Creating inclusive centres for PhD study:

the need for change in PGR recruitment processes and pre-application guidance to support students from minoritized ethnic groups

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Executive Summary

Data shows that fewer students from minoritized ethnic groups in the UK transition to Postgraduate Research (PGR) level studies (Advance HE 2022; Advance HE 2021). Typically, UK students access PGR study directly from an undergraduate (UG) or a postgraduate (PGT) course. The UG degree awarding gap between White students and those from minoritized ethnic groups therefore impacts the student pipeline to PGR study.

CO-creation aNd eValuatIon of Novel reCruitment procEsses (CONVINCE) is a Natural and Environmental Research Council (NERC) funded project aiming to increase the visibility of the ONE Planet DTP (OP) as an inclusive centre for PhD study, and TO provide increased pre-application support for students from minoritized ethnic groups (Finding Talent stage of NERC's Best Practice in Recruitment and Training). Our project focussed on two areas: advertising processes and co-creating resources/events to support applications.

Objectives

1. Investigate OP's advertising processes

    a) To understand the best routes to increase OP's visibility to minoritized ethnic groups

    b) To increase the diversity of OP by widening both the geographical areas and communities from which UK students apply

2. Review best practice in pre-application processes for applicants from minoritized ethnic groups, implement and evaluate new support interventions.

3. Co-create resources for attracting, supporting, and mentoring prospective students from minoritized ethnic groups to apply for PGR study with OP at Newcastle University (NU) and Northumbria University (UNN).

Approach

We conducted an exploratory study designed to ascertain perceptions and experiences of recruitment into postgraduate research (PGR) study, specifically PhD study, focusing upon how these experiences may differ with respect to student race and/or ethnicity. We conducted focus groups and 1-on-1 interviews with ethnic minority students from undergraduate, masters, and PhD levels of study.

This work produces a descriptive narrative assessment, collating students' personal experiences and stories relating to how academia, application processes, and resources may be unintentionally racialized. This will be integrated into practical suggestions of how OP can therefore co-create strategies and/or materials to help deracialize and provide alternative support for minoritized applicants.

Key Findings and Recommendations

Advertisement and Application

1. Online and digital marketing are the most used resources by applicants, particularly platforms such as Google, LinkedIn, and FindAPhD. **OP can** target marketing here.
2. Current students expressed the benefits of hosting in-person events, specifically as an opportunity to meet existing PGRs from diverse racial, ethnic, and religious backgrounds before applying. **OP can** host such events.
3. Academic supervisors play a key role in attracting, supporting, and recruiting fairly. We recommend further training and guidance is provided; **OP can** work in collaboration with HEI partner colleagues to academic supervisors to ensure consistent and inclusive recruitment is undertaken at each step of the process.
4. Funding was the single most important factor when considering pursuing a PhD. **OP can** highlight how funding is allocated and stipends are paid to students by providing additional guidance online.
5. Specific guidance on application documents was requested by participants. Lack of knowledge (cultural capital) in preparing these documents will disadvantage prospective students. **OP can** develop online content in the form of "starter-packs" to answer student queries across a range of topics (e.g., creating application documents, PhD lifestyle, how funding works).
6. There is a visible lack of diversity in academia. Although students were not actively discouraged from application by this, improved racial/ethnic diversity would be encouraging to students.
7. **OP can** use strategies such as ring-fencing to commit studentships to students of minoritized ethnicity; such strategies should be communicated to prospective students.

Belonging, Cultural Resistance, Respect, and Awareness

8. Encouragement to apply for a PhD (whether by friends, family, supervisors etc) emerged as a key theme. Participants highlighted gender-based and cultural barriers to receiving this.
9. Role models for students are essential, especially for students with marginalised identities or "non-stereotypical student" characteristics (e.g., mature student, married student, international student, working class student, minoritized ethnicity etc).
10. To harness familial encouragement and provide role models, **OP can** develop video content featuring people talking openly about how they manage a PhD, deal with cultural

or societal resistance, and overcome challenges to successfully pursue their academic career.

11. Overall, students found Newcastle University and Newcastle city to be accepting places. Students highlighted that although the city was demographically white, they had found it welcoming. However, almost all had experienced direct and micro-aggressional racism.

12. Participants hoped that EDI values and principles would be **embedded into OP's actions**. They found EDI statements encouraging, however held reservations due to a lack of diversity in staff, and additionally perceived lack of "diversity of thought" in academia. **OP can** promote research projects that are mindful of issues around race and equality (and/or projects that focuses on racial aspects of natural sciences).

Progress and Assessment

13. Students felt equally supported and encouraged by teaching staff when compared to white students, however believed that in general ethnically minoritized students may not be supported by their families as white students are. **OP can** communicate to academic supervisors the role that they can play in encouraging students to pursue PhD studies, where familial support may not be given at home.

14. Literature suggests mentoring can play a vital role for students to discuss race/racism, receive encouragement, and validation. **OP can** facilitate peer support networks and push for faculty training in navigating cultural differences where minoritized ethnicity supervisors are not available.

15. Students were acutely aware that they may face race-based discrimination in their careers, however this was seen as less of a concern when compared to job security and/or field competitiveness. **OP can** make clear the pathways for reporting discrimination at university.

Introduction and Literature Review

Although there have been some improvements in diversifying research spaces in recent history, academia in the UK is still "*administratively, normatively, habitually, and intellectually 'White'*" (Shilliam, 2015: 32). Racial inequalities still persist in both experience and outcomes of the UK's higher education system. As the Advance HE report (2021) outlines, racial inequalities are seen across countless facets of academia such as award and retention in undergraduate (UG) studies, lack of progression to postgraduate (PG) level, incidences of hate crime, underrepresentation, and poor sense of belonging or safety. This is discouraging for students of minoritized ethnicity hoping to pursue a career in academia, and further sustains the concerns of current minoritized academics who feel as "space invaders" in white-dominated academia (Shilliam, 2015: 32-33).

In terms of retention, although 23.69% of UK undergraduate-degree holders are from minority ethnic groups, that proportion falls to 18.07% for PhD students and to 10.7% for postdocs respectively (Torjesen, 2021). Minority ethnic UK domiciled students' proportional presence goes further down when it comes to research postgraduates and academics. In 2022 black and Asian (and minority ethnic) participation was comparatively high among first-year students and taught postgraduates in the UK (27.6% and 23.9%, respectively) but it was lower (19.9%) among research postgraduates (Advanced HE, 2022: 124). In 2018-19, 18.7% of UK academic staff in STEM were from ethnic minority groups (1.7% black, 13.2% Asian). These numbers are a pronounced drop-off when compared to the percentage of black postgraduate (PGT and PGR) students, with 7.1% of entrants being black (Will and Andy, 2020: 5). These trends are further exemplified within academic career demographics. A study conducted in 2018 showed that 90% percent of professors and 93% of other senior academics in the UK are white academics, whilst the proportion of roles held by black academics were under-representative of the general UK population (Doku and Amos, 2019).

There are several theories to explain the poor representation of minority ethnicities in academic spaces. Firstly, (1) the "deficit model" (or "cultural deficit model") which attributes

failures or lack of academic success to individuals; "*it follows in the deficit model that ownership, accountability and responsibility for inequalities do not reside with the institution but the individual*" (EHRC 2019: 98). Conversely, (2) the "structural approach" focuses more on "*wider external history, culture and systemic privilege that perpetuate 'race' inequality*" (Advanced He, 2021 :5). (3) Organisational issues have also been discussed as barriers to representative uptake of minority ethnicities into PGR study. For instance, unclear ownership and accountability for the black and minority ethnicity (BME) attainment agenda leading to confusion or disorganisation surrounding cultivation of institutional change (Williams et al. 2019). Lastly, (4) cultural resistance to acknowledging attainment issues and the need for sector wide reforms such as inclusive curricula and environments reflective of diverse student populations is widely discussed (Williams et al. 2019). This research challenges the deficit model, and argues that actual reasons are structural, cultural, and institutional. Universities must be active in dismantling these structural inequalities and racial barriers to address the poor representation of minority ethnicities in academic spaces.

The "whiteness" of academic spaces is clearly visible to students of minority ethnicities. Campbell et al. (2021: 9) document students' concerns that there is a visible lack of racial and ethnic diversity within faculties, when compared to the level of diversity that exists within student bodies. Going beyond optics however, this "whiteness" has tangible and wide-ranging impacts on the experience of higher education overall. For example, in research-based modules, Campbell et al. (2021: 9) outlines how white students had positive views of dissertations and were confident that the demographic make-up of the faculty would enable them to have "suitably qualified members of staff" overseeing their supervision. In comparison, their black peers did not view dissertations positively. Moreover, black, and south-Asian students and faced difficulty finding a project supervisor who was racially and academically aligned with their research interests, whilst jointly struggling when studying modules devoid of narratives that related to them (Campbell et al, 2021: 9).

Critically appraising the lack of diversity in academic staffing is a crucial step in challenging this exclusivity of academic spaces. A "highly cultivated image and reified reputation" of certain institutions and job roles can hinder prospective PhD students, with studies showing that such lived experience and stigmatization enabled students' impressions that such roles are exclusionary to minorities (Mirza, 2015: 27). However, the "mere presence" of ethnically minoritized students, particularly of black ethnicity, will be enough to "complicate and unsettle" the academic environment that white privilege has permeated (Puwar, 2004: 71).

The Commission on Race and Ethnic Disparities (2021), established by the UK government in July 2020, published its' report detailing the racialized issues faced by minoritized ethnic groups in academia. The report found that a considerable number of people from minoritized ethnic groups believe that inequalities arise from "*systematic, systemic, structural, institutional, internalised, inherent, and cultural*" racism. The report also found that people of minoritized ethnicity believed education was one of several areas of life that this type of racism manifested itself "largely", alongside sectors such as healthcare, policing and crime, and employment (CRED, 2021). In the same report, the committee outlined that some members of ethnically minoritized groups, particularly black people, were discouraged to apply to institutions such as Cambridge as their acceptance to such an institution was viewed as "unrealistic". Such discouragement can cause a so-called "vicious-cycle" through which racial inequalities in academia are reproduced and perpetuated (Fazackerly, 2019). There are further vicious-cycles that arise from this racialised education, due to dominant white-cultural capital being promoted as the single reference point for educational standards. As Cartwright (2022: 318) puts, these "putatively neutral standards" of institutions benefit and align with the interests of not only higher-class people, which is usually clear and accepted, but it also aligns and benefits people from the dominant race. It is imperative that institutions ensure students that "racialized capital", which is everywhere, would not shape their future.

ONE Planet and Newcastle University

ONE Planet, a NERC funded Doctoral Training Programme (DTP), is based in Newcastle upon Tyne, and delivers its programmes jointly through Newcastle University and Northumbria University. Newcastle University is a UK public research university based in Newcastle, with additional campuses in Singapore and Malaysia. Vice Chancellor and President Chris Day has previously expressed, "*I am determined to make sure that Newcastle University is a place where racism is not tolerated and where systems and processes are designed to ensure everyone is supported to reach their full potential*" (Newcastle University, 2020). Through this commitment, Newcastle University has joined the Race Equality Charter (REC), which supports academic institutions to identify and self-reflect on institutional and cultural barriers faced by staff and students from minority ethnic groups. However, application and admissions data from schools within Newcastle University in which ONE Planet studentships are situated, and in which NERC relevant research is conducted, demonstrate low ethnic diversity as a striking issue. In 2019, of the 4 schools in which ONE Planet PhD studentships may be located (Geography, Politics and Sociology; Mathematics, Statistics and Physics; Natural and Environmental Sciences; Engineering), there were a total of 122 white students in comparison to only 14 students who were racially minoritized (including Asian, black, Arab, Pakistani, African, and mixed ethnicity). The acceptance rate in schools within which current ONE Planet studentships are placed is highest for white students (25.22%), and lowest for black students (6.45%) for the period 2019-2021. Around 2.44% of students did not specify their ethnicity during the application process (28 of 1146 applicants).

More specifically, the ONE Planet recruitment data shows that for the period 2019-2021 only 35 black students applied for PhD studentships (this number includes both UK domicile and international students). This was a stark difference in comparison to the number of white and Asian students who applied, with numbers totalling 263 and 114 respectively. Of those 35 black students who applied over the course of the last three years, none were offered

an interview during the recruitment process. For white and Asian students who interviewed, 42.9% of white and 23.1% of Asian students received offers for fully funded studentships.

When assessing the causes of this inequality, both theoretical and empirical studies show that race and social class are the most prominent drivers throughout all levels of education (Tzanakis, 2011; Linda et al, 2014). This is evident once again when considering the statistics associated with ONE Planet applications and admissions data, whilst jointly considering the most recent update to UK Research and Innovation (UKRI) recruitment policy. The post-Brexit change to UKRI policy changed international eligibility for UKRI funded studentships for the year 2021/2022 (UKRI, 2020). UKRI opened up UKRI studentships to international students, allowing them to receive the full award inclusive of stipend and home institutions fees. With a "30% cap", this policy change meant that the ONE Planet DTP could recruit up to 30% of its cohort from overseas applicants, with universities voluntarily absorbing the additional costs of the international fees to deliver a fully funded studentship. Overall, this has allowed ONE Planet to advertise to, and offer more PhD studentships to, international students. After the policy change, the number of black applicants increased from 1 to 35 for the years 2020 and 2021 respectively. But contrary to white and Asian students (31.9% and 8.7% of which progressed to the interview stage respectively) black students were offered neither a studentship nor interview by the DTP.

The reasons for this are undoubtedly multi-faceted and have been explained in parallel scenarios via mechanisms such as racialised assessment, and what is often referred to as the "stereotype threat". Due to assessment standards in Western institutions being inherently white and Eurocentric, students from minority ethnicities are structurally disadvantaged. Alongside this, the "stereotype threat" describes how minority students can underperform in educational settings due to pressures created by narratives of negative stereotyping(s) of their racial group. Such stereotypes appear in discourse and are reflected by negative attitudes towards a group (Owens and Massey, 2011; Torjesen, 2021). This threat is present across

the education sector, and often goes unchallenged (Mirza, 2015: 28). It is therefore crucial for DTPs to change the ways in which candidates are assessed, whilst jointly adopting not only an equity-based approach but a justice-based approach to reforming candidate selection.

Although structural changes are needed across all programmes of higher education, postgraduate research degrees are most sensitive to these issues due to the high level of investment required of individuals across components such as time, funding, and resources. In acknowledgement of this situation, this research will use the lived-experiences of students to gauge whether recruitment and advertising processes are experienced equally across all ethnic identities, and if not, what DTP-level changes can be made to remedy this.

Methods

Our research is an exploratory study designed to ascertain perceptions and experiences of recruitment into postgraduate research (PGR) study, specifically PhD study, focusing upon how these experiences may differ with respect to student race and/or ethnicity. To better understand the barriers to application and to co-create pilot support activities we sought to understand the experiences of those considering, undertaking, or have completed research degrees in the environmental sciences area. By capturing the lived experience of students who have experience (or are considering entering) the recruitment process for a PhD studentship, we hope to contribute to discourse surrounding low representation of minoritized ethnicities in PGR study and understand if aspects of advertisement and recruitment strategies may be unintentionally racialized. Further to this, the data collected in this study will feed directly into practical, actionable guidance on best practice for de-racializing studentship advertisement and recruitment to improve uptake of minoritized ethnicity students. This will be highly relevant for the ONE Planet DTP recruitment for future cohorts (2023 and 2024) however, results will also be disseminated to other DTPs/Centres for Doctoral Training (CDT) within the UK and outcomes of this report will be communicated with the governments' Natural and Environmental Sciences Research Council (NERC) as the funders of this research. Full

ethical approval was reviewed and approved by Newcastle University's Ethics Committee. This research study and all accompanying elements were conducted in line with Newcastle University's Code of Good Practice in Research. We have included the participant information and focus-group briefing document that was provided to our participants in Appendix I. In addition to this, a participant consent form is included in Appendix II.

Participants were enrolled via internal communication systems at Newcastle University (emailing mailing lists, student bulletins etc). Students were given information about the session and voluntarily signed-up to attend focus group and interview sessions. The focus group call was open to all email recipients (university-wide); however, we had difficulties in take up of UK domicile students of minoritized ethnicity. On reflection, this could be mainly due to overall lack of presence of this demographic at Newcastle University (as evidenced by our data review). Therefore, we recruited international students of minoritized ethnicity to supplement focus group numbers. Experiences and opinions from all students of minoritized ethnicity were considered valuable for this report, despite the research outputs being targeted towards increased uptake of minoritized domicile students.

Information from participants was gathered through a series of semi-structured focus groups and interviews. Questions were developed using a suite of resources, including existing literature and documentation from previous focus groups run at both Newcastle University and several other "post-92" universities, which were shared with us via our research network. Focus groups included all nationalities, whereas 1-on-1 interviews were restricted to UK domicile participants only. The focus groups and interviews took place from October 2022-December 2022 and running for a maximum of 90 minutes each. Questioning was conducted over 5 focus groups (3 with PhD students, 1 with MSc students, 1 with UG students) and additionally through 2 individual interviews (2 with PhD students). Each focus group was limited to a maximum of 5 students, and a minimum requirement of 2 students participating. The full list of semi-structured questioning is provided in Appendix III. The structure of our questioning followed a 3-part format as follows:

1- Advertisement and Application

The questions within this section related to student experience or knowledge on searching for PhD opportunities, challenging parts of the application process, pre-enrolment contact with research colleagues and supervisors, and finally student perception on the (in)equitability of the recruitment process for students of minoritized ethnicity or marginalised identity.

2- Belonging, Cultural Resistance, Respect, and Awareness

Throughout this section we aimed to gauge whether students felt that academic spaces were a "place for them" as students of minoritized ethnicity, whether academia was welcoming of their research culture and identity, and probed participants to question whether a dominant white, Eurocentric standard dominated academic practices.

3- Progress and Assessment

The last section focused on student experiences of support and encouragement during their studies in contrast to their white peers, whilst also exploring whether students felt any concern about potential obstacles in their futures that may relate to aspects of their identity (specifically race and/or ethnicity).

Consent to record was both verbally and physically obtained prior to beginning each focus group. Individual interviews were not recorded to allow participants to speak freely to the interviewer. Focus groups were recorded to capture key themes but were not transcribed due to project time constraints. We understand that the results of this study must therefore be interpreted with some caution as there is no quantitative aspect to the results. Despite this, the discourses explored with students throughout these focus groups and interviews provide a meaningful contribution towards this project's goals and desired outputs. All recorded interviews will be securely stored during the research and deleted following the conclusion of this work. Where it has been possible to provide statistical information about student responses (for instance, half of participants in a focus group agreeing on a certain point) we have provided such information.

Demographics

In total, we had 18 participants participate in focus groups. 11 students (61.11%) stated their gender was female; 7 (38.89%) stated their gender was male. None of the participants identified with a gender that was not assigned to them at birth. Herein we recognise that perspectives and lived experiences of those identifying as transgender or non-binary were not directly captured throughout these focus groups. In terms of career stage, 12 participants were enrolled on PhD programs of study, 4 were MSc students, and 2 were BSc students. 12 of the total 18 students (66.67%) were the first generation in their family to go to university or a similar higher education facility. 7 participants (38.89%) were eligible to claim the maximum available student maintenance loan, 3 participants (16.67%) did not state their eligibility, and the remaining participants were not eligible to claim the maximum student maintenance loan. Participants were of 8 different ethnicities across 11 different nationalities.

Results and Discussion

1 - Advertisement and Application

Understanding how students search for, and choose, PhDs

When asked about how students searched for PhD opportunities the most common response was using online resources, specifically search engines such as Google and websites such as FindaPhD, Jobs, LinkedIn, indeed, and FindaPostdoc. These database or catalogue-type sites were suggested most frequently; however, **University websites and DTP/CDT** websites were also mentioned in student responses. One student referenced their experience of using the Newcastle University website directly, stating that although information pertaining to PhD opportunities in their field was available, it was not easy or intuitive to locate such information and that they had found using DTP/CDT websites to explore PhD opportunities more useful.

Several students were directed to relevant PhD projects by their MSc/MRes supervisors, and in the case of international students, two students had found their PhD projects through government portals advertising funding opportunities. Additionally, networks of friends and colleagues were suggested as being important for identifying opportunities, with several students specifically mentioning that their colleagues and peers at university circulated PhD advertisements via word of mouth and email.

Considering the above responses, we highlight the importance of digital media and communications for promoting PhD opportunities. Advertising on sites such as FindaPhD.com or central University websites is pivotal to this, however there is also room to expand communications through targeted emails to students, specially to target masters or final-year undergraduate students of minoritized ethnicity in the UK. Working with a digital advertisement agency to do Search Engine Marketing (SEM) and Search Engine Optimization (SEO) will help to promote the projects and PhD positions[1]. Whilst advertising globally can be costly, putting out localized advertisements (e.g., only people from the North-East of England who visit the website) with websites such as FindaPhD.com could be effective. Additionally, a website redesign that involves changing elements such as code, content, structure, and visuals of the site to better serve visitors and attract people who search with related key words would increase the online visibility and bring new applications overall. Lastly, a combination of both targeted and wide-reaching mailing lists should be used to promote projects and PhD positions. No participants in our focus groups mentioned receiving notice of PhD opportunities via email, and therefore we identify a clear opportunity to expand ONE Planet's reach during the promotional stage of projects. No participants in our focus groups mentioned receiving notice of PhD opportunities via email, and therefore we identify a clear opportunity to expand ONE Planet's reach during the promotional stage of projects. A combination of both targeted and wide-reaching mailing lists should be used to promote projects and PhD positions. For example, The North Atlantic Climate System Study (Acsis) and Agricultural Green House

Gases Project Discussion Mailing List. A clear equality, diversity, and inclusivity statement via email might increase UK domiciled ethnic minority candidates` interest.

Two PhD students also mentioned that in person events prior to application would have been both informative and "*a great encouragement and source of motivation*", especially if they could have met existing PGRs from diverse racial, ethnic, and religious backgrounds prior to their PhD. Providing both presented and physical promotional materials to students will ensure that all enrolled students at the university have the opportunity to learn about the ONE Planet DTP and PhD studentships. ONE Planet could further expand their current recruitment strategies by hosting in-person or online events where the DTP is introduced to masters and undergraduate students[2]. The direct provision of this by ONE Planet will expose students to such programmes and opportunities, and removes potential barriers to finding studentships (i.e., students are not excluded from hearing about opportunities; students are not penalised if they cannot navigate online platforms or are unsure of where to "look" for PhD programmes). Furthermore, we additionally stress the need to inform supervisors of how pivotal their role can be in communicating PhD positions to undergraduates and masters' students. Students with smaller academic networks may be unlikely to hear about such opportunities, and as such it is vital that supervisors disseminate DTP/CDT programmes wherever possible, and with all students[3]. When asked "*what were the most important criteria you were looking for/would look for at the searching stage?*" the most frequent response was that the project must be fully funded. When discussing the requirement of being "fully-funded", students referenced the need for course fees to be paid, a stipend provided to support living costs, and a separate research budget allocated for their PhD work. Students mentioned that when searching for PhD opportunities online, they had specifically inputted "fully-funded PhD" to search engines. The main reasons for prioritising funded positions were twofold. Firstly, fully funded studentships provide access to courses that students may otherwise be unable to afford (particularly for international students, as international university fees are comparatively high when compared to UK domicile student fees). Secondly, the stipend component of funding

provides financial stability and a regular source of income for students, which several students outlined as essential to meeting living and subsistence costs throughout their PhD programme. In a 1-on-1 interview, a current PhD student discussed that minority ethnic students' families are "*primarily working-class families*" and as a result they want their children to start earning money as soon as possible to ensure financial stability. As an outcome, they often are not particularly supportive of PhD programmes. The student thought that the biggest barrier to pursuing their academic career was "*financial matters*"; additionally, they stated that this would be a barrier for "*people around me who come from the same cultural background and class*". In response to this, ONE Planet must ensure that any future advertising clearly states stipend rates, research budgets, and additional funding opportunities so that potential candidates can clearly assess whether the PhD studentship is appropriate for their needs.

Other factors that were mentioned in response to this question were location (both in reference to the geographical location of the city and institutional setting), the alignment between supervisor and student research interests, the reputation of research/laboratory groups, and the dynamic between supervisor and student (e.g., would the student have independence in project planning and management). Two respondents explicitly stated that they chose to pursue PhD's that they felt could generate a positive impact for their home communities. One student said: "*I wasn't necessarily looking for a PhD…I only wanted a PhD in Earth [sciences]…Earth [sciences] is something that I can use to help my people back home…the only motivation for me to do the PhD was to study Earth construction*". From the focus groups and 1-on-1 interviews, we found that the most crucial factors to female PhD students were "*funding, a project that matches their interests and concerns, provided trainings, and the city and university*". In a 1-on-1 interview, a student stated that "*it was crucial that Newcastle was larger than the alternatives*" since this gave them the impression that it would be more "diverse". From this line of questioning, we find that minority students consider funding (potential socio-economic barriers) alongside the diversity of the location (potential cultural barriers) when deciding whether to pursue a PhD. Further, students may be motivated

by socio-economic barriers because they want to "*contribute to the solution*", but the expectations of society and their culture may obstruct their academic career. This particular issue is discussed further in our report.

We followed the previous question by asking students "*did you/would you know where to find information on these criteria, for example funding?*". Responses to this question were mixed, but mostly positive. Students reported that although the information was sometimes hard to find, they did find the information or were able to contact a member of staff (for example, DTP/CDT administrator) who could advise them of the relevant information. One student described their experience of being confused by online information on funding, explaining that they found comparing PhD programmes and choosing between studentship options to be overly complicated. They further explained that this confusion was only resolved when speaking to a member of academic staff at another university, who advised the student to apply to ONE Planet owing to their post-PhD support and CASE partnership framework. For inclusion, it is essential to present this information in the easiest and most understandable way possible.

Understanding how students experienced the application process

Subsequent questions sought to understand which parts of the application process students found challenging, for example the preparation of application documents, or an interview stage (if applicable). The most notable response to this question was that students were oftentimes confused by the "research proposal" document that they were required to submit for application to a PhD position. Some international students also did not know how to write personal statements. The focal reasons for this difficulty lay in the student's uncertainty as to exactly what content should be prepared for such a proposal or statement, in combination with a lack of available online resources to guide students in preparing these documents. ONE Planet student mentors –current PGR researchers who are employed on a part-time basis to help assist with prospective student queries– have also reported answering numerous

questions pertaining to the preparation of a research proposal. One mentor describes their interaction with an applicant:

> "*The students I've chatted with have mostly asked questions about the proposal. They tend to ask how long it should be, and whether they can include information from the [ONE Planet] project description, I think they want an example document but it's hard to really tell them specifically what is needed from them as everyone writes in different styles and formats*"

Within the focus groups, students made independent suggestions as to how this challenge could be addressed, such as improving the visibility of guidance documents online and providing templates or proposal samples. One student suggested that guidance for all application documents (personal statement, curriculum vitae, research proposal) could be outlined and explained using a video-format. During the focus group with MSc students several participants agreed that they would also benefit from interview guidance and/or preparation. For MSc students and BSc students the personal statement was seen as less of a challenge comparatively. Several PhD students agreed that this element of the application was straightforward; UG students additionally stated that they had prior experience with producing a personal statement in their application to university and so were less concerned about this as they had received ample support and advice on what was expected in a personal statement.

In the focus groups, some students stated that they would prefer written assistance materials, while others preferred visual information and guidance. We propose that ONE Planet produce "starter pack" guides with written and visual material that provides guidance to students on how to create application documents suitable for different learning styles[5]. A professionally produced, engaging video that briefly explains how to prepare these documents and encourages students to do so would be especially helpful. Written documents should provide a step-by-step explanation of the process that is easy to understand and follow. Students also stated in the interviews that they would benefit from a more complete

understanding of the relations between a DTP and University (how application works for DTP and the University, how they will work between the two bodies post-application etc). In this respect, the "starter pack" should be interlinked with university online materials and provide guidance on how the DTP and universities relate to one another and interact. Students also expressed that they would like to have mentors, and that it would be "*particularly inspiring*" if they were persons of colour. The majority of interviewees viewed the development of a network among non-white students as beneficial both prior to, and during a PhD. They were concerned, though, that this might lead to a split between students of colour and other students. Whilst ONE Planet has launched a mentorship scheme (2022), it is important to note that the scheme should ideally create a setting where minoritized students can interact and form networks while also not feeling isolated from the rest of the group.

Understanding student perceptions of diversity prior to enrolment

Next, we sought to gauge the lived experience of minoritized ethnicity students in meeting staff and students before starting their programmes, e.g., during interview panels, or visit days. Further to this, we wanted to ascertain whether our interviewees had noticed that they shared aspects of their identity (race, ethnicity, religion etc) with the people whom they may have come into contact with. None of the students had attended a PGR open day, however as a considerable proportion of them were international students a pre-registration visit to the UK was unfeasible in many cases. Two PhD students described the difficulty they had in contacting university staff and prospective supervisors, expressing that they felt this had complicated their application process.

> "*They [supervisors] were easy to find, but really hard to get hold of*"

Many domicile and international students had met only their PI/supervisor (either in-person or online) before beginning their programme; fewer stated that they no longer recalled who they had spoken to or met prior to beginning their course. Several students had met university staff via interview panels, prior to being offered a PhD position. Referring specifically to the

interview panel for ONE Planet DTP, one student described the panel as "white dominated".

When probed to expand on how this panels' demography had made the student feel, they had not felt negatively about this; however, they "*expected that this would be the case".* A second student, interviewing to a different CDT, described a similar experience, however their response elicited to the impact this had had on them:

> "*I looked at the panel running the CDT; yes, it was majority white male, however I accept that is unfortunately academia. It didn't put me off entirely…it would be a little more encouraging to see a professor of colour who is female. I could identify more with that"*

It's significant to emphasise that most students accepted academia as a "white space" and did not challenge this (this particular issue is expanded upon later in this report). They mostly agreed with the statement that "*white, European culture set the standards of the academic culture and conduct*" and they recognised that white middle-class men dominated academic professions. In contrast to this, when a position of academic influence was held by someone countering the white-male norm, it was found to be motivating and comforting[6]. An Asian British student expressed their reassurance when interviewing with a professor who came from the same background (they identified both themselves and the professor as Asian). They expressed that "*seeing someone with a similar identity was really encouraging"* and claimed that it would have been "*really discouraging*" if they were all white men. Although they acknowledged that their name has occasionally been "*crossed over*" (i.e., application disregarded) on employment applications since it reflects their identity (South Asian, Muslim), they were not certain whether this would occur in the higher education sector. After pausing to reflect upon their answer, the student added "*I hope so, at least".* This suggests that students are still worried about racism in education.

The final question of this section asked students if they felt that people from a variety of backgrounds are taken into consideration when assessment and recruitment is conducted (specifically, for enrolment to Newcastle University). The responses from all focus group

participants agreed that people from all backgrounds were considered equally. Several students referred to diversity statements by DTP/CDTs that encourage students from under-represented groups to apply for PhD positions; the students found these statements to be very encouraging and felt positively that such statements were "*specifically stating that they want you*" as a student of minoritized ethnicity. Considering that all students agreed that the statements about how institutions appreciate EDI are encouraging, ONE Planet should continue to ensure that such statement are visible and sincere. Other students described Newcastle University as "*accepting*" of under-represented students, along with the general impression that Newcastle as a city itself was overall "*accepting*" of all races and ethnicities. One student referred to photos on their CDT website showing past/present students of the CDT, explaining that it was visibly diverse in terms of race/ethnicity, however a gender gap was visible.

> "*It's quite diverse our group, everyone comes from different backgrounds, my supervisors are quite diverse as well…it is quite white dominated too but I'd say there's more of a gender gap, being from engineering*"

One international student outlined their impression of the ONE Planet recruitment process specifically:

> "*I don't think it [the recruitment process] is designed particularly to benefit anyone...but then I think the processes that we have to get through, coming from other countries we have to get through more hurdles before we actually join. But this is not the designing of this*"

From their comments, we infer that this student perceives the recruitment process to be, in theory, equally accepting of all students regardless of race, ethnicity, or other aspects of personal identity. However, an unevenness in admission is experienced during the registration process, with international students needing to complete additional processes when compared to their domicile counterparts (e.g., attaining a study visa). This is recognised to not be an

intentional structural barrier to international admission of minoritized students, however, is an inherent challenge that international students face when enrolling in any UK university or similar higher education institutions.

In addition to this, all students interviewed raised concerns of nepotistic selection and support of PhD candidates by supervisors during the recruitment process. Many students were open about their personal experience of meeting with the project supervisors prior to application, and the benefit this had in strengthening their application documents and interview performance. One student also outlined that they had been provided with the previous year's interview questions and was therefore offered ample time to prepare answers. There were concerns however, that this experience was not universal for all applicants.

> "*Different levels of support are given by supervisors prior to the main interview…it should be a uniform level for everyone*"

The above quote is emblematic of a shared concern from study participants that supervisors may have consciously pre-selected a candidate for the PhD role based on existing affiliations or work rapport. These comments were not given in relation to students being discriminated against during assessment and recruitment on the basis of race, ethnicity, or gender, but instead relate to an important dialogue on student exclusion from, or lack of access to, academic spaces. As discussed in our first question, many students found PhD opportunities through their academic networks, undergraduate/masters supervisors, or friends enrolled on PhD courses.

To address these points, we again reiterate the vital role that academic supervisors play in providing access to students pursuing PhD's and propose that ONE Planet communicate these findings with project supervisors prior to the recruitment process beginning. Whilst recruitment processes are perceived by students as, in theory, non-discriminatory, there remains a concern that those with prior access to academic spaces and networks are placed at a significant advantage when compared to those without such

connections. An actionable solution to this issue is to ensure that both the DTP and project supervisors advertise studentship opportunities widely and introduce equitable processes to ensure that preferential treatment is not given to certain candidates. This could, for example, be a standardised level of guidance that supervisors are to give students during the application process. In conjunction with ONE Planet's existing student mentorship scheme, this would ensure all students are provided with a basic level of support and guidance, and students with existing academic connections are not further advantaged in this respect.

2- *Belonging, Cultural Resistance, Respect, and Awareness*

Understanding who/what encourages or (de)motivates students to apply

We began this section by asking students "*were you encouraged to apply for a PhD by somebody?*". We received overwhelmingly positive responses from our on-campus focus group participants. Students described receiving encouragement from supervisors, lecturers, family, and friends[8]. Relating to the previous question, student-supervisor relationships were identified as a key factor in students receiving such support or encouragement to enter PGR studies. Several students responded to this question by additionally describing their self-motivation and self-encouragement to pursuing a PhD, with particular emphasis on attaining a PhD to gain entry to the world of academia. One student described attaining a PhD position as a necessity to sustaining their current employment in academia: "*I need to keep my job, and for that I need a PhD*". Another stated a longer standing desire to enter academia via the PhD route: "*since I was young, I've known I wanted to be in academia and so wanted a PhD*".

Attaining family support as a woman can become particularly difficult primarily due to familial and cultural expectations. "*Moving to a new and far city as a brown woman*" may be much more challenging than it is for a white woman due to the expectations set upon women in certain cultures where conservative, traditional family values are promoted for women (Yeandle et al., pg. 30). This challenge was explicitly stated by two female participants with high levels of concern for this particular issue. The participants expressed how in some

cultures, upon completion of their PhD, women will have reached "*marriage age*" and therefore family members encourage them to prioritize marriage and familial duties over education or career goals. In relation to this, a further significant cultural and familial barrier lay in concerns that families from minority backgrounds lack formal education, with students reporting that they experienced "*difficulty explaining to their family members what a PhD is and what it may deliver*."

Multiple students described how although their families often had incomplete (or lack of) knowledge about PhD study, families were mostly or partially encouraging of their relatives to pursue a PhD once they had been provided with more information. Despite this, explaining to their families what a PhD constituted was described as a "*challenge*" by one student. One participant highlighted a perceived correlation between families (specifically parents) being "*financially well-established*" and their willingness to encourage and support their children's pursuit of higher education. Two UK domicile participants claimed that minority ethnic families were more inclined to prioritise financial stability as a result of historical low household income. Students expressed their belief that graduates were encouraged to prioritise financial security, rather than pursuing further education through a PhD. They expressed that this attitude "*does not always come straight, but you feel the pressure, and you need to address it*", demonstrating that familial attitudes and values can create additional pressure for students, and could dissuade them from pursuing a PhD.

This disconnect between generations within a family can be better understood through the framework of cultural capital. Cultural capital is frequently mentioned when analysing the causes of academic success or failure, and its significance has been widely acknowledged since the beginning of the 21st century (Sullivan, 2001; De Graaf et al., 2000). French Sociologist Pierre Bourdieu coined the term to describe the symbols, notions, inclinations, and tastes that can be strategically employed as tools in social actions that bring success or failure. According to Pierre Bourdieu (1986), this cultural capital determines the socialised inclination or predisposition to act, think, or feel in a certain manner. Like financial capital, cultural capital

can be amassed, invested in, and transformed into various forms. For example, in comparison to working class families, middle-class parents with more cultural capital provide their children with linguistic and cultural skills that will increase their chances of success in school and at university. The same situation is evident when it comes to families' support to do PhD. Our research finds that the higher the cultural capital of a family is, the more likely that they will support students` academic career in general, and PhD in particular. During the focus groups and interviews, although not using the term, participants usually showed a prominent level of awareness about this effect. Particularly one PhD student was highly aware of this, and they mentioned this to be "*a difficult challenge that she and many people like her had to overcome*". This was also stated by an ethnically minoritized British student who was referencing their family members not supporting him or other young people wanting to pursue an academic career as "*they thought a PhD is not necessary*". The participants stated that he observes this lack of support especially among senior members of families with less or no formal education.

Alongside cultural capital, a lack of minoritized role models was cited by participants to be an important reason of poor representation of minoritized PhD researchers[9]. One UK student described their pursuit of a PhD as an "independent" decision and endeavour during our on-campus focus groups. Although they admitted that not knowing someone who was a PhD student in their peer networks, community, or family, they claim that "*it was not a huge discouragement*".

> **"***No doubt it would have been better if there were people doing or have done a PhD. Role models are important and supportive I think, and they can be a source of reassurance and motivation because a PhD is a difficult and long process. I didn't have one [a role model]. But I still followed this path – which is because I realized that here it is better for me than in industry***"**

To address the responses given by focus group participants to this question, we here suggest that ONE Planet could produce a short video displaying people with marginalised identities or "non-stereotypical student" characteristics (e.g., mature student, married student, international student, working class student, minoritized ethnicity etc)[10]. The video could, for example,

feature these people talking openly about how they manage a PhD, deal with cultural or societal resistance, and overcome such challenges to successfully pursue their academic career. This would not only be motivational to prospective students who may be actively encouraged by prominent diversity statements and materials, but additionally could be used to inform family members/friends of applicants who do not hold complete knowledge of PhDs.

The question was next followed up by interviewers asking, "*have you ever had thoughts such as 'this [university/academia] is not a place for me'?*". We hoped that students would understand this question within the context of race and ethnicity but did not seek to direct them specifically to discussing their thoughts within a racialised framework if this were not appropriate or relevant to their lived experience. All participants answered "no" to this question; they had not felt as if university/academia was not a place for them. The responses of some students related back to the perceived "accepting-ness" of Newcastle University, and Newcastle (city), and therefore was not directly commenting upon their sense of belonging as a minority within academia[11]. More broadly, both international PhDs and minoritized British students commented on how the UK was an accepting place, welcoming of different races, religions, and cultures. Some students from different parts of the UK (London) described Newcastle city as "*more white than I would assume*" but still were finding the academic environment of the University welcoming[11]. General perceptions of the academic spaces were positive, although some students pointed out the fact that the university teaching staff was predominantly white.

Understanding how students navigate their ethnic identity in academia

Next, we asked participants *"do you feel you have supervisors that relate to both you, and your research interests?"* The typical response to this question was "yes," with PGRs in particular mentioning that they had previously learned about their supervisors and their department (or the project they would be working on) prior to application [discussed in section 1]. It was also discussed that several PGRs had paid particular attention to research group members, and outcomes of past research projects. One PGR claimed that one of the primary

reasons for choosing Newcastle over other offers was because they thought their study would benefit from the opportunity to be interdisciplinary, crediting Newcastle University's ability to support such a project. Another minoritized UK student stated that it would have been more motivating for students from diverse backgrounds to apply if ONE Planet had projects that investigated the socio-political and racialized aspects of climate and earth science and displayed these projects on the website. The student felt that this would demonstrate the inclusive character of the organisation and show that "*EDI is more than just a buzzword, but rather something embedded in the organization's actions*".

For the following question *"do you think your academic culture and way of approaching science is welcomed and valued?"* and also "*do you think white culture sets academia's' standard and conduct? (In Newcastle and UK)*". Students generally had a poor understanding of how to define and describe academic culture. Focus group facilitators described academic culture to participants in the following way: "*academic culture refers to the attitudes, values and ways of behaving that are shared by people who work or study in universities, for example, lecturers, researchers and students*" (Brick, pg. 2). Students expressed an acceptance that white, western values dominated in the UK, however, were unsure if they knew of alternative scientific or academic approaches that did not originate from white, Eurocentric epistemologies. Modern westerns science was explained to participants as a set of theories and assumptions that comprise a worldview and a particular way of doing science that emerged in the Europe with Enlightenment. Its main characteristics were explained as secular, observation/experiment and reason based humanistic endeavour (West, 2010, introduction).

According to one international PGR, "*it should be Western Culture as we are in a western country and the purpose of us being here is to get what we can get and learn it."* It was noted that several other international participants shared this opinion. One international participant expressed positive outcomes of white, western culture in academia: "*if the academic standard is white, it is good for everyone. It is not cultural domination but good*

transfer of knowledge." Here, we believe it is important to record no UK domicile students expressed positive views in relation to this.

In relation to student and staff conduct, an international participant commented that academic events could have been more inclusive, despite "*realising and respecting that science and academia [here] is western… we live in a western country anyway*". As an example, they described how drinking alcohol after academic gatherings and conferences is considered to be the norm, and how this has caused them to feel uncomfortable for not drinking due to religious reasons. In response to these comments, we urge ONE Planet, Northumbria University, and Newcastle University to consider how the boundaries between academic culture and social culture are oftentimes blurred when academic events are bookended by social events that involve the consumption of alcohol. According to Drug & Alcohol Impact (2023), 15% of university students do not drink alcohol. Despite this, many events are hosted in venues serving alcohol or directly involve the consumption of alcohol. As an actionable suggestion for the ONE Planet DTP, we suggest that an agreed minimum number of social events should be hosted as alcohol free events. This could include coffee-house breaks, free sport events, team building activities such as "escape rooms", or movie nights. Race, ethnicity, and religious identities are often significantly intersectional (Blair, 2013), and therefore strategies to accommodate for (e.g., religious) differences will inherently create a more diverse, inclusive environment for researchers. One student also mentioned the peer pressure (though he did not use the word) that exists in situations like these regarding drinking, This aspect could be stressed in EDI trainings. Students will feel less pressure and a greater sense of belonging as more individuals become aware that abstaining from alcohol is fine and does not imply extremism or anything related, and that drinking "is not the norm".

This section of questioning was concluded by asking students "*do you think you will always be able to be yourself, during your PhD*?", and finally "*do you downplay any aspect of your culture or identity because you think it will not be welcomed or respected*?". International responses to this question were overall positive; almost all international participants felt

welcome and respected in the UK, with several mentioning how they found the UK more accepting than other countries within the EU. One international student stated "*I was worried before coming to the UK about racism, but people are welcoming. Religion, culture, everything.*" Several participants who identified as Muslim agreed that they could "be themselves" in the UK. Although one Muslim participant mentioned some discriminatory remarks and actions made by one PhD student on several separate occasions, they thought such behaviours were due to the individual alone and were "*very rare*" moments. The student maintained that institutionally, the university was supportive and welcoming.

Conversely, two international participants discussed how they struggle with a "language barrier" in the UK and expressed concerns that "*some white people are mean to East Asians*". The experienced and perceived racism in the city and university varied according to race of the participants. Black students cited more racism than other minorities, citing several events during which they had faced blatant and public racist attacks when on public bus services and when in other public spaces. Once again, students expressed that they did not find this to be representative of Newcastle city. Similarly, several domicile non-white British students described negative experiences. "*It's an all-white faculty, and I am one of three POC on my course…it's discouraging, my defining characteristic is race…the token POC friend".* Another minoritized UK student stated, "*it is white, but there is diversity of thought…the CDT is good at bringing in diversity of thought…it's important to have people that relate to your experience*". Participants who came from different parts of the UK were more likely to define Newcastle (as a city) white than international participants. One UK domiciled student from London stated that she was "shocked" when she realised how white the city is.

3   - Progress and Assessment

Understanding how students perceive their academic/career futures

In this concluding section, we began by asking students "*do you feel there are obstacles ahead of you in your future career?*". We followed this by prompting students with the question: "*do*

you think these obstacles differ across different aspects of identity? (e.g., race, ethnicity, religion, age, disability, gender, sexuality)". General responses were themed around job security, visa conditions (for international participants), and a general concern for the competitiveness of academic fields. There was however a clear dialogue related to race, ethnicity, and religion.

One UG participant responded that they faced "*mental barriers*" about academic life owing to the visible lack of racial representation present in faculty. They suggested to the focus group facilitators that it would be encouraging to have somebody in their academic network with whom they shared aspects of their racial of ethnic identity, so that they could be "*prepared for a PhD*". An international student expressed a gender preference for males in academia in their home country, and thus thought the UK would remove gender barriers in their career should they remain in the UK. Several other female participants expressed a similar concern over gender imbalances in academia, in particular within maths and engineering sciences. One student, identifying as black, discussed how they felt "*50/50*" on whether they would face racial barriers in their career, sharing their thoughts: "*I do think…am I being screened out?*". Here, the student reiterated that they felt assured this was not the case upon reading EDI statements that welcomed applications from minoritized students.

> "*When they support EDI…I hope they actually mean it*"
>
> "*Am I hitting a diversity quota?*"

Further to this, another student raised concerns about being ruled out of applications due to their name (Muslim name), explaining that during job applications they had felt overlooked.

> "*In the past I have had experiences where people have just looked at my name, and didn't think I was from here [UK] or things like that…I'm a little bit worried about this happening again, but mostly worried about the competitiveness*"

The same student had also faced discrimination at university from another PhD student, who targeted them based on their opposing religious beliefs. The participant outlined how a member of their research group did not accept their religious beliefs and therefore the student had felt singled-out because of their beliefs, being told that their religion was a "*false religion*".

Overall, for these questions, student responses were mixed, and uncertain. One UK domiciled participant first indicated that they did not think they would be discriminated in academia but grew reluctant and added "*Maybe…I hope not*". It is evident that the participants were aware of the possibility for racial, religious, and ethnic discrimination in the university and academia more widely. They did not state that they felt this would pose difficulties in future, however[15]. Once again, we can reiterate to ONE Planet (and other DTPs) the importance of EDI statements that encourage minoritized individuals to apply for PhD studentships[12]. We also reiterate the key role that teaching staff and supervisors play in student experience: from an optical perspective (representation) and a practical perspective (preparation of minoritized academics for life in academia). They key to both of these actions, is ensuring that diversity values and critical race approaches can be embedded into the ONE Planet strategy and curriculum.

> "*Even though representation and declarations regarding EDI are important, what you want to see is the embeddedness of these statements. It is important to be, you know, rather than them arguing that they are diverse*"

The facilitators probed the student in response to the above quote and asked to explain further on how they understood embedding of EDI principles and values. Here, they highlighted making EDI and anti-racism workshops mandatory, diversifying staff identities, closing the gender pay gap, and incorporating projects that consider the racial dimensions of the issues being researched or opening projects that focus only racial aspects of the issue[12]. The student went on to give the example of how climate change is a racialized issue, and therefore climate change studies could incorporate racial frameworks for study. They also

emphasized how it would be important to jointly employ academics from the global south to facilitate or work on such projects. Here, we conclude that for students, diversity does not necessarily mean only the optics of staff bodies, but also the content and critical approaches applied within research projects.

Our final question asked students: "*Do you feel that you are supported and encouraged as much as your [white] friends/colleagues to progress in academia? If not, why not?*". Although some students answered hesitantly, all students answered positively that they believed they were equally supported by academics, specifically when compared to their white peers[13]. There were no concerns about the current support PhD students were receiving, nor did MSc or UG students' express feelings of being overlooked by academic staff. It is worth noting here, as a consistent theme throughout this report, that minoritized students have observed and experienced a lack of racial/ethnic diversity among university teaching staff. Although there is a scarcity of research regarding how issues of race and ethnicity are negotiated in mentoring relationships, research has shown that mentors/supervisors provide spaces for students to discuss race and racism, receive validation, and receive encouragement (Chan 2006). We therefore suggest how students may benefit from mentors and supervisors who have lived experience of racially minoritized or receive training in navigating such topics. The caveat of this suggestion, is that we acknowledge that minoritized faculty should not be expected to commit to this additional labour, adding disproportionately to their workload when compared to non-minoritized counterparts. Relating to this, one focus group participant suggested that having a support network between racially minoritized PGRs would be beneficial[14].

Conclusions

Overall, this research provides novel data on student and academic perceptions of postgraduate recruitment strategies to inform future recruitment processes and develop practical guidance for institutions to ensure recruitment is equally accessible for all students.

The accounts from the focus groups and interviews of participants revealed three recurring general themes.

First, the results of this research indicate that students believe the reason for the poor representation of ethnic minorities at the PhD and further levels of academia are socio-economic, representational, and institutional, and that long-term projects and studies are required to tackle them. Our research concludes that ethnically minoritized students are aware that, when compared to their white peers, they do not inherit the same cultural capital to succeed at the higher levels of education in the UK. So, although the majority of participants do not believe they are discriminated against directly or on an individual level, they believe they are nonetheless at a disadvantage due to economic and cultural drawbacks existing outside of the institution. Increasing these groups` cultural and economic capital seems to be the most important solution in the long term. While some of the obstacles are beyond the power of the institutions individually, their awareness of these specific difficulties and willingness to help ethnically minoritized British students (and demonstrating their awareness and willingness to help) is vital. This awareness should lead to practices that are specifically designed to help minoritized British students. from providing specific quotas of studentships (ring-fenced for minoritized students[7]) as a source of encouragement, to the creation of the same awareness amongst the academics. For example, our research show that ethnically minoritized students think that they do not receive as much encouragement and financial support to undertake a PhD from their family and friends as their white counterparts, thus academics and staff should make up for this. Beyond structural and cultural barriers to entering Higher Education, once minoritized students are enrolled, the role of the university in providing support is highly significant.

Second, representation of ethnically minoritized people in the staff body is also among the key issues highlighted throughout this research. Research shows that once starting their studies, students find Newcastle University and the OP cohort inclusive and welcoming. This is an important aspect to highlight to prospective students considering applying to the DTP.

However, the research also finds that participants show a high level of awareness when it comes to "commodification of diversity" (although they don't use the term) when it is promoted, presented, and commodified, but not embedded institutionally. The most important way in which institutions can show that representation really matters, is to increase diversity in academic bodies and staff in general. Both in the promotion materials and across interview panels, the presence, and the role of people from various backgrounds should be increased. For instance, all participants stated that having a fully white panel was not encouraging, while most of them agreed that it will be an important and beneficial encouragement to see people who share some part of their identity on their interview panel. Additionally, gender must be considered in this context. To provide ethnically marginalised women role models and encouragement, the proportion of women (particularly women of colour) in higher managerial roles and academic staff should be increased.

Deracialized advertisement and recruitment will be helpful in many ways to tackle these issues, and hence studies such as this are necessary in ascertaining ways in which these two processes can be accessible to all. Making advertisement appealing to all other minorities and embedding equality and diversity in them will be a key primary step to encouraging ethnically minoritized students to pursue a PhD, and therefore enter into an academic career. Once this process is followed by an equal and justice-based recruitments process, academic institutions can progress in many ways. For example, throughout this research we received direct feedback from students as to how some supervisors provide more pre-application support than others. One way that this can be alleviated (and thus make the application process more equitable for prospective students) is through providing further support for academic supervisors pre and post recruitment, through additional guidance and training, to enable inclusive recruitment practices to be adopted.

Third, at the institutional level, the key concept is embeddedness of EDI values in programs, socials, academic activities, and research design. The values and perspectives of British people from all backgrounds should be taken into consideration when planning events

and/or making structural decisions. Institutions should realize that representation on promotional materials or putting an IDE statement on web site is important and helpful, but not enough. Among the important conclusions of the study is that representation alone does not mean diversity and equality for students. Having and celebrating "*diversity of thought*", welcoming different approaches and scientific projects, including projects that match with the interests and concerns of the ethnically minoritized people, promoting research projects that are mindful of issues around race and equality (and/or projects that focuses on racial aspects of natural sciences) and finally teaching staff how to make EDI values embedded in their everyday practices and interactions is essential.

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