Can a compositional effect explain (at least some of) the degree awarding gap? Insights from commuting students and implications for practice

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Abstract

A recent blog published by the Higher Education Policy Institute (HEPI), authored by Sean Brophy and entitled 'Hiding in plain sight?', poses a paradoxical question: what if the remarkable success in widening access helps explain one of the most persistent United Kingdom (UK) higher education (HE) challenges - the degree awarding gap? This article explores that question and its implications for educational practice by examining whether the changing composition of the student population, particularly the rise in non-traditional students who are more likely to commute, may be unintentionally contributing to the persistence of this gap. I consider the possibility of a general 'commuting premium', whereby the structural disadvantages associated with commuting intersect with widening participation efforts to influence degree outcomes. The argument advanced here underscores the importance of recognising potential compositional effects when evaluating the effects of inclusive learning and teaching interventions and interpreting awarding-gap metrics, as these effects may mask or exaggerate disparities between groups.

Keywords: awarding gaps; widening participation; commuting; compositional effects

Arguments for a compositional effect and 'commuting premium'

Widening participation has diversified the composition of university student populations in terms of educational experience, academic preparedness and demographics. In the UK, non-traditional students are now well represented, with their numbers rising (Gov.uk, 2023). Though this shift marks a positive step toward greater equity and access, it also introduces new complexities into the learning environment. These demographic changes may be giving rise to compositional effects, whereby the characteristics of a group, rather than individual attributes, begin to influence aggregate academic outcomes. Such effects may shape and bias the perceived effectiveness of teaching strategies and student achievement.

One such shift that has interested me is the increasing number of students who commute daily instead of living away from home, reflecting a changing student population (Marshall, 2025). These students often live at home for economic and cultural reasons, have family commitments and spend considerable time travelling. Consequently, they engage less with on-campus resources, adopt varied attendance patterns and make conscious decisions about participation, all of which may adversely affect their academic outcomes and overall experience.

Historical data from one of our faculties (2018-2020) showed differences in average degree outcomes of 1.9% +/- 0.7 (n = 1027 +/-95) and 2.3% +/-0.7% (n = 2538 +/-134) that were lower for both white commuting and Black and minority ethnic (BAME) commuting students

compared to their respective non-commuting counterparts. This phenomenon, which I refer to as the 'commuting premium', indicates that commuting students have lower degree outcomes, regardless of ethnicity. The differences in means between ethnic groups was not statistically significant (ANOVA, F-statistic=2.45, p=0.138).

Compounding the widening participation agenda and the increased number of commuting students, a persistent awarding gap remains in HE nationally. The reasons are complex, with numerous causes proposed (Ugiagbe-Green and Ernsting, 2022). Some of the largest HE awarding gaps are observed in London (Atherton and Mazhari, 2021), where, paradoxically, pupils from disadvantaged ethnic backgrounds achieve higher attainment in secondary education (Ross *et al.*, 2020). Nonetheless, these students tend to fare less well academically at university than their white counterparts, with many choosing to remain in their home environment and commute. Alongside ethnicity, factors such as being female, mature, having lower UCAS tariff points, coming from lower socio-economic backgrounds and being first-generation HE students are important differentiating factors for those opting to live at home (Artess *et al*., 2014). This raises the question: could the longer commutes faced by many students from disadvantaged ethnic backgrounds be contributing to this reversal in academic attainment?

We previously explored the experiences of 550 students at a London university, focusing on travel perceptions and obtaining quantitative data by ethnicity, gender, age and level of study (Page *et al*., 2021). The findings revealed that most students were from widening participation backgrounds, specifically BAME students, comprising around 70% of the total sample, with 70% of these BAME students commuting. Most white students lived within a thirty-minute radius of campus, while the BAME students had a bimodal distribution, indicating two distinct populations of non-commuting and commuting students. The latter group faced significantly longer journeys (30-180 minutes), where these travel time differences between white and BAME students were statistically significant (Page *et al*., 2021).

Since commuting adds its own premium irrespective of ethnicity, it has a marginal impact on existing awarding gaps. However, with over 70% of our faculty's students being BAME and more than two-thirds commuting, compared to 28% of white students, of whom only half commute, this factor could contribute to a cumulative effect. Therefore, I propose, the greater number of commuting BAME students may make the detrimental effects of commuting more pronounced, thereby contributing to the awarding gap.

I found evidence supporting this in the mean degree awarding percentages collected across our faculty for commuting white and BAME students, which reflect changes in student ratios based on commuting status. Figure 1a illustrates that average degree awarding percentages for white students (n = 1073 +/- 155 each year) are pulled upwards owing to fewer white students commuting versus non-commuting. The ratio for white commuting versus non-commuting was 0.9 ± 0.1 (2018 to 2021). Conversely, for Black students (n = 845 +/- 23), who experience some of the largest awarding gaps and are more likely to commute, this ratio is reversed (2.8 ± 0.2), with a higher proportion commuting (figure 2a). This results in a downward pull of the average degree awarding percentages for Black students because of the higher number of Black commuting students (Figure 1b).

As a comparator, recalculated white and Black means (represented by red dotted lines) show the impact on overall values if white students had the same commuting ratio as Black students and vice versa (figure 1). Therefore, if Black students had similar commuting patterns to those of white students, the awarding gap might be reduced. From 2018 to 2020, this difference in commuting ratios contributed 9.6% ± 4.1 to the total awarding gap.

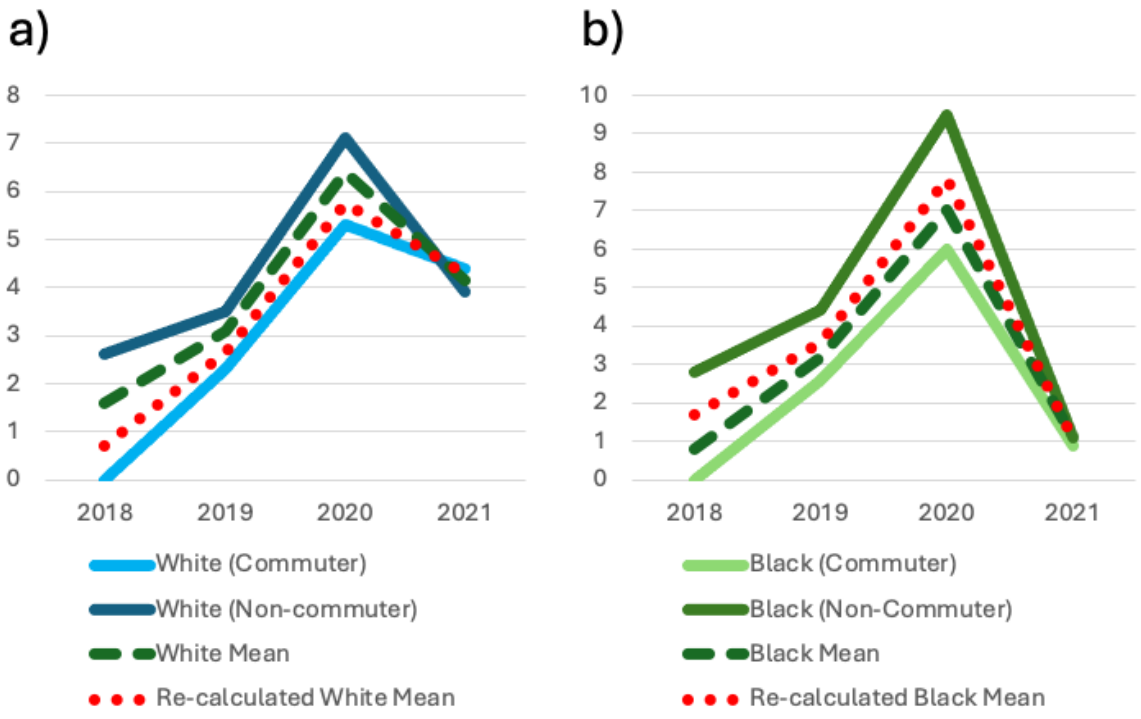

Figure 1. Graphical representation of overall mean values for a) white and b) Black students calculated from weighted means, demonstrating the impact of the commuting premium. The y-axis represents percentage differences.

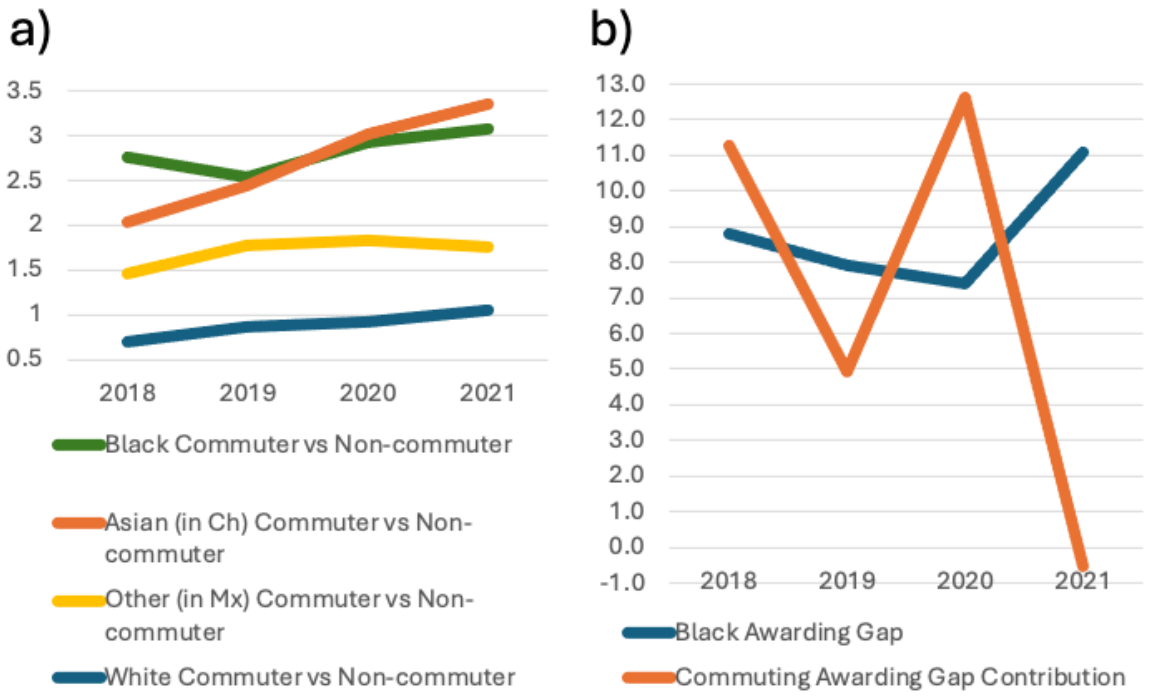

Figure 2. Graphical representation of a) varying ratios of commuting versus non-commuting students by ethnicity and b) trends in the overall Black awarding gap with an overlay of the commuting premium contribution. The y-axis represents a) ratios and b) percentage differences.

Since different ethnic groups exhibit higher commuting to non-commuting ratios than their white counterparts (figure 2a), this variation affects and reduces overall mean degree awarding percentages for those groups. Therefore, evidence suggests a general commuting premium may be contributing, in part, to the awarding gap, owing to successful recruitment of a more heterogenous student population with a greater tendency to commute.

Of interest, during the COVID-19 pandemic, particularly in the 2020-2021 academic year, when students largely ceased commuting, the commuting premium vanished, leading to a convergence in attainment between commuting and non-commuting students across all groups (figure 1). However, this convergence did not result in a corresponding reduction in awarding gaps (figure 2b). The lockdown benefited white commuters (especially males) and young commuting Asian males, regardless of index of multiple deprivation (IMD) or age. While the attainment of commuting ethnic groups remained relatively stable, that of non-commuters, particularly Black students, was significantly affected. Under normal circumstances, non-commuting BAME students typically perform better, but this advantage was lost during the lockdown, bringing their performance into line with that of their commuting peers.

Conclusion

At the outset, I highlighted Brophy's (2025) opinion that compositional effects may contribute to the awarding gap, as evidenced by varying participation rates across different student groups. In this context, factors such as commuting may amplify perceived disparities, especially in institutions where certain ethnic groups are over-represented among commuting

students. In such cases, part of the observed gap may reflect compositional differences rather than ethnicity alone. Without addressing these underlying factors, efforts to close awarding gaps may be limited or even counterproductive, potentially introducing bias in the opposite direction.

This has important implications for module and course teams evaluating the effectiveness of inclusive educational inventions. It raises a critical question: are observed outcomes, or the lack of progress, down to the intervention itself or to shifts in the composition of the student population? Beyond commuting, other compositional factors such as gender, age and IMD further complicate the picture.

The disappearance of the commuting premium during the 2020-2021 lockdown did not decrease the awarding gap (figure 2b), highlighting the complex nature of compositional effects. Instead, new challenges emerged, such as disrupted routines, reduced social interaction, technological challenges, increased responsibilities, mental health strain and reduced access to campus resources. These factors probably affected certain groups more than others, reinforcing the need for institutions to adopt a more responsive and context-sensitive approach to student support.

When differences in participation lead to compositional effects, understanding their magnitude becomes crucial in determining how much of the gap is driven by such factors, as opposed to systemic inequities and biases. This distinction is vital for informing educational practice and developing strategies that effectively address the root and aggregate causes of awarding gaps. Recognising compositional effects is essential for understanding disparities in student outcomes highlights the need for interventions that are sensitive to the evolving and intersecting challenges faced by different student groups. Misattributing the cause of the gap solely to ethnicity is likely to risk overlooking actionable drivers, such as the need for targeted support for commuting students or mature learners, who often face distinct barriers to success.

In summary, while compositional effects like commuting may influence the awarding gap, they are dynamic and shaped by broader societal shifts. Current research suggests that compositional effects, at least those related to commuting, contribute but do not fully account for the awarding gap, leaving a significant ‘unexplained gap’ as noted by Ugiagbe-Green and Ernsting (2022). Nonetheless, recognising these effects allows institutions to design more equitable interventions and provide tailored support that goes beyond static demographic indicators.

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