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Gender diversity in Therapeutic Radiography: a mixed methods exploration of the gender influences impacting on male students' career choices

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Abstract

Introduction

A significant gender imbalance exists in therapeutic radiography, with male radiographers contributing to less than one fifth of the UK registered workforce. This research aimed to explore male student recruitment experiences to identify gender-sensitive strategies to employ within future recruitment drives.

Methods

An exploratory mixed methods design commenced with therapeutic radiography student focus groups, analysed via descriptive thematic analysis. The focus group themes informed an online questionnaire survey targeting enrolled male therapeutic radiography students in the UK. Both phases explored students' experiences of their career choice and the impact, if any, their gender had on this selection.

Results

Three focus groups (n=9) yielded four major themes: the invisible profession; career choices; gender influences; gender-sensitive approaches. Survey responses (n=38) represented 9 UK institutions, a 25% estimated response rate. Over half (55%) had

little or no awareness of the career at entry, with many discovering the profession 'by accident'. Many had never seen recruitment materials; 40% (n=15) stated they were not designed to appeal to male applicants, with 18% (n=7) suggesting they reflected more stereotypical female traits.

Conclusions

Targeting gender imbalances is always controversial but doing nothing will maintain the status quo and perpetuate an unrepresentative workforce. Earlier awareness-raising of therapeutic radiography is essential, with promotional imagery suitable for different audiences and focusing equally on care and technology. Recruitment language should embrace 'leadership' attributes as well as 'caring' attributes. Supported by male role models, outreach events should emphasise the profession in terms of a sustainable, fulfilling and rewarding career.

Implications for Practice

The findings have provided detailed recommendations on which to focus a specific recruitment and marketing strategy to encourage male applicants to consider a career in therapeutic radiography.

Introduction

In many radiotherapy centres around the world, workforce supply is not meeting current demand. In UK cancer centres, there is a mean therapeutic radiographer vacancy rate of 7%, with three NHS providers in 2019 reporting 20% vacancy rates.¹ Cancer Research UK forecasts an additional 80% growth in radiographer numbers is required by 2027 to cope with projected future demand.² While strategies to increase the numbers of student radiographers in training are evident, the supply of new graduates is tenuous. Many therapeutic radiography programmes are recruiting rather than selecting courses; four UK programme providers declared they had failed to meet annual recruitment targets in the 2018-19 academic year.³ More concerning is that in the same academic year attrition from UK therapeutic radiography programmes was 24.52%.³ National campaigns have been launched to enhance

recruitment and retention strategies for the profession,^{4,5,6} yet many therapeutic radiography programmes continue to experience significant recruitment challenges.

One area that has received little attention in therapeutic radiography recruitment initiatives is gender diversity. This is surprising given that there is an overt gender imbalance, with males making up only 16.8% of the registered UK workforce.⁷ Higher education registrations show similarly low male participation rates ranging from 19.6%⁸ to 24%.⁹ Some insights into male student and practitioner perspectives can be gained from nursing literature,¹⁰⁻¹² and in breast screening there has been recent interest in exploring the role of male radiographers to plug workforce gaps in different international settings.¹³⁻¹⁸ More recently, the Office for Students in the UK commissioned a report to investigate male participation in nursing and allied health professions programmes.⁹ While this report provides some general understanding of gender diversity in higher education, there was limited reference to therapeutic radiography. Gender diversity is of significance within therapeutic radiography, as the sizeable gender imbalance does not reflect the community that it seeks to serve. For example, thirty percent of prostate cancer patients are referred for radiotherapy as their primary treatment modality,² yet these male patients are most likely to be treated by female radiographers. While this reduces the potential for patient choice, a lack of role models may perpetuate the imbalance by deterring potential male applicants from pursuing a therapeutic radiography degree. Attracting more students is crucial in addressing workforce requirements, and male students are potentially an untapped resource. The aim of this research was to explore male student recruitment choices to identify gender-sensitive strategies that could be employed in future evidence-based recruitment drives. The desired impact is ultimately to increase enquiries and applications to therapeutic radiography from male applicants. While this will contribute to achievement of challenging recruitment targets (and therefore workforce supply) it will also, over time, influence a shift towards a more gender representative workforce.

Methods

Two objectives were created to achieve the aim of the study. As a new topic of research with little previous insight into gendered experiences to draw upon, the first

objective was to explore male student recruitment choices at the host institution through an inductive, open questioning qualitative approach (focus group). The qualitative findings then informed the creation of a quantitative data collection tool (survey) which was designed to achieve the second objective to identify whether these findings were applicable to a wider national pool of male students. An exploratory mixed methods research approach was therefore employed [19], combining sequential data collection with a qualitative phase preceding and informing a subsequent quantitative phase. These multiple approaches strengthen the study compared to using a single method [19]. The two phases were analysed separately and then the findings were integrated through a triangulation protocol method [20], which reviewed any agreement (convergence), silence (one phase only), or dissonance (divergence) between findings from the different components to inform the discussion of results. Ethics approval was gained in two stages [Sheffield Hallam University Research Ethics Committee ID ER7469057 (Phase 1) and ER14011832 (Phase 2)] alongside securing gatekeeper access via the UK and Ireland Heads of Radiography Education (HRE) Group.

An invitation to participate in a focus group was extended to all enrolled male therapeutic radiography students at the host institution; interested students were provided with participant information sheets and consent forms. A literature review informed the development of a focus group interview schedule, which explored students' experiences of their career choice and the impact, if any, their gender had on this selection. Topics included: sources of information; preconceptions around working in healthcare environments; influence of role models, prior caring experiences; the attraction of radiotherapy and their experiences of the recruitment process [see Supplementary Materials]. The focus groups, lasting approximately 45 minutes, were facilitated by two radiography academics and they were digitally recorded and professionally transcribed. Facilitators were able to vary the order and wording of questions in the focus group schedule to encourage conversational flow and participation of all members. The focus groups were analysed via a descriptive thematic analysis process²¹, with initial analysis undertaken by two team members separately, and then themes agreed.

The focus group themes subsequently informed the development of an online questionnaire survey targeting enrolled male therapeutic radiography students in the

UK. A range of question types were incorporated (e.g. demographic details, Likert scales and free text responses), covering the following topics: Awareness of Therapeutic Radiography; influence of prior employment; factors influencing career choices; awareness of gender balance; reflections on promotional materials and recommendations for increasing male participation [see Supplementary Materials]. The survey also included six photographic images which respondents were asked to rate the extent to which they might appeal to prospective male and female candidates. The selection of these images was informed by focus group discussions and they were representative of materials from national promotional campaigns. Following piloting in the host institution for ease of use and understanding (no substantial amendments), the survey (hosted on Qualtrics,Provo,UT)²² was distributed via the HRE Group to university professional leads (including providers of pre-registration Therapeutic Radiography). They were requested to distribute the survey link to their cohorts, inviting male students to participate. A follow up email was sent to the HRE group approximately 2 weeks later.

Results

Focus Group Analysis

Nine male therapeutic radiography students from the host institution participated in three focus groups (three 3rd year students, two 2nd year students, and four 1st year students). Four major themes were identified: The invisible profession; career choices; gender influences; gender-sensitive approaches. The themes, sub-themes and examples of participant quotes are shown in Table 1. These themes informed the development of the survey questions.

Survey Results

Thirty-eight therapeutic radiography students completed the survey, including 7 year 1 students (18%), 15 year 2 (39%) and 16 Year 3 (42%). Based on 2019 data supplied to HRE by seven therapeutic radiography education providers (93 male students) and the known proportion of males registered at the host institution, it was estimated that 150 males are currently enrolled on UK pre-registration courses. A response rate of 38/150 (25%) is fairly typical for online surveys which tend to fall

between 20% and 30% [23], estimated to be between 23% [24] and 11% lower than other survey modes [25,26]. Based on this sample, with a 95% confidence level, a 14% margin of error was calculated.

Responses were received from 9 out of 14 institutions known to host therapeutic radiography courses in the UK (Figure 1). Twenty one respondents (55%) identified their ethnic background as White British with the remainder divided (approximately equally) amongst Asian, Black, Mixed, Irish and preferring not to say.

Awareness of Therapeutic Radiography as a career (Figure 2) prior to university registration was poor with 55% of respondents having very little or no awareness. This was explained partially as 9/38 (24%) indicated that Therapeutic Radiography was not their first choice of degree course, or was discovered by accident:

I wanted to do something health related, but had no passion for anything in particular. It was pretty much a random choice.

I did actually apply for the diagnostic course first but was told it was full.

Other reasons highlighted for choosing this career (with proportions of respondents including them in their comments) included:

- A strong science/technological basis (26%)
- A career where patient care aspects were prominent (24%)
- A good mix of technical and patient care aspects (21%)
- Suited to their own personal attributes (18%)
- Development of a previous degree/employment (16%)
- Offered secure employment and good job prospects (16%)
- Personal/family experience of cancer (11%)

Several mature students commented upon previous employment, reflecting upon their qualities and personal attributes which informed subsequent career decisions.

Completed a similar science degree. Applied to NHS scientist training course and discovered radiotherapy as a specialism.

Second career after [armed forces]. Evaluated my skill sets and what the role had: precision, team work, structure and procedural. Primarily the satisfaction of going to work and making a difference to people's life in their most difficult times.

As a former oncology nurse, I thought therapeutic radiography suits me better

Previous NHS Employment as a mental health nurse. I felt therapeutic radiography offered a good balance between technical challenge and contact with patients. The opportunity to build a therapeutic relationship over a course of treatment was a crucial aspect in choosing this profession.

As it was my second degree, I could not have afforded to do the course without the [health bursary] funding. Several of the other male students in my year have said the same.

I wanted to use my BSc Human biology degree to get into medical job... The PgDip course was only 2 years and I could also upgrade it to a masters which I have done

Respondents were asked to rate the extent to which a number of factors (based on the findings of the focus groups) influenced their decision to apply for their course. Table 2 summarises the responses from most important to least important factor. While many of these factors were probably similar to that of female potential applicants, the numbers entering the profession without a clear understanding of the role is concerning.

Respondents were asked what they knew about the gender balance prior to commencing their course. None thought that the workforce was predominantly male and 31 (82%) indicated they thought it was predominantly female, though some were surprised by the imbalance upon commencing the course. Some respondents recognised that knowledge of the gender profile of the profession may discourage some prospective male candidates for a variety of reasons:

I assumed a role like this would be evenly split male/female and was really surprised upon seeing and learning about just how female dominated it is.

Some might not like the thought of working in what is often seen as a 'female job' - it's also often seen by outsiders as a type of nursing

TR is a female dominated profession and some males may feel that they are ... not suited to this job because of this.

Some males feel it is not safe to work in a female dominated environment, one vindictive allegation and your career is over.

Males may be discouraged as the uniforms tend to be feminine. Some RT centres now use scrubs rather than tunics which I feel are more unisex. It may sound like an insignificant point but I do feel that some males would be put off for this reason.

Figure 3 indicates the extent to which respondents believed that promotional materials were designed to appeal to prospective male students. Half of the respondents (50%) were unsure, with 12/38 (32%) explaining that they had never seen promotional materials or weren't aware of them. Eleven (29%) considered that materials were non-gender specific or that there was no issue. However fifteen respondents (40%) stated that promotional materials were not designed to appeal to male applicants, with seven (18%) suggesting the materials had a greater appeal to females as they reflected more stereotypical female traits such as caring interactions. Many respondents were uninformed about images of, or references to,

male radiographers in promotional materials, although 27% stated that inclusion of male radiographers via promotional photographs was insufficient (Figure 4).

I did not see any gender bias in course promotion

I feel that the promotion of the course is not gender biased and that there are more female students/staff in RT naturally which is why it feels biased.

Some of the promotion materials I have observed, predominately featuring females gives impression of female dominancy in the field. Unintentionally it does not invite/appeal to male gender.

Most of the written material seemed fairly gender neutral, but probably more females in photographs

Respondents were asked to rate the extent to which six images, representative of national recruitment campaigns, might appeal to prospective male and female candidates (Table 3). Nine respondents (24%) thought increasing references to male radiographers in promotional materials would influence the number of applications from males significantly, 24 (63%) thought it could lead to some increase and 5 (13%) thought it would make little or no difference. However a few respondents implied that 'pandering to stereotypes' might be unhelpful as a majority of prospective candidates may look to pursue this career for similar reasons to females:

I feel changing promotional material to include more technology/males could have the opposite effect in that there could be less female applicants. It could be seen as a more male dominated profession which would be an inaccurate representation of the current workplace in radiotherapy.

Respondents were invited to suggest strategies that may increase the number of applications to Therapeutic Radiography from male students. Attractions included the balance of caring and technology, job progression and security, making a difference, salary and prospects. However counteracting views were also expressed including restricted decision-making opportunities (protocol driven), limited pay scales, intensity of programmes and limited geographical options for placements and employment. Highlighting the use of 'one-dimensional' language, tending towards words such as compassion and tenderness, respondents commented that good care in this role could also be reflected through use of 'leadership' language seen in promotional materials for paramedics and armed service medics:

Focusing on the qualities/skills that a therapeutic radiographer can develop during their career? A bit like what the army do?

One-dimensional language around 'care' in the broader understanding of AHPs is usually compassion, tenderness, soft-heartedness etc. Care in this role could also use language from paramedics or Army medics such as responsibility, action, life-saving, effective etc.

There was wider recognition that highlighting the technology aspects more strongly could be valuable in recruiting males:

By demonstrating the wider role of a Therapeutic Radiographer would appeal greatly to males especially, the science, physics, research and training.

The science/technology aspects are the most attractive aspects of the career, but this is a bit stereotypical... I'm sure that many males are attracted by the patient contact

For me I have always been interested in carrying out a caring role but what I liked about TR as well was the technical and scientific aspects. I feel that promotions should highlight this ...

There was a very strong consensus that increasing the presence of male staff at promotional events and careers fairs *would* increase interest in Therapeutic Radiography among male attendees (Figure 5) with all respondents thinking this would have at least some effect.

We hardly ever have male speakers at university.

More male representation at career advice fairs etc. Making prospective male students feel there is a good social life with male colleagues, and helping to dispel myths of radiotherapy being female orientated

Male staff going to schools to talk about their field of practice

I think that current male therapeutic radiographers and students should be encouraged to attend career events and be part of campaigns to inspire the next generation of male radiographers.

In conclusion, one respondent recognised the scale of the challenges ahead and the role all have to play in increasing diversity:

This is a massive issue, which will require creative thinking and radical practices. I am a very mature student with a background in working in a masculine environment, [in the emergency services]. I have seen and participated in practices that have led to an increase in a more diverse service.

Discussion

Targeting gender imbalances is always controversial; some of our respondents believe that the under-representation of males within undergraduate programmes and the profession is not an issue. Indeed some authors suggest that the status quo should be actively maintained, as males may be under-represented at entry level, yet they hold a disproportionately high number of senior leadership roles.^{27,28} Stenberg et al refer to this phenomenon as a “gender regime”; an overrepresentation of women in the workforce while male professionals, as a group, have more power.²⁹ To counter this phenomenon, a balanced approach would be to introduce strategies to increase male participation while actively addressing the barriers to

career progression of women. However the benefits of a more balanced gender profile in therapeutic radiography need to be better articulated.

What is clear is that doing nothing will maintain the status quo and perpetuate an unrepresentative workforce (16.8% male in UK). Male students constitute between 19.6%⁸ and 24%⁹ of therapeutic radiography undergraduates in the UK; this current gender profile will have no significant impact on the future workforce. If a representative workforce is desirable, an urgent change to our recruitment approaches is needed. Any recruitment activity is likely to raise the profile of the profession resulting in applications from better informed male and female candidates.

At the point of entry to higher education, many students in this study had not encountered therapeutic radiography or had limited information; poor awareness was also the most significant barrier to male student recruitment across a number of other allied health professions.⁹ The more informed students at entry had benefitted from family and friends who are therapeutic radiographers, or from those who have received radiotherapy. A need for early promotion of the profession in schools is essential, also considered critical by participants in a recent study investigating recruitment in nursing and allied health careers.⁹ University outreach activities occur at too late a stage when students may have already committed to an alternative profession, particularly pertinent to those students on a Science, Technology, Engineering and Mathematics (STEM) trajectory. Indeed many of the respondents encountered the profession for the first time at clearing or when an alternative offer was made, rendering recruitment materials and outreach programmes of little value. Discovering therapeutic radiography at this late stage was for many a revelation; an 'invisible' profession lacking the exposure of diagnostic radiography. Encouragingly, significant efforts to promote the profession in the UK have been implemented, for example the Strategic Interventions in Health Education Disciplines (SIHED) programme funded by the Office for Students with an aim to increase awareness, understanding and diversity for therapeutic radiography.³⁰

Sadly, societal stereotypes were engendered by some respondents' family and friends who thought of the profession as a 'lower status' and/or female orientated profession. Gender stereotypes were found to be the major factor deterring male

students from considering nursing, whereas negative perceptions of pay, workload and status of nursing and allied health careers posed further barriers.⁹ Unhelpful gender stereotypes where women are seen as the caregivers and men align with scientific and technological roles^{31,9} are perpetual challenges for male student radiographers.

In a study of male participation in healthcare professions,⁹ prospective students and parents were 'very attentive' to gendered aspects of marketing materials. These include genders represented in photographs and 'potentially gendered' language and tone. Including men in nursing and allied health promotional imagery was noted as critical for communicating that these professions were inclusive.⁹ Some respondents in our study highlighted that promotional materials predominantly include images of female radiographers in a care setting, with images of the related science and technology absent or poorly displayed. This professional imagery only partially reflects the reality of the profession, thus missing an opportunity to promote the diversity of the professional role. Gender stereotypes aside, some men will be more attracted by the caring aspects of the profession and some women more by the science and technology, yet it is important to accurately portray the dual role of a therapeutic radiography career. Many male students in this study argued that the dominance of the 'caring' aspects in promotional imagery missed an opportunity to target STEM students, who may not otherwise have considered a career in healthcare. Several respondents had not considered therapeutic radiography until learning that science and technology was a large part of the role.

The presence of male role models in work shadowing visits, careers events and university open days is strongly advocated by many of our respondents, as the lack of male role models suggests a female dominant profession.^{11,32,33} The stereotypes associated with this, and other professions including nursing,³³ suggest a profession which is a care-based career choice for women. Having no male presence at university open days removes the opportunity for male applicants to experience by proxy what therapeutic radiography is like as a career choice and what other male therapeutic radiographers have gone on to achieve in the profession. This has been shown to influence male student and parent views on the gender make-up of the

workforce, which could deter some students from pursuing female-dominated courses.⁹

Most of the students in this study recognised the value of having a more diverse workforce. Their experiences of placements had showcased the value to male patients of access to a male therapeutic radiographer where they could openly discuss specific health concerns. Other male patients appeared to enjoy engaging in 'banter' with male staff as this was a way of reducing their anxiety. This observation reflected similar findings by Evans and Frank who concluded that male nurses applied more humour into their communication with patients in an effort to build mutual trust, whereas female nurses tended to use more touch to build trust with their patients.³⁴ Radiography literature is absent regarding gender differences in expression of caring, or of gender preferences of our patients. However engaging with a wider gender diverse community which goes beyond the binary gender model has begun to attract significant attention.³⁵⁻³⁷ Having a culturally diverse workforce is a goal that many radiotherapy centres are working towards, yet it is imperative that we enhance our patient experience and staff approaches through gender-focused research and education.

Inclusion of key progression routes that can take a qualified therapeutic radiographer into advanced practice, planning, pre-treatment, review and research would be of interest to both male and female applicants. Making a positive difference to people's lives, variety of work, and excellent employment prospects were also identified as attractive to male students applying to a range of healthcare professions.⁹ These students reviewed pay, workload, progression and status before finding out more about any individual profession.⁹ With this in mind, some of our respondents recommended using strategies associated with armed forces and emergency services recruitment campaigns, showcasing essential leadership and skills.

While gender stereotypes do still feature in daily life, many of the strategies suggested by male students to attract an increasing number of males to the profession would undoubtedly also be attractive to female prospective students. In a profession requiring 80% growth by 2027,³ the provision of eye-catching, representative and inclusive promotional materials targeting a range of ages and settings is essential. Marketing materials will be likely to have maximum impact

where both male and female role models support university recruitment events and pre-application clinical visits, although the latter have been increasingly challenging to offer in light of Covid-19 restrictions. Further research is required to determine suitable alternatives to traditional observational visits. The development and implementation of gender-sensitive recruitment campaigns need to be encompassed within a wider university and professional strategic framework to monitor impact on future cohorts of radiography students. Surprisingly, at the commencement of this research, national data regarding the gender diversity of therapeutic radiography students and the registered workforce were either not collected or were not publically available; Freedom of Information requests were required to access the data. Regardless of individual views on the role of positive action to create a diverse workforce, a minimum expectation must include collecting and sharing male participation data to inform local and national workforce strategies.

Limitations of this study include participant selection. The participants were existing therapeutic radiography students who entered into the profession and were not deterred by the gender imbalance or the potentially imbalanced portrayal of the profession. This potentially introduced a degree of recruitment bias. In order to achieve a more detailed understanding, male students before they have made career selections would be ideal informants. However it is reassuring that in a study of male participation in healthcare where students and parents were included prior to career selection,⁹ many of the findings were very similar to those identified within the current study. A further limitation is that we did not collect data on whether participants were mature students on entry and/or were entering the profession as a second career. This would have been valuable information; we can infer from qualitative comments that a proportion of the sample were from this applicant group. In addition we note the wide margin of error in our survey (14%) which is influenced by the low response rate. While reviewing the findings with caution, we are able to reach a range of valid conclusions as the survey is exploratory in design and also draws heavily on qualitative comments.

Conclusion

This research provided a detailed insight into the career decision-making and recruitment experiences of male therapeutic radiography students. We often make assumptions or stereotype with gender bias, but the findings have provided evidence to focus a specific recruitment and marketing strategy to encourage males to consider a career in therapeutic radiography. Recommended recruitment strategies include awareness-raising of the profession at a much earlier stage, with school outreach to include STEM students in addition to traditional approaches targeting biology and health and social care courses. Recruitment promotional materials and imagery should be suitable for different audiences and platforms and focus equally on care and technology. Recruitment language should embrace both 'leadership' attributes (decision-making, problem-solving, saving lives) as well as 'caring' attributes (compassion, empathy, cancer care). Supported by male student, practitioner and/or academic role models, outreach events and work shadowing should emphasise the profession in terms of a sustainable, fulfilling and rewarding career.

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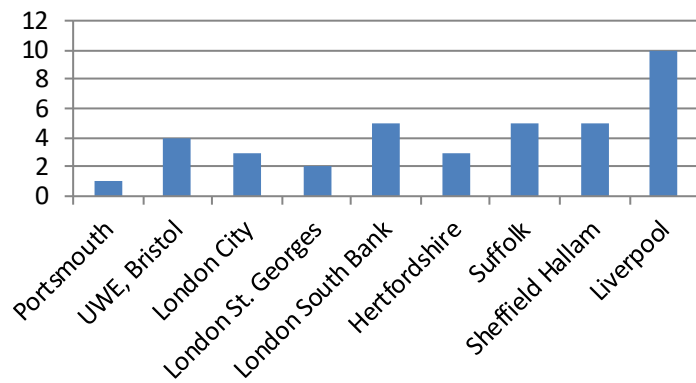


Figure 1: Number of therapeutic radiography student respondents from each participating university

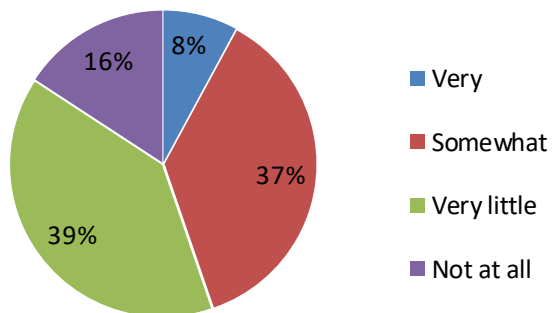


Figure 2: Awareness of Therapeutic Radiography as a career before starting course

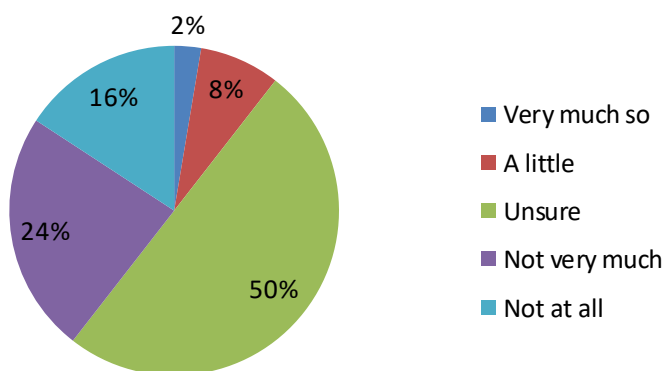


Figure 3: Extent to which promotional materials are designed to appeal to prospective male candidates

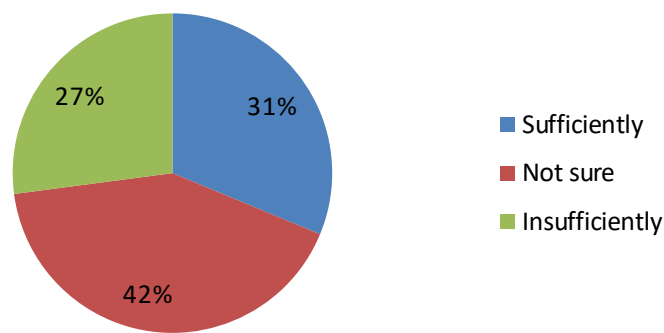


Figure 4: Extent to which images of, and references to, male radiographers are evident in promotional materials

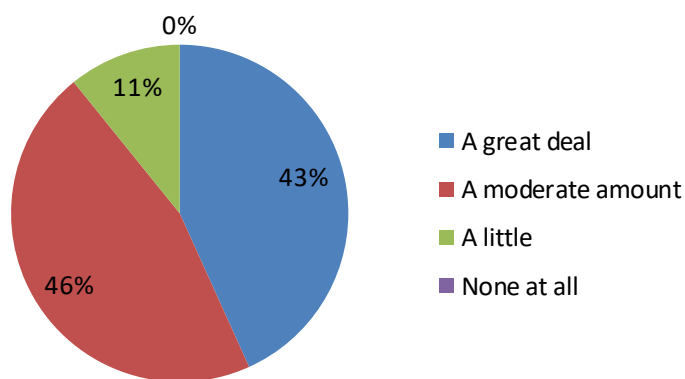


Figure 5: Extent to which having male staff presenting at promotional events would increase interest in male attendees

Theme Name	Description	Sample Quotations
The invisible profession	<p>Their perceptions of the profession...</p> <p>Poor exposure in schools and in wider society to radiotherapy as a career option; awareness gained from friends and family (where relatives had experienced cancer treatment).</p> <p>Lack of profile: Diagnostic radiography had higher profile within careers literature and the media, where radiotherapy was portrayed as</p>	<p><i>"The only way you're really going to know about this profession is if your family works in it, or you've had close family who has suffered from cancer." [Yr1]</i></p> <p><i>"Diagnostic radiography is really upfront isn't it, and therapeutic is like, it seems to be put to the back". [Yr 1]</i></p> <p><i>"... in radiotherapy we are the unknown" [Yr</i></p>

	<p>a tool but not a career. One of the greatest recruitment challenges was that the profession was seen as 'invisible'.</p>	<p>3]; "...it's like it doesn't exist" [Yr 2]</p>
Career choices	<p>The male applicant admissions journey...</p> <p>Attractive working conditions alongside career progression potential was an important influencer, particularly for mature students in career transition and/or with young families.</p> <p>Participants were searching for a career with job satisfaction incorporating a balance of responsibility and risk. Early experiences of therapeutic radiography were positive; several became Therapeutic Radiographer 'evangelists', spreading positive messages about the career to other male friends and family.</p>	<p>"If you're compassionate but you can dissociate from it, it's an absolutely fantastic job. It's an NHS job, it's 9 to 5, pension's great. You get weekends off most of the time. It's sociable and it's specialised. You could do this for the rest of your life... as long as that progression is there." [Yr 2]</p> <p>"I recommend it to my mates: quite sciencey... probably a bit quiet. And they are "oh I am not chatty enough, I've not got the soft skills"... And I say well actually you're sat there in a bunker. You've got 13 computer screens, you've got X million pounds worth of kit you've got to analyse and control, and you're dealing with engineering... That's how I sell it." [Yr 3]</p>
Gender influences	<p>Recruitment materials from a male perspective...</p> <p>Unhelpful simplistic healthcare stereotypes within society continue to portray caring as a female trait. Families were unsure whether the profession was suited to a male. These stereotypes were perpetuated through the use of (in their view) female-orientated promotional materials.</p> <p>Students quickly became aware of a female bias in the profession and programme. However with increasing clinical exposure they began to realise the benefits of a mixed gender culture; how males could bring something different to the service, including patient choice and humour and banter with patients. The profession should be playing to gender strengths in the drive to attract more male students.</p>	<p>"They [family] were like oh, well done, that's a very noble thing to do. But it's as if it was kind of like low status..." [Yr 3]</p> <p>"The promotion of TR is all about how you're providing care, rather than the technological aspect. Providing a care service is thought of like a nurse ..." [Yr3]</p> <p>"I didn't realise that it was female dominated ... " [Yr 1]</p> <p>"In my [Clinical visit] I don't think I saw a single bloke to be honest." [Yr 2]</p> <p>"I had a [male] patient talk to me about erectile dysfunction... I feel like they're more comfortable speaking to a male..." [Yr 3]</p> <p>"If it was advertised as more intense and fast paced, maybe that would attract more guys, but it's advertised like a nursing atmosphere. [Men] like intense high pressure jobs, don't they?" [Yr 1]</p>
Gender-	Suggestions for recruitment	<p>"If you're showing videos, a male a female,</p>

sensitive approaches	strategies...	<i>not two females doing the job..." [Yr 3]</i>
	<p>Attracting more male students to the profession was seen as a challenge, with a major issue being a lack of visible male role models at university open days and at school careers events.</p>	<p><i>"If you want men to be encouraged to come into it, don't send out three women... they're going to want to ask a bloke what it's like..." [Yr 2]</i></p>
	<p>Efforts to promote the role at a much earlier age were supported, portraying radiographers to younger children as real-life superheroes, to gain their interest, then at a later stage explain the compassionate aspects of the role.</p>	<p><i>"So you could literally advertise it to kids specifically as basically a real life superhero, literally changing people's lives." [Yr 1]</i></p>
	<p>Participants stressed that promoting the diversity of the role would be likely to attract males. Science and technology sells, with an opportunity to increase the emphasis on science, physics and computing. Participants suggested maximising imagery in promotional materials, and to stop 'tiptoeing' around cancer.</p>	<p><i>"Just be more proactive at a younger age...I'd sell it more on its science, sell it on its physics, sell it on multimillion pound machines, sell it on its anatomy. And then ... in your late teens or whatever, they might understand it more for its caring role." [Yr 2]</i></p>
		<p><i>"You could be treating this person, looking after them while they're really ill, or you could be in a computer suite planning loads of cool stuff... Get all the other parts of the job role out there... There's so much more to it." [Yr 1]</i></p>
		<p><i>"The blokes I know that are into machines, into tech, into the science, radiation and all that. But that doesn't seem to be as promoted as much as the caring image on the stock photos, on the promotional materials, on the websites, lots of people putting hands on each other and looking a bit wistful." [Yr 3]</i></p>

Table 1. Themes and sub-themes identified within focus groups

Rank order	Reason	A lot	A moderate amount	A little	None at all
1	Wanting to make a difference to peoples' lives	25	12	1	0
2	Working in a caring/compassionate career	23	13	2	0
3	Working in a technology based career	15	20	2	1
4	Clear progression opportunities once qualified	13	15	9	1

5	Geographical/practical/family ties	11	12	7	18
6	Little/no requirement to work unsocial hours	6	11	13	8
7	Attractive salary once qualified	2	18	10	8
8	Cheaper than other courses	7	5	2	24

Table 2: Factors influencing the decision to apply for Therapeutic Radiography. Modal responses are highlighted.

Rank	Image description	Definitely more attractive to males	Probably more attractive to males	No difference	Probably more attractive to females	Definitely more attractive to females
1	The science behind radiotherapy	6	17	15	0	0
2	Isodose distribution /plan on a computer screen	7	16	14	1	0
3	Radiotherapy equipment /technology	6	7	13	2	0
4	CT/MRI scan	4	10	22	1	1
5	Patient being treated	1	3	18	15	1
6	'Caring scene' with a cancer patient	2	2	12	18	4

Table 3: How images in promotional materials may appeal to male and female candidates. Modal responses are highlighted.