016) classified children who had participated in the UK Household Panel Survey in 2009 and 2010 into just seven ethnic groups. They found that 66% of White children expressed a positive aspiration to attend college or university, a smaller percentage than that found for all other ethnic groups. Positive aspirations to participate in higher education were highest in Black Caribbean children (86%), Indian children (82%), Black African children (81%) and Bangladeshi children (78%). Archer et al. (2014) categorised children into four groups and

found that students from all ethnic minority backgrounds (labelled as ‘Asian’, ‘Black’, and ‘Chinese’) were much more likely to aspire towards careers in medicine or science than were White students. Similar results were obtained by Platt and Parsons (2018, pp. 11–12) from 14-year-old children interviewed as part of the Millennium Cohort Study.

Intersectionality

Initially, the effects of gender, social class and ethnicity on participation in higher education were studied independently. Nowadays, however, it is generally accepted that the effects of demographic, personal and social characteristics need to be regarded as being overlapping and interdependent. This is referred to as *intersectionality*, originally discussed in the context of the role of gender and ‘race’ in the repression of Black women in the United States (see Crenshaw, 1989). Many researchers regard this concept as being key to the appreciation of the experiences of different groups within society. Feminist theory links intersectionality to social relations of power and oppression (Cho, Crenshaw, & McCall, 2013; Collins, 2015).

However, there are two forms of intersectionality. A weak form of intersectionality contends that the effects of the relevant variables are additive (that is, independent) and do not interact with one another. In the present context, just on the basis that (a) girls show higher participation rates in higher education than boys, (b) middle-class children show higher participation rates than working-class children, and (c) children from all ethnic minorities groups show higher participation rates than White children, one would expect that middle-class girls from an ethnic minority background would exhibit the highest participation rate, whereas White working-class boys would exhibit the lowest participation rate. This is what research has found: of those White boys in the lowest IMD quintile who took GCSEs in 2008, only 10% proceeded to higher education (Crawford & Greaves, 2015, p. 112).

Berrington et al. (2016) examined the role of gender, social class and ethnicity in

children's aspirations to attend college or university. They concluded that these variables seemed to operate in an additive manner, so that White boys from the lowest occupational class or from workless households were least likely to have positive aspirations to attend college or university. Findings such as these have led to a focus on the factors that might be responsible for the low participation rate and the low aspirations of White working-class boys and on interventions that might change these outcomes (Baars, Mulcahy, & Bernardes, 2016; Clarke & Beech, 2018). One possible factor is the continued use in UK secondary schools of 'setting' (ability-based grouping within the same classroom, as opposed to 'streaming' or ability-based grouping in different classrooms). Travers (2017, pp. 88–90, 103) found that White working-class boys tended to find themselves in lower ability groups, and she argued that this negatively affected both their own aspirations and the expectations of their teachers.

A stronger form of intersectionality contends that the effects of the relevant variables interact with one another and are therefore not strictly additive. By way of an example, Crawford and Greaves (2015, pp. 79–80) noted that the effect of social class on participation in higher education was greater in White children than in those from ethnic minority backgrounds. For instance, among White British children, the difference in participation rates between those in the top quintile and those in the bottom quintile was 42 percentage points, whereas among Black African children the difference was only 11 percentage points. Crawford and Greaves also noted that the gender difference in participation in higher education was greater among children in the *top* quintile for some ethnic groups but greater among children in the *bottom* quintile for other ethnic groups. Even so, it remains true that middle-class girls from ethnic minority groups generally show the highest participation whereas White working-class boys show the lowest. Another example of intersectionality is provided by Platt and Parsons (2018, pp. 11–12), who found that girls from ethnic minorities were more likely than boys to aspire to careers in medicine, the law, or accountancy.

Attainment in higher education

As mentioned earlier, attainment in higher education in the United Kingdom is commonly measured by the class of honours awarded for the first degree. A good degree is normally defined as one that is awarded with either first-class or upper-second class honours. The proportion of good degrees awarded in each year has increased over the last two decades, rising to 75% in 2016–2017 (Higher Education Statistics Agency, 2018). However, the findings regarding gender, social class and ethnicity have remained fairly constant over that period and are consistent with those of the original review by Richardson (2008b).

Gender

Since the 1990s, women have been more likely to obtain good degrees in higher education in the United Kingdom than men (Richardson, 2008b; Richardson & Woodley, 2003; J. Smith & Naylor, 2001). A more recent analysis by the Higher Education Funding Council for England (HEFCE) (2018, p. 15) found that, in 2016–2017, 81% of young female graduates were awarded good degrees but only 76% of young male graduates were awarded good degrees. This difference was not explained by differences in their entry qualifications or any other characteristics: it remained at around 5 percentage points even when these had been taken into account (p. 16).

This has since led to calls for action to remedy the under-attainment of men in higher education (Hillman & Robinson, 2016). Nevertheless, these have confused the gender difference in *attainment* in higher education with the gender difference in *participation* in higher education. Moreover, as will be seen below, the gender difference in attainment is not as great as the differences associated with social class or ethnicity, and so these proposals could be regarded as using scarce resources to address the wrong problem.

Social class

Broecke and Nicholls (2007) investigated a variety of predictors of degree attainment among English-domiciled students who had graduated from UK universities in 2004–2005. They found that a student's IMD rank or decile (where 1 was the most deprived and 10 was the least deprived) was a strong predictor of the class of final degree, even when the effects of other variables on academic attainment had been statistically controlled.

One variable that Broecke and Nicholls sought to control was students' entry qualifications. In 2002 UCAS had introduced a tariff system to assign a numerical score to each applicant based on their level of achievement in different types of qualifications. A limitation of Broecke and Nicholls' analysis was that it was restricted to the 20% of their sample for whom tariff scores and other demographic information were available (see also Richardson, 2008a). Nowadays, however, more than 90% of entrants to higher education in the United Kingdom are assigned tariff scores.

A more recent study that used a measure of deprivation based on family income found that it did not predict the performance of medical students when effects of other variables had been statistically controlled (Stringer, Chan, Bimpeh, & Chan, 2017). However, it did predict the students' results at GCSE, as in the analysis by Crawford and Greaves (2015). This suggests that its effect on academic attainment was mediated by their entrance qualifications: higher family income led to better GCSE results, which in turn led to better attainment at university.

The HEFCE (2018) data analysis found that the proportion of good degrees awarded varied across different POLAR quintiles. It was highest for POLAR Quintile 5 (83%) and lowest for POLAR Quintile 1 (73%) (p. 24). Most of this difference could be attributed to differences in entry qualifications or other characteristics. The difference between attainment for graduates from Quintile 5 and Quintile 1 was reduced from 10.1 percentage points to 2.3

percentage points when these characteristics had been statistically taken into account (p. 25).

Ethnicity

Graduates from ethnic minority backgrounds are less likely to be awarded good degrees than their White counterparts (Richardson, 2008a, 2008b). Across all ethnic minority groups, the odds of a student obtaining a good degree are roughly half those of a White student obtaining a good degree, and this situation has not changed over the last 20 years (Richardson, 2018). The HEFCE (2018) data analysis found that in 2016–2017 82% of White graduates had been awarded good degrees. The analysis used just three categories of ethnic minority students: those from mixed backgrounds, of whom 75% were awarded good degrees; Asian students, of whom 72% were awarded good degrees; and Black students, of whom only 60% were awarded good degrees (p. 21).

It might be assumed that entrants to higher education are drawn from the upper region of some distribution of ability. In that case, average attainment would vary inversely with the participation rate, because increased participation would involve drawing further candidates from lower down the distribution. Indeed, Amis (1960, p. 6) criticised proposals to expand UK higher education in the 1960s using the slogan ‘More will mean worse’. Subsequently, Leslie (2005, p. 631) used the same argument to suggest that higher participation rates in Asian and Black students would lead to ‘a diminution in average quality of applicant’. While applicants from ethnic minority backgrounds tend to have lower entry qualifications than do White applicants, this has been explained as the result of structural inequalities in secondary education (Shiner & Modood, 2002). Moreover, the ‘More will mean worse’ argument does not explain some of the disparities in attainment in higher education among different ethnic groups. For example, Leslie (2005) himself found that White students were still more likely to obtain good degrees than students from all ethnic minority groups, even when differences

in their entry qualifications and subject choices had been taken into account. The HEFCE (2018, p. 22) data analysis also found that some but by no means all the variation in attainment across ethnic groups could be attributed to differences in their entry qualifications or other characteristics.

Intersectionality

Most previous analyses of the factors predicting attainment in higher education have used econometric models based on logistic regression analysis. These have assumed that the effects of these factors are additive and independent: in other words, they have assumed a weak form of intersectionality.

These analyses have confirmed all of the above effects: (a) women are more likely to obtain good degrees than men; (b) students from a higher social class are more likely to obtain good degrees than students from a lower social class; and (c) White students are more likely to obtain good degrees than all groups of ethnic minority students, even when the effects of other demographic and institutional variables have been statistically controlled (Broecke & Nicholls, 2007; HEFCE, 2010; Naylor & Smith, 2004; Richardson, 2008a). Even so, they have demonstrated that about half of the difference in attainment between White students and ethnic minority students can be attributed to background variables, most notably to differences in their entry qualifications. The causes of the *other* half of the difference in attainment are as yet unclear (Richardson, 2015, 2018), meaning that other variables (that are perhaps not currently understood) are likely to impact on attainment.

On the basis of these findings, one would expect that White women from a middle-class background would be the most likely to obtain good degrees, whereas working-class men from ethnic minority backgrounds would be the least likely to obtain good degrees. This is indeed what research has found (HEFCE, 2018, pp. 44–47). As mentioned earlier, there are

calls to remedy the under-attainment of men in higher education; however, these proposals could be regarded as racist, insofar as they ignore the fact that it is working-class men *from ethnic minority backgrounds* who are the least likely to obtain good degrees.

As noted earlier, a strong form of intersectionality contends that the effects of the relevant variables are not strictly additive but interact with one another. This can be evaluated by using logistic regression, decision-tree models, or logit loglinear analysis. For instance, Richardson (2008a) used logit loglinear analysis and found that the trend for ethnic minority students to be less likely to obtain good degrees than White students was greater in older students than in younger students, greater in women than in men, greater in part-time students than in full-time students, and greater in some subjects and at some institutions than others. Consistent with feminist accounts of intersectionality, many of these results could plausibly be interpreted in terms of variations in social power and oppression. Nevertheless, recent research using sophisticated techniques such as decision-tree modelling (e.g., Rizvi, Rienties, & Khoja, 2019) has tended to adopt additive, rule-based models to explore how gender and other variables predict learning outcomes.

Discussion and areas for future research

Recent research indicates that girls show higher participation rates in higher education than boys, middle-class children show higher participation rates than working-class children, and children from all ethnic minority backgrounds show higher participation rates than White children. The effect of social class is greater in White children than in children from ethnic minority backgrounds. Nevertheless, middle-class girls from ethnic minority backgrounds exhibit the highest participation rate, whereas White working-class boys exhibit the lowest participation rate.

Little has changed in the period since Richardson's (2008b) original literature review

on the impacts of ethnicity and gender on degree attainment in the United Kingdom, despite increased focus and resource towards widening participation and supporting underprivileged students. On completing first-degree programmes in the United Kingdom, women are still more likely to obtain good degrees than men, and White students are still more likely to obtain good degrees than students from ethnic minorities. The inclusion of social class in the current review shows that students from a middle-class background are more likely to obtain good degrees than students from a working-class background. Exploring the intersectionality between gender, ethnicity, and social class adds to our understanding of this complex phenomenon. As a general rule, White women from a middle-class background are the most likely to obtain good degrees, whereas men from ethnic minorities and working-class backgrounds are the least likely to obtain good degrees.

Understanding the paradox between higher participation but poorer attainment among ethnic minority students is a major task for future research. The current review has outlined several other areas that are important considerations for future work.

Understanding the factors underlying effects on participation and attainment. Variations in entry qualifications explain most of the difference in attainment between middle-class and working-class students, about half of the difference in attainment between White and ethnic minority students, but none of the difference in attainment between men and women. The causes of the differences in academic attainment that exist when variations in entry qualifications have been statistically controlled are not yet clear. Richardson (2018) proposed that ethnicity per se was almost certainly not the effective variable influencing students' attainment; rather, it was a proxy for other factors that were confounded with students' ethnicity. The same is likely to be true in the case of gender. If institutions are to develop effective interventions for achieving parity in terms of educational outcomes, a key

task for future research is to identify the underlying factors that are responsible for variations in attainment related to gender and ethnicity.

Addressing the role of 'aspirations' and their relation to social transformation. Research has outlined differences in aspirations towards higher education based on gender and ethnicity (Berrington et al, 2016), while social class seems to play less of a role (Archer et al., 2014; Baker et al., 2014; St. Clair & Benjamin, 2011). At the same time, arguments have been made about the challenging discourses of aspirations and their (often misplaced) focus in widening participation efforts through the lens of student recruitment (Harrison & Waller, 2018). Such discourse often ignores the point that aspirations towards higher education are shaped by attainment in secondary education, social networks, support structures, or structural inequalities (particularly in terms of gender, social class, and ethnicity). Children's *aspirations* need to be distinguished from their *expectations*, which reflect the achievability of particular goals and tend to be lower than their aspirations, especially in disadvantaged students or those showing poor academic performance (Boxer, Goldstein, DeLorenzo, Savoy, & Mercado, 2011). Harrison and Waller (2018) suggested that student's expectations might be more useful predictors of their participation in higher education than their aspirations. They argued that future research should focus on social transformation and students' decisions to apply or participate in higher education. Of course, aspiring towards higher education can be regarded either as an end in itself or as a means towards entering a more prestigious or highly paid occupation (cf. Platt & Parsons, 2018).

Exploring subject-level inequalities. Research has found that boys (E. Smith, 2011) and students from ethnic minority backgrounds (Archer et al., 2014) are more likely to enrol in pure science or medicine courses at both GCE A-level and university. Although a variety of resources have been used to encourage participation from underrepresented groups, these trends persist, and more research is needed to understand their underlying reasons.

Variations in participation and attainment between institutions. Much of the current work has focused on trends at an aggregate, national level. However, other work has indicated differences among institutions, namely Russell Group institutions (Boliver, 2013) and 'new' universities (mainly former polytechnics that have become chartered institutions since 1992) (Richardson, 2008a). More research unpacking variations in both participation and attainment across different types of institution is needed (cf. Croxford & Raffe, 2013).

Using stronger approaches to analysing intersectionality. Much work has explored the individual effects of gender, social class, and ethnicity on participation and attainment using additive measures. However, future research should consider the possibility that the effects of such variables interact with one another (and are therefore not strictly additive). Stronger approaches using analytic methods such as logit loglinear analysis or decision-tree models can provide a more complex and nuanced understanding on this topic (Richardson, 2008a; Rizvi et al., 2019).

Despite radical changes to the UK higher education sector during the period since Richardson's (2008b) review, inequalities remain in both participation and attainment based upon students' gender, social class, and ethnicity. While the intersectionality of these demographic variables can explain some of the variations in participation and attainment, understanding other underlying causes of these trends will be of particular interest for researchers in the decades to come. In addition, while these trends have been consistently observed, an increased focus on evidence-based interventions to dismantle structural inequalities in UK higher education is now needed.

Acknowledgements

We are grateful to Rob Edmunds, Emily Henderson, Linda Price, and Mary-Claire Travers for their comments.

Funding

This work was supported by a consultancy to John T. E. Richardson from the University of Bedfordshire.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

John T. E. Richardson is emeritus professor in student learning at the UK Open University. In 2008, he was a member of the team that produced a report for HEFCE on league tables and their impact on higher education institutions.

Jenna Mittelmeier is Lecturer in Education (International) at the University of Manchester. Her research focuses on students' academic and social transition experiences in higher education.

Bart Rienties is Professor of Learning Analytics in the Institute of Educational Technology at the UK Open University.

References

Amis, K. (1960). Lone voices: Views of the ‘Fifties. *Encounter*, *15*(1), 6–11. Retrieved from http://www.unz.com/print/Encounter-1960jul-00006/

Archer, L., DeWitt, J., & Wong, B. (2014). Spheres of influence: What shapes young people’s aspirations at age 12/13 and what are the implications for education policy? *Journal of Education Policy, 29*, 58-85. doi:10.1080/02680939.2013.790079

Baars, S., Mulcahy, E., & Bernardes, E. (2016). *The underrepresentation of white working class boys in higher education*. Retrieved from LKMco website: https://www.lkmco.org/wp-content/uploads/2016/07/The-underrepresentation-of-white-working-class-boys-in-higher-education-baars-et-al-2016.pdf

Baker, W., Sammons, P., Siraj-Blatchford, I., Sylva, K., Melhuish, E. C., & Taggart, B. (2014). Aspirations, education and inequality in England: Insights from the effective provision of pre-school, primary and secondary education project. *Oxford Review of Education, 40*, 525–542. doi:10.1080/03054985.2014.953921

Bathmaker, A.-M., Ingram, N., Abrahams, J., Hoare, A., Waller, R., & Bradley, H. (2016). *Higher education, social class and social mobility: The degree generation*. London: Palgrave Macmillan.

Berrington, A., Roberts, S., & Tammes, P. (2016). Educational aspirations among UK young teenagers: Exploring the role of gender, class and ethnicity. *British Educational Research Journal*, *42*, 729–755. doi:10.1002/berj.3235

Blackburn, L. H., Kadar-Satat, G., Riddell, S., & Weedon, S. (2016). *Access in Scotland: Access to higher education for people from less advantaged backgrounds*. Retrieved from Sutton Trust website: https://www.suttontrust.com/wp-content/uploads/2016/05/Access-in-Scotland_May2016.pdf

Boliver, V. (2013). How fair is access to more prestigious UK universities? *British Journal of*

Sociology, 64, 344–364. doi: 10.1111/1468-4446.12021

Boliver, V., Gorard, S., & Siddiqui, N. (2019). *Using contextualised admissions to widen access to higher education: A guide to the evidence base*. Retrieved from University of Durham website: https://www.dur.ac.uk/resources/dece/ContextualisedHEadmissions.pdf

Boxer, P., Goldstein, S. E., DeLorenzo, T., Savoy, S., & Mercado, I. (2011). Educational aspiration–expectation discrepancies: Relation to socioeconomic and academic risk-related factors. *Journal of Adolescence, 34*, 609–617. doi.org/10.1016/j.adolescence.2010.10.002

Broecke, S., & Nicholls, T. (2007). *Ethnicity and degree attainment* (Research Report RW92). Retrieved from Department for Education and Skills website: https://www.education.gov.uk/publications.eOrderingDownload/RW92.pdf

Burke, C. (2015). *Culture, capitals and graduate futures: Degrees of class.* London: Routledge.

Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs, 38,* 785–810. doi:10.1086/669608

Clarke, P., & Beech, D. (2018). *Reaching the parts of society universities have missed: A manifesto for the new Director of Fair Access and Participation* (HEPI Report 106). Retrieved from Higher Education Policy Institute website: http://www.hepi.ac.uk/wp-content/uploads/2018/05/HEPI-Brightside_WP-Manifesto-for-OfS_FINAL-Report-106.pdf

Collins, P. H. (2015). Intersectionality's definitional dilemmas. *Annual Review of Sociology, 41*, 1–20. doi:10.1146/annurev-soc-073014-112142

Connor, H., Tyers, C., Modood, T., & Hillage, J. (2004). *Why the difference? A closer look at higher education minority ethnic students and graduates* (Research Report No. 552).

Retrieved from Department for Education and Skills website: https://www.education.gov.uk/publications/standard/publicationDetail/Page1/RR552

Crawford, C., & Greaves, E. (2015). *Socio-economic, ethnic and gender differences in HE participation* (BIS Research Paper No. 186). Retrieved from Department for Business Innovation and Skills website: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/474273/BIS-15-85-socio-economic-ethnic-and-gender-differences.pdf

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum, 1989*(8), 139–167. Retrieved from: https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8

Croxford, L., & Raffe, D. (2013). Differentiation and social segregation of UK higher education, 1996-2010. *Oxford Review of Education, 39*, 172–192. doi:10.1080/03054985.2013.784193

Department for Education. (2015). *Destinations of key stage 4 and key stage 5 students, 2012/13* (Statistical First Release). Retrieved from Department for Education website: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/397946/SFR01-2015_DESTINATION_MEASURES.pdf

Fenton, S. (1996). Counting ethnicity: Social groups and official categories. In R. Levitas & W. Guy (Eds.), *Interpreting official statistics* (pp. 143–165). London: Routledge.

Harrison, N. (2017). Patterns of participation in a period of change: Social trends in English higher education from 2000 to 2016. In R. Waller, N. Ingram, & M. R. M. Ward (Eds), *Higher education and social inequalities: University admissions, experiences, and outcomes* (pp. 54–80). London: Routledge.

Harrison, N., & McCaig, C. (2015). An ecological fallacy in higher education policy: The

use, overuse, and misuse of ‘low participation neighbourhoods’. *Journal of Further and Higher Education. 39,* 793–817. doi: 10.1080/0309877X.2013.858681

Harrison, N., & Waller, R. (2018). Challenging discourses of aspiration: The role of expectations and attainment in access to higher education. *British Educational Research Journal, 44,* 914–938. doi:10.1002/berj.3475

Higher Education Funding Council for England. (2010). *Student ethnicity: Profile and progression of entrants to full-time, first degree study* (Issues Paper 2010/13). Retrieved from UCL Institute of Education website: https://dera.ioe.ac.uk/92/1/10_13.pdf

Higher Education Funding Council for England. (2018). *Differences in student outcomes: The effect of student characteristics* (Data Analysis March 2018/05). Retrieved from UCL Institute of Education website: https://dera.ioe.ac.uk/31412/1/HEFCE2017_05%20.pdf

Higher Education Statistics Agency. (2018). *Higher education student statistics: UK, 2016–17 – qualifications achieved*. Retrieved from Higher Education Statistics Agency website: https://www.hesa.ac.uk/news/11-01-2018/sfr247-higher-education-student-statistics/qualifications#

Hillman, N., & Robinson, N. (2016). *Boys to men: The underachievement of young men in higher education – and how to start tackling it* (HEPI Report 84). Retrieved from Higher Education Policy Institute website: http://www.hepi.ac.uk/wp-content/uploads/2016/05/Boys-to-Men.pdf

Hordósy, R., & Clark, T. (2018). Student budgets and widening participation: Comparative experiences of finance in low and higher income undergraduates at a northern red brick university. *Social Policy and Administration, 2018*:1–15. doi:10.1111/spol.12410

Jackson, M. (2012). Bold choices: How ethnic inequalities in educational attainment are suppressed. *Oxford Review of Education, 38,* 189–208. doi:10.1080/03054985.2012.676249

Leslie, D. (2005). Why people from the UK's minority ethnic communities achieve weaker degree results than whites. *Applied Economics, 37,* 619–632. doi:10.1080/0003684042000313172

Naylor, R. A., & Smith, J. (2004). Determinants of educational success in higher education. In G. Johnes & J. Johnes (Eds.), *International handbook on the economics of higher education* (pp. 415–461). Cheltenham, UK: Edward Elgar.

Nicolazzo, Z. (2016). *Trans* in college: Transgender students' strategies for navigating campus life and the institutional politics of inclusion*. Sterling, VA: Stylus Publishing.

Ogbu, J. U. (1978). *Minority education and caste: The American system in cross-cultural perspective*. New York, NY: Academic Press.

Platt, L. (2011). *Understanding inequalities*. Cambridge, UK: Polity Press.

Platt, L., & Parsons, S. (2018). *Occupational aspirations of children from primary school to teenage years across ethic groups*. Retrieved from Centre for Longitudinal Studies website: https://cls.ucl.ac.uk/wp-content/uploads/2018/09/9948_CLS_Paper_Occupational_Aspirations_of_Children_WEB_FINAL.pdf

Richardson, J. T. E. (2008a). The attainment of ethnic minority students in UK higher education. *Studies in Higher Education, 33*, 33–48. doi:10.1080/03075070701794783

Richardson, J. T. E. (2008b). *Degree attainment, ethnicity and gender: A literature review*. York, UK: Higher Education Academy.

Richardson, J. T. E. (2015). The under-attainment of ethnic minority students in UK higher education: What we know and what we don't know. *Journal of Further and Higher Education*, *39*, 278–291. doi:10.1080/0309877X.2013.858680

Richardson, J. T. E. (2018). Understanding the under-attainment of ethnic minority students in UK higher education: The known knowns and the known unknowns. In J. Arday & H. S. Mirza (Eds.), *Dismantling race in higher education: Racism, whiteness and decolonising the academy* (pp. 87–102). London, UK: Palgrave Macmillan.

Richardson, J. T. E., & Woodley, A. (2003). Another look at the role of age, gender and subject as predictors of academic attainment in higher education. *Studies in Higher Education*, *28*, 475–493. doi:10.1080/0307507032000122305

Rizvi, S., Rienties, B., & Khoja, S. A. (2019). The role of demographics in online learning: A decision tree based approach. *Computers and Education*, *137*, 32–47. doi:10.1016/j.compedu.2019.04.001

Savage, M. (2011). *Identities and social change in Britain since 1940: The politics of method*. Oxford: Oxford University Press.

Shiner, M., & Modood, T. (2002). Help or hindrance? Higher education and the route to ethnic equality. *British Journal of Sociology of Education*, *23*, 209–232. doi:10.1080/01425690220137729

Smith, E. (2011). Women into science and engineering? Gendered participation in higher education STEM subjects. *British Education Research Journal*, *27*, 993–1014. doi:10.1080/01411926.2010.515019

Smith, J., & Naylor, R. (2001). Determinants of degree performance in UK universities: A statistical analysis of the 1993 student cohort. *Oxford Bulletin of Economics and Statistics*, *63*, 29–60. doi:10.1111/1468-0084.00208

Smith, S., Joslin, H., & Jameson, J. (2015). *Progression of college students in England to*

higher education (BIS Research Paper No. 239). Retrieved from Department for Business, Innovation and Skills website: https://www.gov.uk/government/publications/progression-of-further-education-students-to-higher-education

Smith, T., Noble, M., Wright, G., McLennan, D., & Plunkett, E. (2015). *The English indices of deprivation 2015*. Retrieved from Department for Communities and Local Government website: https://www.gov.uk/government/publications/english-indices-of-deprivation-2015-research-report

St. Clair, R., & Benjamin, A. (2011). Performing desires: The dilemma of aspirations and educational attainment. *British Educational Research Journal, 37*, 501–517. doi:10.1080/01411926.2010.481358

Stone, J. (1996). Ethnicity. In A. Kuper & J. Kuper (Eds.), *The social science encyclopedia* (2nd ed., pp. 260–263). London, UK: Routledge.

Stringer, N., Chan, M., Bimpeh, Y., & Chan, P. (2017). Preadmission schooling context helps to predict examination performance throughout medical school. *Advances in Health Sciences Education, 22*, 505–519. doi:10.1007/s10459-016-9714-5

Tobias, P. V. (1996). Race. In A. Kuper & J. Kuper (Eds.), *The social science encyclopedia* (2nd ed., pp. 711–715). London, UK: Routledge.

Travers, M.-C. (2017). *Working-class boys: Teachers matter*. London, UK: UCL Institute of Education Press.

Universities and Colleges Admissions Service. (2017). *End of cycle report 2017: Patterns by applicant characteristics*. Retrieved from UCAS website: https://www.ucas.com/file/140396/download?token=TC7eMH9W

Table 1. UK National Statistics 2001 classification of ethnic groups.

Level 1	Level 2
White	British Irish Other White background
Mixed	White and Black Caribbean White and Black African White and Asian Other Mixed background
Asian or Asian British	Indian Pakistani Bangladeshi Other Asian background
Black or Black British	Caribbean African Other Black background
Chinese or Other ethnic group	Chinese Other ethnic group
Not stated	Not stated

Note. Although certain minority groups are included in the category *White*, the relevant subcategories are not used consistently across the different nations that constitute the United Kingdom and are not employed in published statistics regarding students in higher education. Moreover, educational researchers tend to use the expression ‘ethnic minority’ (or ‘minority ethnic’) to refer only to non-White students. Although strictly incorrect, this will be followed in this review to align with current practice in UK higher education.