Project 3: First-year transitions for Black British students in STEM vs Arts/Humanities (A3)

1. Background information		
Strand	A: Black British students	X
	B: Disability/Mental Health student	
Topic	First-year transitions for Black British students in STEM vs Arts/Humanities	
Specific research question	Does the first-year transition contribute to eventual awarding gaps for Black British STEM and humanities students at Cambridge?	
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2. Executive summary

This project aimed to investigate the impact of first year transitions on eventual awarding gaps while also considering how this may differ between STEM and Arts/Humanities courses. The double-pronged nature of this research was curated to consider the general experiences of first year, while also considering the nuances between course-type.

Considering the STEM vs Arts/Humanities dynamic, we chose to focus on four disciplines. These were Medicine, Natural Sciences, Human Social, and Political Sciences (HSPS), and History and Politics. These were hugely fruitful choices as each member of the research group had insight and experience of one of the subjects, and the subjects themselves positions as hegemonic degrees at the University of Cambridge. The reputation of Medicine and Natural Sciences as staple STEM subjects, as well as HSPS' position as a course with one of the largest numbers of Black students, allowed for a richer investigation.

Staff and students were interviewed to allow for individualised and enriched narratives on awarding gaps. Interviews were conducted on a departmental basis with three students per subject, and a staff interview per subject. The findings from these interviews confirmed that first year was almost unanimously referred to as the most strenuous year for Black students at Cambridge. While it cannot be said that this concretely links to awarding gaps, there is truth to the notion that first year transitions tend to negatively affect Black students both socially and academically. In relation to the STEM vs Arts/Humanities facet of the research question, a common finding was the students considered STEM to be more challenging and demanding, which may contribute to the larger awarding gap among STEM

students. Our recommendations include more coordinated efforts between College and Departments/Faculties to facilitate networking opportunities between Black students at Cambridge, and more purposeful allocation of supervisors by Director of Studies for Black students to address feelings of imposter syndrome.

3. Rationale

In Cycle 1 of the Access and Participation Plan Participatory Action Research Project (APP PAR Project), the group focusing on STEM vs Arts/Humanities noted that "*more research needs to be undertaken to explore the different educational experiences of STEM student.*" This motivated us to evaluate, compare, and contract the first-year transitional experiences of Black British students across different disciplines.

In addition, first year transitions are deemed important for students to develop a clear foundation at university. As a minority group, there is an assumption that Black British students may encounter unique challenges during this period that have ramifications for ultimate awarding gaps. As a result, the decision was made to delve further into this assumption and consider whether it is true, what the commonalities are in the experience of Black British students, what are the differences, and can any of these differences be attributed to the discipline one studies?

Ultimately, it is important to consider both sub-topics, i.e., first year transition and disciplinary differences, so that recommendations can be provided to address the issues within them.

4. Contextual information

Research into awarding gaps is not an uncommon topic, however, research looking at the awarding gap – between white and Black students - differences between STEM and Arts/Humanities subjects is rarer, especially in relation to first year transitions. First year transitions have been conceptualised in several ways. Palmer, O'Kane and Owens (2009) talked about the importance of "*turning points*" which include experiences like the first feedback received and the first lecture, and they discuss how these allow students to make connections and to fit into life at university. This paper also talks about the idea of inclusion and exclusion. This has been further emphasised in Wilcox, Winn and Fyvie-Gauld's (2005) paper which argues that the understanding of student retention needs to focus on successful social integration and that in this transition students need to feel they belong and "*identify with others*" (p.713).

Identifying with others is a theme that Singh (2011) mentions in his research synthesis as potentially contributing to the Black and minority ethnic student's retention and success. He mentions "*preparedness for success*", which relates to things like material wealth; educational experiences had beforehand (p.28); involvement of parents and social and cultural capital and the student experience, for example experiencing isolation; "*awareness of being part of a small minority*" (p.30)*;* and

segregation. Issues around isolation, inclusion and belonging were also examined through a paper-based survey by Parker and colleagues (2017). They found that more BME students felt more welcome and "*part of a community*" in school/college than in university, and that the opposite was true for white students. In addition, Parker et al.'s (2017) report raised that social integration was harder for students who didn't partake in typical student experiences such as clubbing or events that involved alcohol.

The difference in "success" of Black students can be observed in Cambridge's own data. An exploration into the university's Examination Results Analytics dashboard shows that, over the past 3 years, the average awarding gap between UK-domiciled white and Black students in STEM was approximately 19% and in Arts/Humanities it was approximately 11%, however there was a lot of variation over the years – likely reflecting the effects of a small number of Black students involved in the calculations.

Reference list:

- Palmer, M., O'Kane, P., & Owens, M. (2009). Betwixt spaces: Student accounts of turning point experiences in the first-year transition. *Studies in Higher Education,* 34(1), 37–54. https://doi.org/10.1080/03075070802601929
- Parker, H., Hughes, A., Marsh, C., Ahmed, S., Cannon, J., Taylor-Steeds, E., Jones, L., & Page, N. (2017). Understanding the different challenges facing students in transitioning to university particularly with a focus on ethnicity. *New Directions in the Teaching of Physical Sciences*, *12*. https://doi.org/10.29311/ndtps.v0i12.2450
- Singh, G. (2011). Black and minority ethnic (BME) students' participation in higher education: improving retention and success. A synthesis of research evidence. *Higher Education Academy*. https://www.advance-he.ac.uk/knowledge-hub/Black-and-minority-ethnic-bme-students-participation-higher-education-improving
- Wilcox, P., Winn, S., & Fyvie-Gauld, M. (2005). 'It was nothing to do with the university, it was just the people': The role of social support in the first-year experience of higher education. *Studies in Higher Education*, 30(6), 707–722. https://doi.org/10.1080/03075070500340036

5. Generation of evidence

To generate the evidence for the project, several students and staff were recruited for semi-structured interviews on the topic of first year transitions.

Stage 1: Interviews with students

10 Black (including those of a Mixed-Race background) students were interviewed. There were 2 students studying Natural Sciences, 3 studying HSPS, 2 studying Medicine, and 3 studying History and Politics.

While the interviews were semi-structured, they were much more structured than the staff interviews to gather the information we needed which involved asking more questions. The questions looked at a range of topics including imposter syndrome and burnout.

Imposter syndrome has been defined as "… *a collection of feelings of inadequacy that persist despite evident success. 'Imposters' suffer from chronic self-doubt and a sense of intellectual fraudulence that override any feelings of success or proof of competence*" (Corkindale, 2008). Burnout has been defined by Queen and Harding (2020, p.873) "*a state of emotional, physical, and mental exhaustion caused by excessive and prolonged stress"*. It occurs when one feels *"overwhelmed, emotionally drained, and unable to meet constant demands"* (p.873).

The students were asked the following questions:

- Do you believe your Black British identity impacted on your first-year transition either positively or negatively?
- Do you believe your Black British identity impacted on your academic performance in first year either positively or negatively?
- Do you believe first year transitions impact on awarding gaps in your final year of study?
- Do you believe you experienced burnout in first year? If so please explain if, and how this affected academic performance.
- Do you believe you experienced imposter syndrome in first year? If so please explain if, and how this affected your academic performance.
- Do you think that the awarding gap is better or worse for Black British students in STEM subjects than in Arts and Humanities subjects? (Make them pick one and then explain)
- Do you believe that the first-year transition is better or worse for Black British students in STEM subjects than in Arts and Humanities subjects? (Make them pick one then explain)
- Do you have any comments on the impact of the Covid-19 pandemic and your first-year transition?
- How could your first-year transition have been made easier in relation to your Black British identity?

Stage 2: Interviews with staff

2 members of staff who were involved in teaching, course organising and/or were a Director of Studies were interviewed from Natural Sciences and HSPS. The questions posed to these individuals were semi-structured to facilitate more of a discussion around the topic of race and first year transitions.

The staff members were asked the following questions:

- What do you think contributes to a good first year transition?
- What do you think this means for Black British students at Cambridge?
- Can you tell me about any experiences you have with first year Black students and their transition?
- Do you think that first year transition is more or less difficult for students in different courses?
- Are there any strategies or ideas that have worked well, or you think would work well to facilitate the first-year transition of Black British students?

Stage 3: Summarising the findings

Following the interviews, the notes taken, recordings and transcripts were examined to find similar themes and notable findings.

Reference list:

- Corkindale, G (2008, May 7). *Overcoming imposter syndrome*. Harvard Business Review. https://hbr.org/2008/05/overcoming-imposter-syndrome
- Queen, D., & Harding, K. (2020). Societal pandemic burnout: A COVID legacy. *International Wound Journal*, *17*(4), 873–874. https://doi.org/10.1111/iwj.13441

6. Small project research findings

Arts/Humanities (HSPS and History and Politics)

All second- and third-year student respondents from HSPS and History and Politics disciplines stated that their first year was most challenging, while all first years interviewed noted they were currently experiencing a "*demanding"* and "*draining"* year. Themes of burnout, imposter syndrome, and social isolation were consistently cited, many times with emphasis on how racial identity intersected with these. These responses indicate that first year transitions are particularly hard for Black British students.

Position as a minority

Students frequently noted that the social alienation they felt as being from a minority group. Additionally, the cultural differences between their home lives and lives at Cambridge had consequential effects on their first-year transition. While respondents noted that first-year transitions at Cambridge are not easy for all students, the explicitly physical manifestations of racial differences made their experiences poignant. They noted that they were prone to being victims of discrimination by fellow students and college staff members, e.g., porters. For example, one interviewee shared that "*porters told me I cannot enter because I am a tourist.*" While this may be regarded as an innocent mistake by some, it is in fact a racially charged accusation that is indicative of why many Black students feel out of place at Cambridge and "*stifling*" to all aspects of their experience. An HSPS staff member interviewed cited that the collegiate system was a structure that contributes to and "*enforces*" the division and "*alienation*" of Black students, placing them in an institution where they are "*made to feel as if they do not belong."*

Academics

Academically, many student interviewees indicated they felt extra pressure and a need to "*prove themselves*" in comparison to white counterparts. Burnout and imposter syndrome were cited as common experiences by all. Students in later years found it possible to link negative first year transitions with subsequent awarding gaps and suggested that this may be one part of the problem. Regarding the curriculum, responses were more positive. In HSPS especially, students noted diversity in the curriculum. However, it was pointed out that Black theorists were only considered in relation to topics of race, and only if they have a supervisor willing to discuss such topics. An HSPS staff member also noted that decolonising the curriculum may not be key to resolving awarding gap issues, and instead negative everyday experiences of Black students may have a larger impact.

Non-academic networks

Notable mention should be given to praise the Afro-Caribbean Society (ACS) who were perceived as a haven for many of the student participants. Although separate to their discipline-specific experience, students highlighted it as a "*safe-space*" to network and mingle with other Black students, thus combatting feelings of social isolation many encountered due to the lack of diversity at the university. An HSPS staff member who also has the experience of being a first-year Director of Studies (DoS) mentioned ACS as a useful outlet for many of his previous Black students. It could be suggested that more entrenched and formalised Black networks would be an asset to the university and experiences of Black students.

STEM (Medicine and Natural Sciences)

Similar to the Arts/Humanities student participants, students studying Natural Sciences and Medicine noted that first year and first year transition is hardest for Black students. This was said to be related to various factors such as a lack of familiar surroundings and adapting to a different culture.

Schooling background

Schooling background was mentioned by some of the interviewees, with both students and staff acknowledging that the kind of schooling background had a major impact on how well one academically transitioned into first year. A school that was more demographically like Cambridge made it easier to settle and adapt to the new lifestyle. In addition, staff also acknowledged that schooling in relation to mathematics teaching had a major impact in Natural Sciences first-year transitions. They posited that schools that allow for more mathematical exploration may better prepare students for the Cambridge style of learning. It was noted that a STEM foundation year could better help address this disparity.

Ethnicity in academic spaces

While there were mixed responses as to whether the students had experienced imposter syndrome in relation to academics, students mentioned imposter syndrome in relation to their race and that coming to Cambridge can lead to questions about their identity. Where imposter syndrome was experienced, it

was described as feeling like "*you just don't belong*" and "*feeling not good enough.*" In addition, imposter syndrome was mentioned in the context of being "*the only person of colour in every academic space you're in*" and that this could double the pressure associated with both a student's course and identity. When asked about burnout and whether the students had experienced it, there were initially mixed responses. However, many experiences associated with burnout were raised. It was commonly mentioned that the competitiveness of the STEM courses, as well as being one of few Black students in supervisions and other spaces, led to students feeling like they had to work harder and that this could lead to burnout. This links back to the idea of a "*double pressure of course and identity.*"

A common theme raised was the idea of, as one of few Black students, representing an entire ethnic group. This added to the pressure of being a Black student in Cambridge and could have an impact on awarding gaps. Some students said they were less likely to ask for help or ask questions because they did not want to feel like they were "*causing a problem*" or giving people a reason to think that "*this is the reason why there's no one* [Black] *here.*" While this feeling may not be easily tackled, it suggests that more could be done to ensure Black students are able to ask their supervisors questions without fear of being an inconvenience. This could involve reviewing the allocation process, i.e., how this is done by DoS, to ensure that these students are given supervisors who are most-acquainted and strongly affiliated with the course.

Among medical students, the Social and Ethical Context of Health and Illness (SECHI) course was cited as helping Black students settle in, likely as it directly addresses issues around race. However, students from Natural Sciences felt that the lack of any mention around race and ethnicity had the opposite effect. Both students and staff member participants from Natural Sciences felt that introducing race into the curriculum was not straightforward. The member of staff interviewed mentioned as having made an effort to include more practical demonstrations by students whose characteristics are less represented in STEM. Given how representation - or the lack thereof - was frequently mentioned in the interviews as being linked to a more difficult transition, this was a particularly innovative action. In addition, both students and staff acknowledged that increasing representation would not be a quick fix but highlighted the value of having more connections between Black students in STEM at various stages of their education. Based on this, many students suggested that department-wide, and university-wide, networks of Black students in their subject could help with the feelings of not belonging.

Non-academic networks

Like for Arts/Humanities students, communities of Black students, for example, the ACS, were noted as having a positive impact on transitions. However, it was also noted that spaces like the ACS tended to have less STEM representation and that this was a barrier to engaging in these spaces. Subsequent discussions also highlighted that the immense and inflexible nature of courses like Natural Sciences made partaking in social events - especially events that could increase the sense of belonging – harder. This prompts a discussion on how the course could be adapted to ensure students can participate in spaces that would help improve the first-year transition.

Synthesis

Arts/Humanities students interviewed almost unanimously agreed that first year transitions would be harder for STEM students and that their awarding gap may be greater. The most common opinions were that STEM disciplines had an increasingly "*competitive*" nature and were also more demanding in

terms of contact hours and assessments. From the perspective of Arts/Humanities students, this left their STEM counterparts more susceptible to the interactions that make transitions alienating and taxing, such as in supervisions. Conversely, some STEM students believed that Art/Humanities subjects would have more difficult transitions and worse awarding gaps due to the more subjective nature of the courses. Conversely, they felt that the objectivity in STEM courses meant racial discrimination in the teaching arena was more unlikely.

7. Outcomes of research/implications for Cambridge practices and processes.

Our findings wholly reflect that certain practices in Cambridge need improvements as they can be contributing to awarding gaps for Black British students. The university's pledge to remove the awarding gap in the coming years will require a change in culture around race and first year transitions, as well as race and STEM/Arts and Humanities.

Of particular significance is the idea that a "*colour blind*" approach will not suffice. Race should no longer be ignored within STEM, and the university needs to consider its existing structures to ensure it is a welcoming and empowering space for Black students. These structures include the lack of Black role models within the university as well as the separation of Black students within the collegiate system. While these are not intended to make Black students underperform, they can contribute to an education experience that prevents them from reaching their full potential.

As the first year has been noted as the most strenuous of all years, practices and processes of the university must ensure that they support the students to navigate the transitions. Rather than Black students having to individually navigate the challenges of a first-year transition, a proactive approach by the university to support these students will be hugely beneficial to the university experience.

8. RECOMMENDED ACTION

1. Coordinated support for discipline-specific networking and resourcing opportunities for first year Black students:

- Dedicated space for first year students to network with current Black students within their discipline. This could be facilitated within the Black Advisory Hub. *This will help to entrench systems that promote the building of friendships and/or mentorship amongst Black students at Cambridge.*
- Coordination and resourcing by Equality, Diversity, and Inclusivity networks within Departments/Faculties for opportunities for first year Black students to forge links and network. *This could be done by recruiting or nominating a Black student academic representative to develop an*

induction programme and to support the community networking within the Department/Faculty or course, with adequate resourcing (venue and administrative support).

- Coordination and resourcing within colleges (or groups of colleges) to welcome Black first year students, and to provide opportunities for them to forge links and network with other Black students within and across colleges. *This could be done in collaboration with relevant Junior Combination Room/Middle Combination Room officers and recruited or nominated Black student representatives. Colleges with a minute number of Black students in a year (e.g., <3) should be aware of such networks and proactive link with other colleges in order to facilitate the broadening of social and academic networks for Black students.*

2. A review of the role of the Directors of Studies (DoSes) in relation to the allocation of supervisions and support provided to Black students within Colleges.

- More purposeful allocation of DoSes and supervisors for Black students.