

The lived experiences of ethnic minority chemistry students and staff in the University of York

Summary Report



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Foreword



As Head of the Department of Chemistry at the University of York, I am proud to introduce this important report on the experiences of ethnic minority students and staff within our department.

Our department has worked actively to support and develop the careers of women in science since 2003. This work has resulted in the Department nurturing the careers of a growing number of highly-successful women chemists, and growing the numbers of female students and staff. Through the policies and practice we developed, gender equality has been embedded in the department's culture to the benefit of all its members. York Chemistry works extensively to share its experience across the UK and International scientific community and is well-recognised as a beacon department for encouraging widespread positive action towards gender equality that allows all talent to flourish.

We are now keen to use this experience to build the best possible environment to support ethnic minority students and staff. In the early years of our work on gender equality, the key activity was listening to the lived experiences of women and providing them with opportunities to talk and be listened to. These discussions provided a space for individuals to be honest about any problems they faced, individually or with the department itself. It also allowed them to voice what they wanted to enable them to continue in chemical careers.

Building on that experience, we embarked on a project to better understand the challenges faced by ethnic minority students and staff in our department. The findings, based on both quantitative and qualitative data, highlight perspectives of those from diverse backgrounds and provide insights into the areas where we must do more to ensure equity and inclusion.

What stands out from this project is the openness of the individuals who shared their experiences. They have helped shed light on both the successes and the shortcomings of our current practices. From concerns about representation and role models to the subtle and overt challenges of navigating university life, the findings remind us that we still have work to do to make the department a place where everyone feels welcomed and valued.

We are committed to using the insights from this project to inform meaningful change within the department. This includes addressing issues of cultural representation, improving support for overseas students, and tackling the microaggressions and biases that still exist. These tasks are vital ones if we are to create a truly diverse and inclusive environment.

We also recognise the need to extend this work to other chemistry departments so that we can better understand how the experiences of ethnic minority students and staff vary across diverse departments, and with geographic location.

I want to extend my heartfelt thanks to everyone who contributed to this report, whether by sharing their stories, in the gathering and analysis, and in facilitating discussions of the survey results. Together, we will continue to build a department where diversity is celebrated, and where every individual can succeed.

Professor Caroline Dessent
Head of the Department of Chemistry
University of York

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1 Executive Summary

Overview:

This report summarises the experiences of ethnic minority chemistry students and staff in the Department of Chemistry at the University of York, based on survey data and discussion groups with students, and 1-to-1 discussion with staff conducted between 2020 and 2023.

A total of 255 undergraduate students participated in the survey, a response rate of 36.2%, with the majority being female. 92% were home students. Thirty-five respondents self-identified as having a non-White ethnicity, which presents a limitation in comparing experiences between ethnic groups. Discussions were held with groups of ethnic minority undergraduate (UG) and doctoral (PGR) students. Two discussions were held with UG students, one with home-domiciled PGR students and one with overseas PGR students. For staff individuals, discussions were held with two ethnic minority members of research staff, two ethnic minority members of professional and support staff, and three one-to-one discussions were held with ethnic minority members of academic staff.

Key Findings:

1. Terminology and Representation:

- Discussion group participants had mixed feelings about collective terms like BAME (Black, Asian, Ethnic Minority). Overall, they expressed preference for the term "ethnic minority". While recognising the need to use collective terms when analysing data, participants emphasised the importance of recognising varied ethnic and cultural backgrounds and suggested using an expanded list of ethnic categories.

2. Choosing to Study at York:

- Ethnic minority students reported that they were aware of the low ethnic diversity at York prior to arriving at the university, with many of the home students reporting that they had lived in areas of low ethnic diversity before attending York. They were not surprised by the predominantly White staff and student body. While ethnic diversity was not a significant factor in choosing York for study, students acknowledged a desire for greater diversity and cultural representation within the university.
- A key factor for UGs choosing York was its ranking in league tables and its membership of the Russell Group, which reflect the university/department's high academic quality.
- Some ethnic minority students reported challenges around a lack of some cultural facilities in York, including places of worship for Sikhs and Hindus, specialist hairdressers, and affordable ethnic food stores. They suggested that these issues could potentially deter some ethnic minority applicants.
- Open days and personalized follow-up after receiving offers played a positive role in shaping their decision to attend York.
- For overseas PGRs, they reported they chose York Chemistry due to research quality and doctoral funding (fees and stipends). The university's diversity was not a factor in the decision.

3. Sense of Community and Role Models:

- Most survey respondents feel a sense of community in the York chemistry department. However, ethnic minority respondents were less positive about this than White respondents, and female respondents were less positive than male respondents. Ethnic minority UGs

highlighted a lack of role models that reflect their backgrounds, though they appreciated efforts made to decolonise the curriculum.

- Students and staff emphasised the potential value of cultural awareness training and the importance of having mentors who understand their unique experiences.

4. Discrimination and Racism:

- Although most ethnic minority survey respondents felt that their ethnicity was not a disadvantage on their course, they were less confident about this than White respondents.
- About one-third of ethnic minority respondents expressed concerns that their ethnicity could negatively affect their career progression in chemistry.
- Very few individuals reported having experienced overt racism within the Chemistry Department; many noted a more inclusive environment in the department compared to some environments in the broader university and City of York.
- Female respondents reported higher instances of racism in some environments of the city compared to within it.
- Microaggressions and feelings of being treated differently due to ethnicity were common, particularly among international students.

5. Issues faced by overseas students and staff

- Overseas students and staff face challenges adapting to British culture, with varying levels of pressure to conform. Isolation is common due to smaller social networks, rather than ethnicity. Cultural misunderstandings and lack of awareness can make it harder for overseas individuals to integrate. The chemistry department is supportive, but greater cultural awareness was identified as being needed.
- Some overseas students struggle with economic difficulties, visa issues, and finding accommodation, with scams and guarantor requirements being problems. These students noted that a formal support system would help.
- A need for flexibility in recognizing non-Christian holidays was suggested. International staff reported that they face challenges in taking extended holidays to visit family abroad, as they felt the university discourages long breaks. Discussion group participants emphasised the importance of understanding the unique needs of overseas staff and students in a diverse university environment.

6. Bullying and Harassment:

- A small number of respondents reported incidents of bullying or harassment, with ethnic minority respondents more likely to experience these issues. Despite most respondents expressing confidence in reporting processes, few had reported incidents.
- Participants emphasised the importance of clearly communicating how to report issues and ensuring that reports are followed up effectively.

7. Equality, Diversity, and Inclusion (EDI):

- While 84% of respondents felt that the department is promoting EDI effectively, ethnic minority respondents were generally less satisfied than their peers. Many desired more visible efforts to celebrate non-Christian festivals and cultural events within the department.

8. Career Progression and Intentions:

- There is some evidence that ethnic minority students may rate their career awareness lower than their White peers.
- In the survey the most popular future career intentions were working as a scientist in industry/commerce and pursuing research leading to a master's or doctorate. Government or public sector scientist roles were also popular choices. Ethnic minority and male respondents were more likely to select industry/commerce roles than other groups.
- Ethnic minority students were more likely to indicate that they would pursue careers in industry than in academia, citing concerns about biases and the limited presence of role models in UK chemistry academia. The perceived need to work harder to succeed was a recurring theme.
- While the UG discussion group participants agreed that ideally, they would prefer to work in a more diverse workplace as that would make them feel more comfortable. However, they accepted that this needed balancing against other factors when securing a job. They did not want to benefit from positive discrimination, and this was particularly strong for the female ethnic minority participants.
- Home and overseas PGRs shared different perspectives on career ambitions, with overseas PGRs emphasising the impact of visa and cultural challenges on their choices.

Recommendations:

- Develop cultural awareness training and develop mentoring programs tailored for ethnic minority students.
- Increase efforts to recruit and retain ethnic minority staff and promote visible role models.
- Expand support for international students, including accommodation assistance and better recognition of cultural holidays.
- Continue the focus on decolonisation efforts for the curriculum.
- Improve transparency and communication around reporting processes for bullying and race-related incidents.
- Celebrate diverse cultural events to foster an inclusive environment.
- Recognise non-Christian holidays and improve understanding about when the need of overseas staff and students to take extended holidays to visit family overseas.

Overall, while the Chemistry Department at the University of York is making strides toward inclusivity for the ethnic minority individuals in its community, there are opportunities to better support ethnic minority students and staff, particularly in addressing subtle biases and fostering a more culturally aware environment. This report provides an informed basis on which to develop an action plan and prioritise future activities to improve inclusion.

2 Introduction

Representation of UK domiciled ethnic minority students entering chemistry degrees broadly mirrors the representation in the general population (Table 1), but falls as these students advance through academia's career stages. At undergraduate level, Asian chemistry students are 14% of the population, dropping to 7% at postgraduate level. For Black students, representation falls from about 5% at undergraduate level to just over 1% at postgraduate level. The underrepresentation of ethnic minority students and staff above undergraduate level is a longstanding issue in chemistry^[1] that has been described in a recent report from the Royal Society of Chemistry^[2] and in an article in Chemistry World^[3]. For a professional field such as Chemistry, this situation means that many individuals may be limiting their career choices but also constitutes a highly significant loss of talent for the discipline.

Table 1: Census 2021: Ethnic groups by age for England and Wales

Age	White	Asian	Black	Mixed	Other	Total
17 and younger	73%	12%	5%	7%	3%	12,402,360
18 to 23	76%	12%	5%	4%	3%	4,213,540
24 and older	85%	8%	3%	2%	2%	43,036,990

The University of York's Department of Chemistry has actively worked to support the careers of women in science since 2003. This work has resulted in the Department nurturing the careers of a growing number of highly successful women chemists and building the numbers of female students and staff. Through the policies and practice developed, gender equality has been embedded in the department's culture to the benefit of all its members. York Chemistry works extensively to share its experience across the UK and International scientific community and is well recognized as a beacon department for encouraging widespread positive actions towards gender equality in scientific careers.

York Chemistry is keen to use this experience, to build the best possible environment to support ethnic minority students and staff. In the early years of the department's work on gender equality, the key activity was listening to the lived experiences of women and allowing them opportunities to talk. These discussions provided a space for individuals to be honest about any problems they faced, individually or with the department itself. It also allowed them to voice what they needed to enable them to continue to pursue chemical careers.

This report outlines the findings of an initial listening exercise of ethnic minority staff and students in Chemistry at York. The primary aims are to allow the department to identify the ways in which individuals experience racism, understand career aspirations and bottlenecks, and identify practical actions that could be put in place to encourage individuals to continue with chemical careers. A secondary aim was to develop research tools, and disseminate them with other departments.

Table 2: Census 2021: Ethnic groups by geographic area

Geographic Area	White	Asian	Black	Mixed	Other	Total
England and Wales	81.7%	9.3%	4.0%	2.9%	2.1%	59,597,578
Birmingham	48.6%	31.0%	11.0%	4.8%	4.5%	1144922
York	92.8%	3.8%	0.7%	1.8%	1.0%	202,821

The City and University of York have relatively low ethnic diversity and so the experiences of ethnic minority people in the Department of Chemistry will be different to the experiences of ethnic minority people in more diverse cities and universities. Table 2 presents data to illustrate an example of the variation of ethnic diversity across the UK, comparing Birmingham and York. Studies mirroring the work presented here for York Chemistry would be valuable in other chemistry departments, including those located in geographic locations with a higher ethnic minority population.

2.1 Ethnic Diversity in the Department of Chemistry at York

To provide background context, Tables 3 and 4 provide data on the ethnic diversity of students and staff in the department. The University of York, in alignment with HESA practices, requires reporting of numbers of individuals rounded to the nearest 5 to protect individuals' anonymity. This introduces apparent discrepancies between numbers in different columns.

Table 3: Students (numbers rounded to 5) in the Department of Chemistry by ethnicity, domicile and gender on 1st December 2022

Level	Ethnic Group	UK		EU		Overseas		All	
		Female	Male	Female	Male	Female	Male	Female	Male
UG	Ethnic minority	50	40	10	5	15	5	75	45
	White	275	290	0	0	0	0	280	295
	Unknown	5	10	0	0	0	0	5	10
	Total	330	340	10	5	15	5	355	350
	% Ethnic minority	15%	12%	92%	80%	87%	80%	20%	13%
PGT	Ethnic minority	0	0	0	0	5	5	10	5
	White	0	5	0	0	0	0	0	5
	Unknown	0	0	0	0	0	0	0	0
	Total	0	5	0	0	5	5	10	10
	% Ethnic minority	0%	25%	100%	-	100%	86%	82%	64%
PGR	Ethnic minority	0	5	0	5	20	10	20	25
	White	25	40	0	0	0	0	25	45
	Unknown	0	0	0	0	0	0	0	0
	Total	25	50	5	5	20	15	50	65
	% Ethnic minority	7%	14%	67%	100%	100%	92%	46%	36%

Table 4: Staff (numbers rounded to 5) in the Department of Chemistry by ethnicity and gender as at 1st December 2022

Staff Group	White		Ethnic Minority		Not known		Overall	
	Female	Male	Female	Male	Female	Male	Female	Male
Academic	10	35	0	0	0	0	10	40
Research	25	40	5	5	0	5	30	50
Teaching	5	10	0	0	0	0	5	10
Support	55	35	5	0	0	0	60	35
Total	95	115	10	10	0	5	105	135

3 The lived experiences of ethnic minority chemistry students and staff in the University of York

A total of 255 students started the survey, a response rate of 36.2%. The majority of those who responded to the survey were female. The response rates by gender were 46.0% for females and 21.5% for males. 92% of respondents were home students.

Overall, 35 respondents (24 home and 10 overseas; 23 female and 10 male) self-identified as having non-White ethnicity.

Most respondents were in their 2nd or 3rd years of study (in 2021/22) with just 11% of respondents in their 1st year and 5% in their 4th year. All but three ethnic minority respondents were in their 2nd and 3rd years of study, with 54% in their 2nd year and 37% in their 3rd year.

In addition, discussions were held with groups of ethnic minority UG and PGR students. Two discussion groups were held with UG students (to provide some flexibility about when a student chose to attend), one with home domiciled PGR students and one with overseas PGR students.

Discussions were also held with two ethnic minority members of research staff and two ethnic minority members of professional and support staff. Three one-to-one discussions were held with ethnic minority members of academic staff.

3.1 Terminology for describing ethnic minorities

Participants in the discussion groups did not have strong feeling about the collective terms (e.g. BAME, Black, Asian, Minority Ethnic) used to describe ethnic minority people if the terms used are used with good intent. The term “people of colour” was mentioned as one that participants specifically disliked. Overall, participants expressed a preference for the term “ethnic minority”. The view was expressed that sometimes it is preferable that people use general, collective terms instead of wrongly labelling people.

It was noted that it is important to recognise that people can have a variety of ethnic and cultural backgrounds, e.g. Kenyan or Ugandan Indian, Sudanese American. How should someone from Kenya of Indian descent describe their ethnicity? British Indian or Other Asian? Mixed race people often prefer the broad descriptive terms:

“I don't want to give people my whole life history when people ask where are you from? What's your ethnicity? I say BAME. In fact, I'm all of these.”

Participants did understand why data on ethnic minority people might need to be grouped for analysis, they felt that it is also important that it is understood that there isn't a single experience and that different minorities have different experiences. It is important to collect detailed data even though collective terms might have to be used when reporting. Standard UK lists generally do not include Latin American or Latino; many people with Far East ethnicities may not want to describe themselves as Chinese, e.g. terms like Filipino and Pacific Islander might be considered. It would be a good idea to include more ethnicities in lists, especially in environments like universities.

3.2 Experiences of ethnic minority respondents including discrimination and racism

The first section of the survey contained questions only for those respondents who self-identified as ethnic minority.

The data suggest that only around a third of ethnic minority survey respondents were confident that their ethnicity would not affect their career progression in chemistry. Only one respondent believed that racial bias adversely affected their assessments. However, 46% of respondents agreed or strongly agreed (31% disagreed or strongly disagreed) that as ethnic minority individuals, their career progression in chemistry will be adversely affected.

Ethnic minority UGs felt they were less likely to be treated differently in the chemistry department than in some environments outside the university in the City of York. Within the chemistry department, 77% of ethnic minority respondents did not think people treated them differently because of their ethnicity, while 8% believed that they are treated differently. Just under a third of ethnic minority respondents believed that they are treated differently elsewhere in some environments in the broader university due to their ethnicity, with 46% believing that they are treated differently elsewhere in York.

No males reported experiencing racism in the chemistry department, elsewhere in the university, or in York but small proportions of female respondents reported that they had experienced racism. For females, as with the pattern observed for respondents' perceptions of whether they are treated differently because of their ethnicity, a higher proportion of respondents reported experiencing racism outside the university than in some locations within the university. The lowest proportion reporting having experienced racism within the chemistry department. Specifically,

- 89% of female respondents had not experienced racism in the department, but two reported that they had, one within the last 12 months and one more than 12 months ago.
- Two thirds of females reported that they had not experienced racism in the university outside the chemistry department, but 12% reported that they had within the last 12 months, 12% more than 12 months ago, and one both within the last 12 months and more than 12 months ago.
- 39% of females reported that they had experienced racism elsewhere in York within the last 12 months, and 11% within the last 12 months and more than 12 months ago.

81% of respondents reported that they had not experienced racism online but 17% of female ethnic minority respondents reported that they had experienced racism within the last 12 months, and one male reported that he had experienced racism online more than 12 months ago.

Considering feedback from the discussion groups, anecdotally overt racism in York and/or the university/department is rare. However, some participants did comment that York is very White.

Within the university, none of the Home PGR discussion group participants felt that there had ever been any prejudice towards them. However, some issues were raised by the overseas PGR students. One participant spoke about people imitating accents.

“You can challenge these behaviours and people will apologise and then something else happens like suggestions that because people are ethnic minority individuals, they don’t burn in the sun.”

In a similar vein, sometimes people comment if you don’t understand a certain phrase that maybe you should have learnt that in school. It was suggested that perhaps these incidents are due to cultural ignorance rather than overt racism. Another participant had worked for the university helping staff complete an online survey. Members of the group reacted negatively when they learnt that the participant was probably going to stay in the UK when she completed her PhD.

Participants did point out that unless someone says something racist, you don’t really know whether treatment is because of your ethnicity. When certain situations do occur, although it could be based on race, it could be something entirely different. It could be argued that most of the incidents that overseas PGRs reported were more akin to people being anti-immigrant rather than overtly racist, although one cannot know what individuals’ motivations are for discriminatory comments.

UG discussion group participants reported a small number of incidents outside the university: very occasionally someone or a group of young people might say something perceived as racist. One incident was mentioned involving a group of children who had come onto campus and had told a focus-group participant “to go back home”. Another participant reported that in the city, they had experienced children calling out insults relating to Chinese nationality. (Note: This occurred at the time of the pandemic).

More generally:

*“I think you get treated like a tourist in the city that you live in. But that's like my lived experience for my whole life. It's the same in ****. Being treated like you don't live there. Unless you've experienced it, you can't really tell someone that the way that people treat you is different if they don't think you're from that place. I think it's the same in York.”*

“There are feelings you get sometimes when you are the only ethnic minority person that perhaps you aren’t being treated the same.”

Some UG participants reported that they are aware of some (White) men who seemed to fetishise “exotic” women. This is something that some participants reported being aware of, especially on nights out in York. The feeling was that some men make assumptions about ethnic minority women. Often comments will be alcohol induced, but the ideas must always be present. To some extent participants learn to ignore comments.

Participants did report that outside the City of York there are pubs where everybody stares if you enter as an ethnic minority person, or there are other social situations such as entering a block of flats where sometime the more elderly (male) residents pointedly don’t speak to someone who is not White.

Some participants felt that although they had not experienced explicit racism in York, they felt that sometimes people’s behaviours were different towards them because they are Black.

“You can’t change people’s body language and you can’t also change the silence when you ask questions.”

“You can’t change the ways in which people think.”

“You do sometimes notice behaviours of individuals which are different toward you as a Black person. Some of these behaviours might be unconscious but they might also be conscious.”

Microaggressions are experienced. Participants reported that they are more likely to happen outside than inside the university. Microaggressions are mainly along the lines of people asking participants where they are from. The consensus was that if people are genuinely interested in participants' ethnic origins, then it is fine to ask about that directly but often people don't really know how to broach the subject.

It is worth noting that some discussion group participants did emphasise that they had been made to feel welcome in the university and that outside the university they enjoyed talking to people about their culture and did not mind if people asked them about their background. An Indian participant said that she often got complimentary comments when wearing Indian dress.

Survey respondents were asked about initiatives they might like specifically for ethnic minority people. Responses were mixed with 31% of respondents saying they would like university mentoring schemes and 46% responding that they would not. 38% responded positively and 35% negatively to the idea of peer support groups. There was some interest in schemes to support ethnic minority students, but a sizable proportion of respondents did not want such schemes or responded that they did not know. It is possible that many of those responding “Don't know” would want more details of schemes before making a definitive response.

UG survey respondents were also asked how they felt their experiences of university differed from their experiences of secondary school. Responses are likely to be affected by how the ethnic diversity of respondents' secondary schools compare to the ethnic diversity of the chemistry department and the University of York.

- 31% of respondents agreed and 43% disagreed there is more bias against ethnic minority people at university than school.
- 23% of respondents agreed and 58% disagreed that they felt more isolated as an ethnic minority person at university.
- 46% agreed and 27% disagreed that they felt more a member of a community at university.
- 44% agreed and 12% disagreed that they felt more conspicuous as an ethnic minority person at university than at secondary school.

The responses suggest that most ethnic minority UGs don't feel isolated and do feel part of a community although a significant proportion of respondents felt more conspicuous as ethnic minority people at university than at their secondary school. Responses were mixed regarding whether there was more bias against ethnic minority people at university compared to school with some respondents feeling that there is bias against ethnic minority people.

On reflection, we note that it would have been useful to directly ask participants about how the ethnic diversity in the University of York compared to their secondary schools, and to the areas they grew up in to give context to the survey responses.

3.3 Main reasons students choose their courses

Survey respondents were asked to select the main reasons why they chose to undertake their course of study. The most popular reason, selected by about three quarters of White and ethnic minority, and female and male, respondents was “*Out of interest and enthusiasm for chemistry*”. Generally, most science students at all levels report that they choose their courses out of interest and enthusiasm

for their subject/science. The second and third most popular reasons were “*I have an aptitude for chemistry*” and “*I was inspired/encouraged by a teacher*”.

There are no clear differences between different groups although females were more likely than males to choose “*I was inspired/encouraged by a teacher*”. The data also suggest that, notwithstanding the relatively small number of ethnic minority respondents, there are no differences in the main reasons White and ethnic minority students chose to study chemistry.

3.4 Choosing to study Chemistry in York

Discussion group participants were asked why they chose to study chemistry in York. When considering the reasons why ethnic minority students choose to study in York, it is notable that the students who do choose to come to York state that they were not concerned about attending a university with low ethnic minority representation. In York chemistry, most UG ethnic minority students are UK-domiciled, whilst at doctoral level, most ethnic minority students are overseas domiciled.

For UGs, parents valued education and were happy that their children wanted to go to university. All the UGs wanted to do chemistry although a few of the students did say that there had been conversations about studying medicine.

UG discussion group participants said that league tables and whether institutions were in the Russell Group played a key role in their choice of universities. Some schools pushed pupils to apply to Russell Group universities and participants themselves believed that Russell Group universities were better. Some of the UGs also suggested that studying for an MChem might be better at a Russell Group university, since such universities are research-focused.

A key factor in choosing York was that those UG applicants who had visited York and/or attended an Open Day had a positive experience: they felt that the university was welcoming and they liked York. Some of the UGs said that they felt that York was friendlier than other universities based on their experiences visiting friends or brothers/sisters in other universities. Follow up after receiving offers was another factor that distinguished York from other institutions: this practice has a positive effect on applicants. Mailings sent by the department were also personalised:

“The Chemistry Department acted like it really wanted me here. Out of all the other universities, I think they do that really well. They replied really fast and they had these golden tickets that said, “Congratulations on getting an offer.””

Diversity was not a key consideration for the UGs or PGRs. Most of the UGs said that they expected York and the university to lack ethnic diversity. Participants said that they were not surprised that the academic staff were generally White. It was stated that the fact that York is in the Russell Group and in North Yorkshire had led them to expect that most staff would be White. One or two UG participants said they thought that the university might be more ethnically diverse than the City, even though they knew York was relatively White.

UG participants were aware that they might be in a minority in coming to a university like York. Some participants reported that ethnic minority friends or relatives from home had on the whole gone to university in more diverse places. In fact, one participant said her friends seemed surprised when she said she was going to York – it was seen as unexpected when an ethnic minority person decided to go to York.

An UG discussion group participant reported that due to the low ethnic minority representation she did not meet a single Indian person during her first year, which was online because of the pandemic.

All her tutor group peers were White and there weren't any other Indian people in her accommodation block.

While acknowledging that ethnic diversity was not a significant factor in choosing to study in York, the UGs did feel that it would be nice if there was more ethnic diversity. In one case this was because they came from an area lacking ethnic diversity:

“Coming from like a really White area I was thinking that it'd be nice to mix with people of different races.”

For overseas PGRs, the focus for them in choosing York was on the research topics and availability of funding. The diversity of York, or of the university, was not a major factor.

It was reported by participants that York lacks facilities for some ethnic minority people. The UGs noted that York lacked places of worship for Sikhs and Hindus (although there is a Mosque in York): one participant had discussed this with her parents but they had decided that this was not a major issue; one participant had assumed that there would be a Hindu temple and then discovered that there was not one. It is possible that the lack of Sikh or Hindu temples may put off some ethnic minority students from studying in York.

Although some ethnic minority people are not religious and so may not have the need to attend a temple to pray, they might still miss festivals which have a cultural as well as a religious significance. The lack of minority culture can add to the isolation some ethnic minority people might feel.

A similar issue is that York lacks specialist hairdressers for Afro Caribbean people. One of the PGRs had found a couple individual barbers who cut Afro Caribbean hair, otherwise he would have had to travel to Leeds. In this case, the lack of barbers would not have deterred him from studying at York, but it is possible that some Afro Caribbean students would be.

There is an international food store in York so that ethnic minority people can buy food stuffs but it was noted that the prices were high.

It should be noted that of the seven home UGs who attended the discussion sessions, only two lived in Metropolitan areas; some reported they lived in predominately White areas and attended predominantly White schools. It is possible that a significant proportion of the ethnic minority UG students who come to the University of York are from areas with low ethnic diversity and therefore are less worried about being in a small minority of ethnic minority people.

In summary, the reputation of the University of York and the chemistry department - as evidenced through league table and because York is a member of the Russell Group - are the main factors in determining why ethnic minority UGs choose to apply. The relatively low ethnic diversity and lack of facilities for ethnic minority people are not deciding factors for the ethnic minority students who do attend York, but they may be factors that put off some potential ethnic minority applicants. Home PGR students are also not concerned by the low ethnic diversity, and overseas PGR students were more focused on research and funding than the ethnic diversity of York.

3.5 Awareness of careers options and skills

Respondents were asked how they rated their awareness of career options when they finish their course. Awareness of career options is rated higher as year of study increases with around 60% of third and fourth year students rating their awareness as very good or good compared to about 40% of first and second year students. Relatively small proportions of students rated their awareness as poor or very poor. It is difficult to draw firm conclusions about the career options awareness of ethnic minority respondents compared to White respondents given the relatively low numbers. However,

there was evidence that Home domiciled ethnic minority students rated their awareness of career options lower than Home domiciled White students.

As year of study increases, an increasing proportion of Home domiciled respondents believe they possess most general skills that employers often look for with no overall differences between Home ethnic minority and White respondents. An increasing proportion of Home domiciled respondents believe they possess most technical skills that employers often look for as their course progresses. Indeed, 100% of 4th year students believed they possessed the technical skills that employers seek.

3.6 Career intentions

19 out of 193 UG survey respondents reported that they had already accepted a job offer/ been accepted on a programme of further study or training following their current course. Of those 19, 12 had accepted roles as scientists or a place on a masters or doctoral programme, while four had accepted places on teacher training courses.

Respondents who had not already accepted a role or training place were asked to select up to four options from a list of roles and study/training options that they are likely to consider after their degrees. The two most popular options selected were *Scientist: industry/commerce* and *Research leading to a Masters or Doctorate* with 69% and 55% of respondents selecting these options, respectively. 32% of respondents selected *Scientist: Government/Civil Service/Public sector*. The top three options were selected in the same order by all ethnic groups. (Ethnic minority and male respondents were more likely to select *Scientist: industry/commerce* than the other groups.)

Respondents were also asked to select the one role or training option that they are most likely to undertake at the conclusion of their degree. *Research leading to a Masters or Doctorate* was the most popular choice with 34% selecting this option, followed by *Scientist: industry/commerce (including start ups)*, selected by 27%. No other specific option was selected by more than 4% of respondents, although 19% did indicate that they did not know what they were most likely to be doing. In contrast to the other groups, 50% of ethnic minority respondents selected *Scientist: industry/commerce* and 17% *Research leading to a Masters or Doctorate*.

Numbers surveyed are low, but our data suggest that that ethnic minority respondents have different career intentions to White respondents with the data indicating that they believe they are more likely to take a role as a scientist in industry and less likely to undertake postgraduate research in university.

3.7 Effects of ethnicity on career ambitions

All the UG discussion group participants planned to stay in chemistry or in areas associated with science either in industry/commerce, in science communication or in teaching, although they were not clear specifically what they would do.

Setting aside other considerations, all UG participants agreed that they would choose to work in a diverse workplace. It would make them feel more comfortable, less of an outlier. If there are more ethnic minority people, they felt that it would be easier to have an open discussion about ethnicity, whereas if you enter a workplace where the majority are White, the organisation might not have even thought about ethnic diversity.

The degree to which diversity was affecting UGs' thinking did vary. One participant said that she would expect industry/commerce to lack (ethnic) diversity so that was not affecting her thinking, and some others were not specifically thinking about diversity given that the job market is competitive. Some participants had looked at the diversity of companies that they had applied to for placements. Most participants did not want to work for an organisation that was not diverse. Participants also did not

want to feel that they had benefitted from any positive discrimination, especially those who were ethnic minority women.

Among the Home PGRs discussion group participants, ethnicity was not a major factor in career decision making. Of more importance were the working practices in academia. There was a view that industry allows you stability and the ability to settle down, while staying in academia means that you are more likely to move around. However, participants felt that a postdoc role may be more interesting than a role in industry.

The situation is more complex for overseas PGRs given that some might return home where different contexts may apply given that some participants are part of an ethnic minority in their home countries. Also, overseas participants' opportunities might be affected by their nationality as this affects the kind of funding that can be applied for and where you can live and work. It was suggested that in the UK, the lack of ethnic minority role models is a problem and makes ethnic minority people question whether they will have to work "three times harder" to make it. One participant talked about feeling that she needs to prove herself to everyone and do a little bit more just so that she can be seen. She felt that this was due to her ethnicity rather than being a woman, although it is possible that both factors play a role.

The PDRAs also felt that their ethnicity was a factor in their career planning. It was pointed out that there are self-imposed limitations in where one can move as some ethnic minority people "*do not want to wind up living where they will be the only ethnic minority person.*" It was also stated that sometimes ethnic minority people may be asked to take on extra duties which might detract from key task of enhancing their CV:

"As an ethnic minority person, you're asked to do a lot of extra things on the side that takes away from your research work. For example, like networking and going to focus groups. Ultimately, what's going to land me a job is things like publications not attending focus groups. That's frustrating, because you must do the work to make the environment a better place for you to work. But that also means that's time you're doing your research."

3.8 Sense of community

Most respondents do feel a sense of community in the York chemistry department, but ethnic minority respondents are generally less positive about this than White respondents, and female respondents are less positive than male respondents.

About three quarters of respondents strongly agreed or agreed that they felt part of a community in the Department of Chemistry, with 8% disagreeing or strongly disagreeing. There were no differences between White and ethnic minority respondents.

Over 50% of respondents believed that the Department of Chemistry creates a supportive environment most of the time. Overall ethnic minority respondents were slightly less positive than other groups.

Most respondents (72%) strongly agreed or agreed that they found it easy to make friends in the Department of Chemistry. Ethnic minority respondents were less positive than other groups with 60% strongly agreeing or agreeing.

There was some variation in the responses to the question about whether respondents felt a sense of community with peers in the Department of Chemistry with ethnic minority and male respondents less likely to select "Most of the time" and "Sometimes" than White and female respondents. Ethnic minority and male respondents were more likely to select "Occasionally".

Interestingly, ethnic minority respondents indicated that they felt more welcome at social events than White respondents. 80% of ethnic minority and 66% of White respondents strongly agreed or agreed that they felt welcome at social events in the Department. Respondents were less positive about feeling welcome at social events in their colleges than in the department, 79% of ethnic minority and 56% of White respondents selecting strongly agree or agree. (Undergraduate students at York are members of a college even when they live off campus.)

When asked if there are people that they can identify with as role models in the Department of Chemistry, 50% of ethnic minority respondents and 74% of White respondents and 67% of females and 77% of males, strongly agreed or agreed. These patterns are perhaps not surprising given that most academic staff are male and White. However, the fact that there are female and ethnic minority academic staff means that most respondents do find there are people they can identify with as illustrated by the relatively small proportions of all groups that disagreed or strongly disagree that there are role models, 9% overall.

3.9 Role models and the chemistry curriculum

50% of ethnic minority and 67% of White survey respondents, and 61% of female and 71% of male respondents, strongly agreed or agreed, that they *have access to role models through the curriculum in the Department of Chemistry*. (20% of ethnic minority and 3% of White respondents, and 7% of female and 4% male respondents, disagreed or strongly disagreed with the statement.)

Around 50% of female, male and White respondents, but only 30% of ethnic minority respondents, strongly agreed or agreed that *Representations of scientists within my discipline reflect my background*.

Ethnic minority respondents were the least likely to feel that they “see” representations of people who look like them in the curriculum to whom they can relate as role models. Although females were less likely than males to agree that they see role models in the curriculum, ethnic minority respondents were notably less likely to agree than females even though most ethnic minority respondents are female. On the other hand, the fact that 50% of ethnic minority respondents strongly agreed or agreed that they *have access to role models through the curriculum in the Department of Chemistry* may suggest that ethnic minority respondents have noticed the work on decolonisation,^{[4],[5]} but may also indicate that those individuals’ think about their identity not just in respect of their ethnicity but also in terms of other aspects such as gender.

Most respondents felt that more work on decolonisation would be beneficial, but ethnic minority respondents were least likely to believe this. 64% of female respondents strongly agree/agree that the curriculum would benefit from decolonisation, compared to 36% of males, and, 53% of White respondents strongly agree/agree compared to 45% of ethnic minority respondents. Patterns of agreement with the statement that *“Examples of the application of scientific ideas and concepts within my discipline focus on those that benefit European or North American countries and cultures”* were again similar, with a ratio of 53% of females and 35% of males selecting strongly agree/agree, and 46% and 40% for White vs ethnic minority respondents, respectively.

UG discussion group participants had noticed that when more historic parts of chemistry are discussed examples are not all western. For example, in Chemistry and Disease, there was a whole topic on Asian and Eastern Medicine. Participants said that it is good that there is a recognition of other races within science rather than it being assumed that it’s all British scientists.

“It’s nice to feel you are included and the history of science is not just White.”

Participants were also aware of the attainment gaps between White and ethnic minority students and suggested that it is possible that ethnic minority people are less likely to ask for help and also, if they are financially less well-off, perhaps they are having to work to make ends meet, while a higher proportion of White students may not need to.

3.10 Equality and fairness and ethnic minority representation in UK chemistry

Only a relatively small proportion of female respondents felt their gender puts them at a disadvantage on their course, but males are more confident than females in their belief that their gender does not put them at a disadvantage. (48% of females disagreed/strongly disagreed that their gender puts them at a disadvantage on their course compared to 78% of males.)

20% of ethnic minority respondents strongly agreed or agreed that their ethnicity puts them at a disadvantage on their course compared to 1% of White respondents, with 60% of ethnic minority respondents disagreeing or strongly disagreeing compared to 86% of White respondents. Although most ethnic minority respondents felt that their ethnicity is not a disadvantage, they were less confident about this than White respondents.

3% of White respondents and 20% of ethnic minority respondents believed there is bias against ethnic minority people in the Department of Chemistry while 53% of White and 40% of ethnic minority respondents believed that there is no bias. A notably higher proportion of White respondents believed there is bias in UK chemistry against ethnic minority people (39%) than in the Department of Chemistry, with 32% of ethnic minority respondents believing the same. Interestingly, 32% of ethnic minority respondents believed that there is no bias against ethnic minority people in UK Chemistry compared to 16% of White respondents. By gender, 44% of female and 27% of male respondents felt that there is bias against ethnic minority people in UK chemistry, and 16% of females and 32% of males believed there is no bias.

Turning to UK Academia, 53% of White and 40% of ethnic minority respondents thought that there is bias against ethnic minority people, and 11% of White and 25% of ethnic minority respondents felt that there is no bias. It is notable that larger proportions of respondents believed there is racial bias in UK academia than in UK chemistry. 60% of female and 40% of male respondents thought that there is bias against ethnic minority people in UK academia.

The data show that while a relatively small proportion of UG respondents believed that there is bias against ethnic minority people in the Department of Chemistry, a much greater proportion believed there is racial bias in UK chemistry, and over half believed there is racial bias in UK Academia. By gender, higher proportions of female respondents believed there is racial bias than male respondents. In fact, higher proportions of female than ethnic minority respondents believed there is racial bias in UK Chemistry and UK academic.

We note that it is unlikely that many UG students have reference points outside the University of York, so it is interesting to consider how survey respondents have come to their conclusions about racial bias in UK chemistry and academia in general. Focus group participants raised the recent RSC publicity that there was just one Black professor in chemistry who the respondents noted brought up in Kenya, and it is apparent that messages about ethnic minority underrepresentation in chemistry have made an impression. In fact, it could be the case that the publicity had made some ethnic minority focus group participants question whether they would successfully progress in chemistry, especially as ethnic minority women.

All discussion group participants knew that there is low ethnic minority representation in UK chemistry academia. The perception was that there is bias in chemistry, especially against Black people.

“What happened to Black people who started in chemistry in the past? There's nothing as good as seeing a face like you. It's very disheartening to learn that in chemistry in the UK there is only one Black professor.”

Participants said that the lack of role models is a problem and makes ethnic minority people question whether they will have to work “*three times harder*” to make it. It was noted that gender representation is also a factor.

“While the UK is much better than some countries in terms of gender, there is just one ethnic minority professor in the chemistry department.”

However, the fact that there was an ethnic minority professor was also seen as positive. A Home PGR student pointed out that the ethnic minority professor does act as a role model who demonstrates that ethnic minority people can make it to the top. Generally, the home PGR students did not feel that the low ethnic minority representation affected them. One participant speculated that because he had grown up experiencing White culture, he does not actually notice the lack of ethnic minority people. It needs to be borne in mind that Home PGR students had already made a decision to continue in academic chemistry, an environment which they knew had low ethnic minority representation. In contrast, some of the PDRA participants speculated that some ethnic minority people might rule themselves out of academia because there are a range of issues that you internalise that might make you decide not to proceed in academia.

There was some discussion among staff of the reasons for the relatively low ethnic minority representation in UK chemistry academia. The question addressed was how much of this situation can be put down to racial bias and how much is it down to academic background? Are any differences experienced down to lower “academic social capital”? Many ethnic minority groups prize education, but overall, British ethnic minority people are more likely to live at home and to go to colleges closer to their home than White British people. This limits ethnic minority people's choice of college, probably making them less likely to go to a Russell Group university. RSC published data shows ethnic minority people are less likely to read chemistry in Russell Group institutions than White people. In other words, White students' greater mobility gives them more opportunities to attend prestigious universities and therefore, probably, to undertake PhDs in such universities, leading to higher “academic social capital”.

Another issue raised was speculation that for PGR students, UK domiciled ethnic minority candidates are less likely to be made an offer than UK domiciled White candidates. (The university of York is involved in work to attract more ethnic minority PGR students.)

61% of survey respondents strongly agreed or agreed that academics in the Department are sensitive to the different needs of different groups of students, however, only 39% of ethnic minority respondents compared to 65% of White respondents fell into this category. 72% of males versus 56% of females strongly agreed or agreed. Overall, only 5% of respondents disagreed or strongly disagreed.

3.11 Bullying and harassment

When asked to react to the statement that the department is making a considered effort to educate staff and students about what constitutes bullying and harassment, 39% strongly agreed/ agreed. A higher proportion of ethnic minority respondents strongly agreed/agreed than other groups. 15% of respondents disagreed or strongly disagreed.

7% of respondents overall reported that they had witnessed behaviour towards others that they consider to be bullying/harassment. There were no differences between groups.

Four female survey respondents reported that they had been treated unfairly in the department specifically due to their gender, and four female and two male respondents reported that they had seen someone be treated unfairly specifically due to their gender in the department. Nobody reported having been treated unfairly in the department specifically because of their ethnicity, and three females, one male and one person who preferred not to record their gender reported that they had seen someone be treated unfairly specifically due to their ethnicity in the department. One of these witnesses was an ethnic minority individual.

Respondents were asked whether they had been subjected to behaviour that they considered to be bullying or harassment. Overall, 6% of respondents answered, "Yes", with 17% of ethnic minority and 4% of White respondents. Only two out of the eight respondents who had experienced bullying or harassment had reported the incidents and out of the two, one reported that they were satisfied that their report was dealt with effectively / sensitively.

Although only two out of eight respondents who had experienced bullying or harassment had reported the incidents, most respondents, 71%, strongly agreed or agreed that they were confident that they could report bullying or harassment without it having a negative impact on themselves or others. Only 5% overall indicated that they disagreed with the statement: 18% of ethnic minority respondents disagreed. Although based on small numbers, the data suggests that while in theory respondents feel confident that they would report incidents, there is a difference in attitude when bullying or harassment is directly experienced.

Respondents who reported they had experienced bullying or harassment but had not reported the incidents were invited to explain why. In one case the respondent felt reporting bullying would make the situation worse, and in another case, the respondent reported that impartial advice from their College and the University mental health team was reported as not being supportive.

In summary, very few respondents have experienced or witnessed unfair treatment due to gender or ethnicity, or have witnessed bullying/harassment. Around 40% of respondents believe that the department is making a considered effort to educate staff and students about what constitutes bullying and harassment, and around half the respondents were neutral in their views.

Discussion group participants said that they were confident they would be able to find how to report racist incidents. There are posters in the toilets explaining how to report. Participants didn't know whether reports would be followed up but assumed any process would take a long time. Participants were unlikely to report minor issues but agreed there are red lines which if crossed would cause them to report an incident. Some participants suggested that they would be less likely to report racist incidents involving students than staff. 80% of UG survey respondents would be comfortable reporting race-related incidents and around 70% of respondents are confident that action would be taken. However, in both cases ethnic minority respondents were less confident than other groups.

3.12 Issues faced by overseas students and staff

Some issues raised by discussion group participants, in particular by overseas PGRs, were essentially about adapting to British culture. Many participants spoke about how their identities are shaped by their ethnicity and where they had lived/been brought up. Participants' feelings differed in respect of how much pressure individuals feel to conform.

"There is pressure to fit in and to know things, even though overseas people have different experiences having spent their formative years in other countries with their own culture."

Some overseas people feel isolated although feelings of isolation do vary from person to person. The chemistry department provides new PhD students with mentors which helps them settle in.

Anecdotally, the mentors are often well matched to the incoming PGR students, for example, they often have the same nationality. The isolation is sometimes because overseas students and staff know few people because people from outside the UK will have smaller networks of friends. In other words, the isolation is not due to PGRs' ethnic backgrounds. International students might also feel isolated at holiday times, especially around Christmas. (The university does offer some activities around Christmas and Easter for international students.)

It was reported that people from different cultures can be misunderstood. Behaviours can be misunderstood because they are different to UK norms. This might make individuals more hesitant to include themselves.

The department does have good support and there are good people that you can talk to, but people from some different cultures are not brought up to raise issues so they might end up burying issues:

“they might wake up with tears but come to the department smiling.”

There is a need for greater cultural awareness of different people's background: perhaps cultural awareness training is needed for all staff and those who work in research teams - training for the whole community.

Participants also observed that individuals' cultural backgrounds and accents might make a difference to the way people treat you, for example, the difference between a Black person from the USA or from Africa in terms of the way they speak.

Two staff members spoke about how people's attitudes towards them seemed to be shaped by the fact that they are from certain countries rather than because of their ethnicity. An example is that in the UK people just assume that you celebrate Christmas, whereas in their home country, nobody would assume that. In other contexts, people from that country may be stereotyped as being prone to certain behaviours (e.g. be pushy), which might lead to clashes with others. Participants acknowledge that this is not racism but noted that it is challenging when people make assumptions.

Some participants suggested that the department seems to put a lot of emphasis on UK-based ethnic minority students, although for PGRs, the majority are international, ethnic minority students.

“It feels like international students are always forgotten in that whole conversation.”

Another issue that needs consideration is that some international students will face economic barriers: they may have less money than some home students and sometimes their funds will be affected by changes to exchange rates, etc. The cost-of-living differences also affect some international students as the UK is expensive. Sometimes home students don't realise how difficult it can be for some international students.

Visa issues can also affect overseas students. One PGR described how she had faced delays in getting her visa but the department had been very understanding, even though that meant she arrived a few weeks late. Another staff member explained that four short-term contract extensions - which he was grateful for - meant he had to apply for four visas.

Accommodation is another area where overseas staff and students need support. The university scheme whereby overseas staff can be put in touch with host families was praised. The scheme is very helpful as people without a resident's permit can find it very difficult to rent accommodation. More support to help overseas research students find accommodation would be very helpful. Some research students on Marie Curie fellowships are classified as staff and can benefit from the host family scheme. However, there are not similar schemes for overseas research students. Another issue

is that there are accommodation scams which the university warns students about, but it can be difficult to check whether offers of accommodation are genuine. Some supervisors do help by checking that the accommodation is genuine, but a more formal scheme would be helpful. Sometimes mentors help their mentees with accommodation advice.

Another problem is that, as an international student, it can be difficult to find a guarantor who will vouch for you in case you do not pay your rent. There is a university guarantor scheme, but you have to pay and it is expensive moving from abroad and settling down in a new place. Not having a UK bank account can also cause problems. The situation can be worse for those with families because they are likely to want more expensive accommodation.

University accommodation contracts end at the beginning of September, but some programmes run later than September. It can be difficult if someone needs accommodation for a short period of time after September. This is another area where the university could do more to help.

Staff participants wondered whether the university could recognise holidays and festivals of other (non-Christian) cultures/religions better. It would be good to have more flexibility as currently it can be difficult to take time off for festivals like Diwali because the timetable is fixed. A number of other festivals could be recognised and celebrated such as Chinese New Year and Rosh Hashanah. Participants suggested that people who do not celebrate Christmas would generally be happy to work over the Christmas period.

Staff who have family abroad had found it difficult to take long holidays to visit home. It was stated by participants that the university discourages people taking long periods of time off. One participant had been specifically told she could not take three continuous weeks off; another had been discouraged from taking a five-week break and had to cut a planned holiday to three weeks. It was thought that there are no rules limiting the length of holidays, but line managers seem to apply their own "rules." It appears that some line managers do not recognise that international staff need to spend extended time with their families overseas and they would appreciate being allowed to take relatively long periods of holiday. Universities are communities of people from all round the world. International staff do not any take more holiday, but international staff need more understanding that their needs are different.

3.13 Attracting more ethnic minority students to York and the chemistry department

The consensus among discussion group participants is that there is little the University of York and the chemistry department is doing to put ethnic minority people off. Because ethnic minority students are more likely to study near home than White students, and because there is an uneven distribution of ethnic minority people in the UK, there are some universities with low ethnic minority participation rates, and York is one of these. The factors affecting ethnic minority students' choices are for the most part outside the control of the university. It is very difficult to go out and explicitly tell ethnic minority people to come to York. For example, posters/images showing lots of ethnic minority people are not useful as people know York is not very diverse.

If friends and relatives of a potential ethnic minority applicant are telling them not to go to York, there probably is not much that York can do differently. It was suggested that there are pressures on ethnic minority young people, particularly in the Indian and Pakistani communities, to go to Manchester, Birmingham, Nottingham or London universities based on their parents' ideas of what is good for them. Parents are probably more comfortable given that there is more diversity in those cities. The fact that York does not have a Sikh or Hindu temple might be an issue for some people, especially if their families are religious.

As the City of York becomes more diverse, the University will become more inviting for ethnic minority students. Participants speculated that third generation immigrant children would be more likely to go to universities like York. Currently, a lot of ethnic minority students are second generation and are influenced by their parents. These students are more British culturally, and their children are less likely to be bound by the cultural values of first-generation immigrants, their grandparents.

There were some suggestions of things that the university could do in the short term. Decolonisation of the curriculum is a good start; it is appreciated by UGs. Also, if there were more ethnic minority staff it would be easier to attract ethnic minority students.

Currently York makes more effort than a number of other universities which is well received. The open days are well regarded, the university is friendly and the personalised responses are welcome.

The university could make more of other cultures' festivals and celebrations like Diwali. These celebrations are cultural as well as religious, and highlighting them more might help attract students with more diverse background. The university would need to use social media to publicise what they do. Similarly, having an Eid celebration would make York more attractive to Muslim potential students.

The university could make more of Black History month; publicise events more, have higher profile events. The fact that the university has recently appointed a new Black, female chancellor could also be publicised more.

The university does have Black Access programmes - there are specific initiatives in the university to improve Black Access although there's nothing specific for chemistry.

3.14 Equality and diversity in the Department of Chemistry

Overall, 84% of respondents strongly agreed or agreed that the department is doing a good job at promoting equality, diversity and inclusion (only 1% disagreed). Males showed a higher level of agreement than females, and White respondents a higher level of agreement than ethnic minority respondents.

6% of respondents reported that they had a very good awareness of Athena Swan, 37% that they had a good awareness, 33% a poor awareness and 24% that they had a very poor awareness. There are variations in awareness by group with ethnic minority respondents reporting the poorest awareness and White respondents the best. Females reported better awareness than males.

Respondents were asked a series of questions about whether they thought the balance in respect of specific protected characteristics of the department's EDI work is about right. In all areas most respondents who expressed an opinion felt that the balance of work in the department in specific areas of equality work was about right. The one area that might need some attention was race where 71% of ethnic minority respondents who expressed an opinion felt the balance was too low, albeit very few ethnic minority respondents did express an opinion. In all areas though, around a third of respondents said that they did not know if the balance of work was about right, which does suggest that more work that could be done to raise the profile of EDI work in the department to students.

4 Things that could be done by the department and/or the university to help ethnic minority people

UG and Home PGR student discussion group participants said that they do not want any additional support that singles them out because of their ethnic backgrounds. Home PGRs did note that it is good that the department is doing things to support ethnic minority people, but the impression is that there is not a big problem to address. The idea of support being there for people who need it is good and reassuring.

Specific suggestions of things that could be done to support ethnic minority people are as follows:

Mentoring

- Mentors generally are in touch with their mentees before they arrive, but the mentee has to contact the mentor first. It is not clear why this is: could the mentor contact the mentee if they wanted to? Some overseas students may feel reticent about making first contact.
- To allow better matching between mentors and mentees, could mentors be selected from a wider pool than their research group to allow better matching?
- It would help PDRAs if they had a faculty member as a mentor. That would mean that a PDRA could talk to somebody else in the department who does different work and the PDRA would have the chance to bounce ideas off them.
- A specific mentoring programme for Black people would have value as there are so few Black people in chemistry. The mentoring would need to be directive: mentoring that guides people and enables them to do the right things to progress their academic careers.

Training

- Refresher training such as Equality and Diversity training would be sensible. For example, demonstrators are given E&D training but that is not refreshed, and people don't always remember what they are told years earlier.
- Cultural awareness training for all would be valuable.

Networks, events and support

- Rather than having events for just non-UK students, it would be better if the events were open to everyone and they were hosted by the non-UK students. Most people who attend might still be from overseas, but it is important that events are not closed to others.
- The university could ensure that there is an operational ethnic minority staff network.
- There could be a university-wide social network or onboarding programme for ethnic minority postdocs and PhDs so that you can get to meet other people who look like you.
- Although there is an International Student Support Team in the university, having something similar in the department would be good.
- Specific funding for ethnic minority/Black researchers would be valuable. A fellowship for early career Black researchers is needed albeit there was recognition that UK laws about positive discrimination may not allow such a program.
- It would be a good idea to pay people for the time served on panels, giving talks, planning workshops, etc. Some volunteer/activist organisations do this, and individuals are struggling for funds more than departments.

Academic staff

- UG participants thought that it would be nice to see more members of staff from ethnic minorities.
- When hiring faculty, it is important to make sure that they have a genuine interest in mentoring the next generation of scientists.

Holidays and festivals

- Have university celebrations for non-Christian festivals.
- Make provision for staff to take time off to celebrate their religious/cultural festivals.
- Make clear the rules for the length of time that staff can take off for a specific holiday. Recognise that international staff's needs can be different such that staff with families abroad often want to take more than two or three weeks off to visit them.

EDI

- Ensure that there is follow through on discussions at the EDI Committee. Ensure that opportunities are given for all those individuals who are willing to be involved in taking forward actions to be involved.
- The department could do more to publicise how to raise race-related issues and explain more clearly the process, such as how long it is likely to take for anything to happen. The posters that are displayed concern harassment in general and wellbeing, but not racism specifically. As well as publicising these services through posters, include details in the induction and also remind students through an email at the beginning of each year.

Supplementary Material

The supplementary material provides the full survey that was taken by the students who participated in this study and a summary of the student survey results.

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Author Contributions

Conceptualization, C.E.H.D. and L.J.C.; methodology, S.M. and L.J.C.; investigation, S.M. and L.J.C.; formal analysis, S.M.; resources, C.E.H.D.; data curation, L.J.C. and S.M.; writing-original draft preparation, S.M.; writing-review and editing, C.E.H.D., L.J.C. and S.M. All authors have read and agreed to the published manuscript.

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