



“I used their criticisms as my weapon to succeed” Experiences in the dual learning environment of Black, Asian, and ethnically diverse therapeutic radiographer undergraduate students – results of a UK survey

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ABSTRACT

Introduction: Student experience impacts outcomes in Higher Education (HE) and has become a focus of interest in ethnicity awarding gap research. The awarding gap is attributed to a range of factors, many of which occur as a result of institutionalised racism. Limited data is available on the experiences of ethnically diverse allied health professionals' students and none in therapeutic radiography (TR).

Methods: An online survey featuring quantitative and open-ended questions was sent to fourteen universities as phase 1 of a sequential explanatory mixed methods study. The survey was developed from student collaboration and the evidence base, exploring the experiences of university and clinical placement in radiotherapy undergraduate programmes. Themes of “university and clinical placement learning,” “drivers of success and pressure” “racism and microaggressions” and “perceptions of the profession” were examined.

Results: Forty-three responses were received from students recruited via purposive sampling and self-identifying as belonging to an ethnically diverse background. Positive experiences of university and clinical placements were seen but a lower sense of belonging was reported within clinical placement. Sources of support were identified in lecturers, peers, and family. In contrast, family was also identified as a source of pressure. Incidents of racism and microaggressions were reported in clinical and university learning environments, but more frequently seen in the placement setting, and attributed to come from both radiographers and patients.

Conclusion: This study indicates that whilst there were frequent positive aspects of university and clinical placement, racialised incidents occurred, impacting the student experience. Clinical placement providers should focus on enhancing belonging, with academic staff supporting radiographers in inclusive teaching practices.

Implications for practice: All involved in radiography education must act as allies in calling out incivility, racism, and microaggressions, to support and enhance student experience.

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Introduction

High levels of student engagement influence successful outcomes in Higher Education Institutions (HEIs)^{1–3} with the historical concept of ‘retaining’ students shifting from explaining

discontinuation as some sort of ‘lack’ in the student to asking what the institution actively does to create an environment conducive to a sense of belonging and positive learning experiences⁴.

Entry to HEIs has steadily increased over the last 30 years, and since 2007 students from Black, Asian, and ethnically diverse backgrounds enter university at higher levels than white students.⁵ The student experience of ethnically minoritised groups has been pulled into sharp focus, in light of disparities in final degree

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classifications, evidenced by longstanding data indicating there is an ethnicity awarding gap.⁶ In the UK, students from Black, Asian, and ethnically diverse backgrounds have an 8.8 % reduction in the likelihood of being awarded a 'good' degree (2.1 or higher) in comparison to students from white backgrounds.⁷ This has reduced from the UK average of 13 % seen in previous years.⁸ The awarding gap occurs independently of entry qualification or factors such as gender, age, or socio-economic descriptors^{8,9} a picture replicated in several Western countries including the US, Australia, and some European HEIs.¹⁰

Explanations for the awarding gap in HEIs have focused on student experience with the development of inclusive curriculums, highlighting ethnically diverse narratives, and working with students in developing initiatives to decolonise and recognise the impact of race and racism in universities. However, there is a paucity of research on the awarding gap in health-related programmes¹¹ where students are required to navigate the dual learning environments of the university and clinical placement sites, with most data derived from programmes delivered in the academic setting. Learning in two environments with two sets of 'hidden curriculum'¹² is challenging for many students, however, evidence indicates that there are barriers experienced by students from ethnically diverse backgrounds that are not present for those of white ethnicity, such as being 'othered', a lack of clinical role models and cultural expectations.¹³

The study aimed to:

- Explore the experiences of students from Black, Asian, and ethnically diverse backgrounds in both the placement and university learning environments in radiotherapy undergraduate programmes.

Objectives for the phase one survey were to:

- Identify the nature and impact of the learning experiences students are encountering in the academic and clinical placement setting.
- Identify factors that students perceive impact success.
- Explore how learning experiences influenced student perceptions of the profession and future career aspirations.

Methods

Design and collaborative production of the survey tool

A UK online survey was conducted as phase 1 of a sequential explanatory mixed methods study to identify areas for exploration in subsequent qualitative phases. A combination of quantitative and open-ended qualitative questions was developed from relevant literature and questions generated in collaboration with student volunteers during a 90-min workshop.¹⁴ A pre-validated tool was not used as working with students was essential to ensure the questions posed were credible and centralised under-represented student voices within the research. This was also important due to the researcher's positionality as a white lecturer. A combination of quantitative and open-ended questions explored the research aims with several student-generated questions included without rewording. Questions spanned a range of topics including placement and university experience, sources of success and pressure, the prevalence of racism and microaggressions, and perceptions of their future as a therapeutic radiographer. A student stakeholder group provided feedback on the definitive version with a small-scale pilot conducted before recruitment commenced.

Ethics approval

Ethics approval was sought and approved by the ethical review panel at the University of Hertfordshire (protocol: HSK/SF/UH/05310). HEIs were invited to ask questions regarding any aspect of the study, including the ethics review, before sharing with their student cohorts. Students who chose to take part were informed by a participant information sheet at the start of the survey of the aims of the research, and how their data would be stored and analysed, before electronically confirming their consent to proceed. The online survey platform JISC was utilised for collecting and analysing the data which was subsequently stored on a password-protected, cloud-based system.

Recruitment and inclusion criteria

Survey details were emailed to programme leaders of TR undergraduate programs at the fourteen institutions in the UK, requesting promotion to their students. Promotion also took place through personal social media accounts and radiotherapy education networks. Inclusion criteria asked for students to self-identify as coming from a Black, Asian, or other ethnically diverse background (which they defined) and to be enrolled on an undergraduate course which upon completion, conferred registration as a TR with the HCPC.

Data analysis

A descriptive analysis of the demographic data and quantitative responses was carried out, with open-coded thematic analysis employed through NVivo12 for the qualitative responses.

Results

Demographic data

Forty-three responses were collected between June 2023 and February 2024 with thirty-five included in the final analysis. Eight cases were excluded from the dataset for not meeting the inclusion criteria of engaging in a current radiotherapy program. Two students completed the survey twice with their qualitative comments captured in one record to ensure their insights were not lost but excluded from the descriptive analysis.

Student participants were majority female (74.3 % female, N26, 25.7 % male N9) with 88.6 % aged 18–29 years old (N31), and most were in their final year of study (45.7 %, N16). A range of ethnic backgrounds were represented with most identifying as coming from a Black African or Black British background (40 %, N14) or Asian Pakistani or Pakistani British background (28.6 %, N10). Representation from Chinese, Indian, Arab, and 'other' Asian backgrounds was also seen (see Table 1).

Students took part from eight of the fourteen institutions contacted, across England, Wales, and Scotland, unfortunately, no students responded from Northern Ireland. The majority of responses came from the researcher's institution in the southeast of England (37.1 %, N13), with large radiotherapy programmes in the north (17.1 %, N11) north-west (14.3 %, N5), and Midlands (11.4 %, N4) participating. Lower responses in Scotland (5.7 %, N2) and Wales (2.9 %, N1).

Quantitative results

Belonging, pressure, and prevalence of racism and microaggressions

Results indicated a broadly positive placement and university learning experience with students feeling a greater sense of belonging at their academic institutions (85.7 %, N30) than at their clinical placement sites (57.1 %, N20). When asked if they felt they

Table 1
Summary of student demographics.

Demographic	%	N
Gender		
Male	25.7	9
Female	74.3	26
Age		
18–29	88.6	31
30–39	5.7	2
40–49	5.7	2
Year of study		
1st year	28.6	10
2nd year	20	7
3rd year	45.7	16
Other	5.7	2
Ethnicity		
Black African or Black African British	40	14
Asian – Pakistani or Pakistani British	28.6	10
Asian – Indian or Indian British	8.6	3
Any other Asian background	5.7	2
Arab	5.7	2
Black Caribbean or Black Caribbean British	2.9	1
Asian – Chinese or Chinese British	2.9	1
Mixed or multiple ethnic backgrounds	2.9	1
Self-identify – Mixed Japanese British	2.9	1
Location of higher education institution		
England	91.4	32
North	31.4	11
Midlands	11.4	4
London and southeast	48.6	17
Scotland	5.7	2
Wales	2.9	1

had the support required to achieve a good degree of 2.1 or higher, encouragingly 80 % (N28) felt they had the right support with 17 % (N6) feeling sometimes support was there with only 3 % (N1) stating they did not have the right support.

There was a division of feeling about whether they were taught about supporting ethnically diverse patient groups in the academic setting, 40 % (N14) stated they were, 34 % (N12) responded no, and 26 % selected ‘unsure’ or ‘other’ (N9). 74.3 % (N26) of students felt pressure to succeed at university, qualitative results discussed below explored the reasons for this and the sources of pressure.

The prevalence of racism and microaggressions was measured with exposure to microaggressions seen in both the placement and to a lesser degree the university setting (40 %, N14, 14.3 %, N5 respectively) (see Table 2). Experiences of racism were lower but were more likely to occur in the placement environment with almost a quarter of students experiencing a direct racist act (22.9 %, N8) (see Table 3).

Table 2
Response when students were asked ‘Have you experienced a racial microaggression?’

	University	Placement
Yes	14.3 %	40 %
No	80 %	51.4 %
Not sure	5.7 %	8.6 %

Table 3
Response when students were asked ‘Have you experienced an overt act of racism?’

	University	Placement
Yes	2.9 %	22.9 %
No	97.1 %	77.1 %

When asked whether their student experiences had made them feel more, or less positive about the profession, a resounding 79.4 % (N27) stated they were more positive about becoming a TR. Representation has been recounted in the literature as central to showing career pathways for under-represented groups^{13,7} with the student collaborative group involved in developing the survey questions equally enthusiastic about its implications for students. This was reflected, in asking if seeing someone from a Black, Asian, or ethnically diverse background in a ‘higher role’ (band seven or above) made reaching that role feel more achievable, where 77 % (N27) of students answered “yes”.

The quantitative aspects of the survey identified for the first time in therapeutic radiography, data about the prevalence of racialised experiences for radiotherapy undergraduate students in both the placement and university settings.

Qualitative findings

Student experience of university, pressure, and influencers on success

When asked to describe their learning experience in the university setting, students were largely positive, commenting on the diverse cohorts and helpful demeanour of lecturers:

“I had good experience so far as the university staff are friendly and understanding and helpful”

“The university has a huge diversity in people. I love to see how many cultures or nationalities celebrate their own traditions. My Tutors are all warm and welcoming, which just adds up to a better university experience”

“I came to uni expecting cold and unhelpful lecturers so you can imagine my shock when I met the team, and they were all so lovely and helpful”

The gap between previous learning, concerns around seeking help, and expectations from lecturers was identified as a negative aspect of their experience by some:

“It is much more independent working than high school. Definitely a big change”

“The teaching from stuff (sic) has been great their expectations are higher for 1st-year students”

“Occasionally when I do reach out for help, I don’t feel like I receive a satisfactory answer, but as I don’t like to ask for help, I certainly don’t like saying that the answer has been unhelpful. These dilemmas put me off asking questions”

“Mentally very stressful. I experience very high levels of anxiety and low self-esteem”

The impact on mental health was a theme returned to by some students when asked about whether they felt pressure to succeed at university, with a need to make parents proud and often tied to cultural expectations:

“In the Pakistani culture, it’s kind of a big deal to go to university, getting compared to other children or relatives who have done courses such as medicine or pharmacy ... this really affects the child mentally and puts further pressure on them so they can make their parents happy”

“There is a particular culture in Japan placing great emphasis upon academic excellence which adds more pressure to me which I don’t think affects most other people in my cohort”

Identifying sources of pressure at times intersected with the financial costs of studying at university:

“Parents ... they paid a lot for me to study this course. I don't want to disappoint them”

“From family and myself, a lot of money and hours have gone into my studying”

Exploring the theme of academic achievement students were asked who, or what they felt supported their success with a range of intrinsic and extrinsic factors seen. Lecturers, peers, family members, and internal motivation emerged as key influencers in the eyes of learners:

“Our tutors, if we feel supported it motivates us to study”

“Sometimes feel that lecturers/module assessors have significant leverage over my success because they teach the content and write the assessments. This means that the only source for what we 'need to know' is from them”

“My peers and my tutors are the main people that has an affect on my ability to succeed”

“Myself, since I'm the only person who can truly cause to me fail or succeed during this cause”

Student experiences of clinical placement

When asked about their experience as students on clinical placement, frequent positive learning experiences were recounted where they were well supported, taught by radiographers who were keen to engage with them, and felt staff had an interest in them as individuals.

“It's been the best! I don't think I'd pass my course if I wasn't in the clinical department I was at!”

“My practical educator is really amazing ... she supported us how we could achieve our objectives, asking how are our well-being. senior radiographers are really well-experienced and willing to share their knowledge”

In contrast, the experiences of negative interactions in placements, even if these occurred infrequently, had a significant impact on students:

“A mixed experience with some amazing radiographers who were supportive however unfortunately, the ones that weren't as supportive and put me down is what I remember the most”

Many students in this qualitative question drew on their racialised experiences in the placement site, particularly in their awareness of being in predominantly white environments:

“It has been good; however, I have found 99% of staff or patients are white/Caucasian. Sometimes I feel out of place”

*“Have worked with very few Black radiographers. I only began working with Black patients when I did placement in *redacted* other than that the patient population lacks diversity which affects how easily I can interpret signs and symptoms from POC patients”*

“Surrounded by white people only. But the majority of them have been nice”

Accounts of racism and microaggression - university and clinical placement environment

Students who answered 'yes' to confirm an experience of racism or a microaggression in the quantitative section of the survey were asked to describe the event if they felt able to do so. Concerning responses were shared, detailing incidents of interactions with lecturers, radiographers, and patients, although more accounts were shared from the clinical placement setting.

“The misspelling, mispronunciation and mixing up of ethnic names by lecturers”

“Sometimes patients dwell on the fact that they have never heard my name before or want to know where I'm "FROM from", or staff expect me to have some knowledge of a culture I'm not even part of”

“They're treating students from ethnic minorities terribly ... it should not be like this; how do our lecturers and practice educators expect us to do 35 per week for weeks in a toxic environment like this”

“Indirect remarks and differing treatment compared to what other groups of people are treated like”

Perceptions of the profession

Students reported that experiences in placement had, in general, made them feel enthused about joining the profession and were resoundingly positive about seeing therapeutic radiographers who reflected their ethnicity in senior and advanced practice roles. A sense that placement had confirmed their career choice and a real passion for providing care and enjoyment in working with patients was seen.

“Love my patients, I love making those bonds with them, getting to do that is my favourite thing about being a radiographer and I mean that from the bottom of my heart”

For some, even though their experiences had at times been challenging, they felt this had galvanised them to succeed and to achieve their goal of becoming a TR, resolving to change the profession from within:

“I used their criticisms as my weapon to succeed”

“It makes me want to be the change I want to see in the radiotherapy workforce”

“Have worked in departments where they have 0 ethnic radiographers but instead of that making me feel out of place, it made me want to work there to increase the diversity”

“My whole experience has put me off wanting to become a radiographer, as it just seems like it's a toxic place for people of colour”

Discussion

This research explored the experiences of TR undergraduate students from Black, Asian, and ethnically diverse backgrounds,

with themes identified from analysis of the quantitative and qualitative questions.

High stakes and high expectations

There was a high level of pressure to succeed reported, with one student indicating from their qualitative response that they needed to work “10 times harder than a white person”. This reflects previous evidence that there are pressures and expectations on ethnically diverse students that are not felt in the same way for white students^{11,13,15} and touches on the additional pressures that a student may feel are placed on them because of their racial identity. Further to this theme of unequal pressure, qualitative accounts highlighted feeling the weight of expectation from not only immediate family but also the wider community. Being the first in the family to attend university, mature learners and the high cost of university education were expressed as contributing to the pressure to do well, themes which also find alignment with previous research. Frequent qualitative accounts of feeling that they were the key factor in their success were seen and are again, congruent with the highly reported feelings of pressure to succeed. Lecturers were also seen as an important factor that could impact success.

Lecturers as key influencers on student experience

The centrality that students placed on lecturers in the qualitative data, may be surprising to those in HEIs as university is often considered an adult learning environment concerned with developing independent research skills. This potentially provides an area for consideration in how the gap from post-sixteen learning to degree level is bridged. However, the qualitative data on the university experience showed the impact of lecturers and the relationships that are built are crucial for students. Learning environments where lecturers appreciate and meet a student's need for ‘relatedness’ are supportive of learning, with frequent qualitative comments describing lecturers' characteristics that enhanced the university experience as “lovely and helpful” and “amazing ... so supportive.” This is borne out by evidence suggesting that getting to know students and facilitating the development of inclusive and respectful learning environments is important for ethnically diverse students.¹⁶ Regarding inclusivity in the classroom, the quantitative data suggested this may not always be clear to students with only 40 % of students feeling they were taught about ethnically diverse patient groups. Barriers to developing inclusivity in the classroom have been indicated with lecturers (often predominantly white in HEIs) often lacking confidence in managing conversations about ethnic inequalities^{17,18} which may create barriers for students to raise issues or discuss challenges. This links to the theme of high expectations and high pressure, where some students were reluctant to ask for help from academic staff. In this research, students were largely positive about their university experience, but it is crucial to maintain the focus on cultivating supportive, inclusive environments as students who do not have a positive academic experience are less likely to pursue academic careers¹⁹ further perpetuating the lack of representation of ethnically diverse lecturers in HEI's. This could also impact the choice to progress to postgraduate study, thus limiting representation in advanced clinical roles.

Radiographers as teachers

The placement learning experiences recounted, whilst positive, revealed some concerning incidents with radiographers. Students expect clinical teachers in radiography to offer friendly, respectful, and trustworthy attributes and to be passionate about their

profession,²⁰ traits which were echoed in the positive accounts in the qualitative data. When this was lacking, negative learning experiences were seen. This highlights the challenge of clinical learning for students and the challenges of teaching faced by clinical staff. Radiographers often receive limited or no formal training in teaching and pedagogy²¹ to develop the skills students require for positive learning experiences, or these skills may be sequestered in specialist clinical facilitator roles. Some radiographers may not enjoy clinical teaching²² possibly due to a lack of confidence, large clinical or supervisory workload, and high-pressure environments limiting resources or staff inclination for teaching.²² This is not to excuse or appease unacceptable behaviour and incivility. The impact and strength of the negative experiences seen in the qualitative data often overshadowed other positive placements. The long-lasting influence these can have on the student's learning experience could be detrimental to future learning in clinical placement due to negativity bias²³ where negative experiences can overshadow positive ones, as they are more deeply processed and recalled.²⁴ These experiences also coalesced with the qualitative responses to experiences of overt racism and microaggression.

Racialised experiences in the dual learning environment

Racism and microaggressions exist in society and institutions such as healthcare and education are no exception,^{25,26} as reflected in the quantitative and qualitative findings. Students described a disturbing range of overt racial incidents, microaggressions, and incivility which often left them unsure about the racial motivation behind comments or lack of engagement from staff, primarily seen in the placement setting. That there was uncertainty about whether a microaggression occurred (5.7 % university and 8.6 % placements respectively) speaks to these acts' often insidious and ‘gaslighting’ nature, which can impact physical and psychological well-being.²⁷ Recent communication from professional bodies on supporting students to report incidents of discrimination and calling on radiographers to address discrimination in clinical environments^{28,29} aligns with the findings of this work that there is an issue that needs to be addressed. This is not to say that the university environment is immune as 2.9 % of students reported an overt act of racism and 14.3 % a microaggression. We do not live in a post-racial age and for students engaged in AHP and healthcare degrees, the clinical and university environments are reflections of wider society and a profession that they are being enculturated to throughout their training.

Student experiences as motivation for the future as a therapeutic radiographer

Responses to the qualitative question on perceptions of a future in TR showed a passion and love for helping patients, communicated by some as their motivation for pursuing the course and for their positivity about joining the profession. The high percentage (79.4 %) who felt their student experiences had made them feel more positive about joining the profession, cited patient interactions, being able to build confidence, and making a difference as reasons that placement had reinforced their career choice. Concerningly, the 20.6 % who were feeling negative about their future career expressed concerns about the lack of representation and belonging for ethnically diverse radiographers or working with “obnoxious” people and observing “gossip in the department,” with attrition from radiotherapy courses long being a concern for the future workforce³⁰. Qualitative comments indicated that despite the challenges of placement, it motivated students to succeed with the positive aspects of the role of the student radiographer, outweighing or being protective against the negative aspects. Students

reported being determined to succeed *despite* their experiences, encapsulated in the response – “I used their criticisms as my weapon to succeed.”

Limitations

This survey reflects a small sample size with limited responses received from Wales and Scotland and none from Northern Ireland. This limits the transferability of the findings as being representative of all ethnically diverse TR students. The use of an online platform was challenging in verifying participants or providing guidance on their participation which could be achieved in an in-person survey. A counter to this was the sensitive nature of some of the questions allowed the online method to function as a ‘buffer’ to give students space to anonymously disclose difficult information.³¹ Furthermore, the familiarity of students with using online platforms for their learning and social interactions meant the online platform was highly accessible and students from across the UK were able to easily contribute.

Recommendations and conclusions

This research evidences that whilst broadly positive learning experiences are occurring in university and placement settings, training to be a TR as an ethnically diverse student presents challenges that may not exist for white students. Recommendations from this work include:

- Further support for radiographers from HEI partners in developing and embedding inclusive clinical teaching practices.
- Continuing development of initiatives to foster a sense of belonging for students in their clinical departments and universities
- Clear reinforcement of equality, diversity, and inclusion principles embedded within an antiracist clinical education agenda with signposting to students on how to raise concerns.

More research is needed to further understand the links to attainment and implement change to ensure an equitable learning opportunity for students from Black, Asian, and ethnically diverse backgrounds pursuing a TR career. This is critical to eliminate racist incidents and develop allyship, to support students as the future of our workforce.

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Declaration of interest

No conflicts of interest to declare.

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