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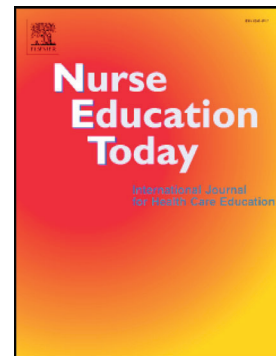
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AN EXPLORATION OF THE INFLUENCES ON UNDER-REPRESENTATION OF MALE PRE-REGISTRATION NURSING STUDENTS

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Ethical Approval: Ethical approval was gained from each of the participating academic institutions for all locally conducted phases of data collection (Ethics numbers: SREC 2017010; SREC 2017034; STAFF003; STAFF009; SERP ref 10-04). Approval for the national school teacher survey was gained from one institution (SREC 2018004).

ABSTRACT

Background: Worldwide, men are under-represented in the nursing profession. In Scotland less than 10% of pre-registration nursing students are male. Reasons for this imbalance need to be understood.

Objectives: To explore the views of male pre-registration nursing students, nursing lecturers and school teachers about this imbalance.

Design: Mixed methods study using focus groups and online survey.

Settings: Focus groups in four locations across Scotland. Online survey sent to teachers across Scotland.

Participants and Methods: Eight focus groups with 33 male nursing students; four focus groups with 21 university and college nursing lecturers; 46 school teachers returned the online survey.

Results: Although nursing was considered a worthwhile career with job stability and many opportunities, it was also viewed as not being a career for men. Assumptions about the profession and femininity were challenging for men and use of the term 'male nurse' was felt to be anomalous. In some circumstances the provision of intimate care to particular patient groups caused difficulty. Positive encouragement from others, a positive role model or knowledge of nursing from significant others could be helpful. However concerns about low earning potential and negative media publicity about the NHS could be a disincentive. Being mature and having resilience were important to cope with being a male nursing student in a mainly female workplace. Some more 'technical' specialties were felt to be more attractive to men.

Conclusions: Nursing is viewed as a worthwhile career choice for men, but the gendered assumptions about the feminine nature of nursing can be a deterrent.

KEYWORDS

education; gender; male; nurses; pre-registration;

INTRODUCTION

While many nurses leave the profession before retirement age (OECD, 2016), and there are concerns about nursing shortages and the causes of this (Haddad & Toney-Butler 2019), nurses still form the largest category of healthcare worker, with approximately 30 million nurses and midwives expected to be employed by 2020 across the globe (World Health Organisation 2013). However, men in nursing are in a minority worldwide and although exceptionally in some countries rates are higher (e.g. Iran 23% (Zamanzadeh 2013); Saudi Arabia 50% (Alboliteeh 2017)), in many countries men account for only approximately 10% of the workforce: Chile 6 – 10% (Ayala 2014), USA 9.6% (U.S. Census Bureau 2013), Australia 10.9% (Australian Government 2016) and Hong Kong 12.7% (Chan, 2014). The same is true for Scotland where the current percentage of male nursing students is between 8 – 10% (Scottish Government 2017). This situation has remained static for many years.

This gender imbalance has long-standing historical and cultural origins (Evans 2004). While the need to encourage greater gender diversity in traditionally male dominated professions such as engineering and physics and in the boardroom is widely acknowledged and encouraged (CIPD 2015, PWC 2017), public engagement in a similar debate about the need for more men in female-dominated professions is limited.

A review of the literature into the motivation for men choosing nursing, suggested that there are a range of factors that influence nursing as a career choice for men (*Gavine et al*). Many men who come into nursing have been influenced by a family member or acquaintance. Although nursing is viewed as a worthwhile career choice, gender stereotyping and societal views about nursing could be a deterrent. However only one longitudinal study from the UK has looked at this issue (McLaughlin et al 2010) and no papers from Scotland were found. In order to develop strategies to address the low numbers of men in nursing, greater understanding of the factors affecting male recruitment to the profession are needed.

RESEARCH QUESTIONS

The aim of the study was to investigate the influences and causes of the underrepresentation of men in pre-registration nursing in Scotland.

This research questions this study sought to address were: what are the views of male pre-registration nursing students in Scotland about the reasons they chose to study nursing? what are the views of university and further education college nursing lecturers about the facilitators and barriers to men applying and studying nursing? and what are the views of school guidance teachers and career advisors about the reasons for the low numbers of men in nursing?

METHODS

The study used an exploratory, descriptive mixed methods approach. In-depth exploration of the views of students and lecturers was facilitated by the use of focus groups (FGs). An online survey of teachers was undertaken to facilitate wide distribution and due to time and

resource constraints. The FG topic guides and the questions for the teacher survey were developed for the study based on the findings of the literature review (*Gavine et al*).

No major ethical issues were anticipated. Processes were in place should any distress be caused by the FG with students. Ethical approval was gained from each of the participating academic institutions for all locally conducted phases of data collection. Approval for the national teacher survey was only required from one institution. Data was stored on password protected computers and in a secure cloud-based storage system and will be destroyed after three years.

Data Collection

The FG phase of the study was conducted in four Higher Education Institutions (HEIs) in Scotland. These were selected on the basis of convenience and represented a geographical spread of HEIs across Scotland providing pre-registration education (north, east, south-east and west).

One FG was held in each location with current undergraduate and post-graduate male pre-registration nursing students, between June 2017 and April 2018. Other than being male and engaged in a pre-registration nursing programme at one of the four HEIs there were no other inclusion or exclusion criteria. Female students were excluded because they would not have relevant knowledge or experience to be able to answer the research questions. All current male students in each HEI at the time of data collection were invited by email and all those who volunteered were included. FG questions explored what attracted them into nursing and their experiences as students.

One FG was held in each location with University nursing lecturers and college lecturers. All university nursing lecturers in each HEI at the time of data collection were invited by email and all those who volunteered were included. To explore views of lecturers involved in other avenues into nursing (such as 'access to nursing' courses), college lecturers working in colleges linked to these four HEIs were invited to this phase. There were no other inclusion or exclusion criteria. FGs were conducted during January – March 2018. FG questions explored views of the facilitators, barriers to recruiting men into nursing and the challenges male students experience.

For both the FGs with students and lecturers, the email invitation was accompanied by a Participant Information Sheet specific to the participant group. Interested participants responded by email. FGs were held at each of the HEIs. Consent was sought before the start of each FG. All were audio recorded and subsequently transcribed verbatim, none lasted more than an hour and some included a note taker. Transcripts were not shared with participants. The FG facilitators were nursing lecturers (HW, JE, MC, HB, JT, JL, GM) and some were known to the participants as lecturers or colleagues with an interest in attracting more men into nursing. Open questions, following a semi-structured interview schedule, were asked to prompt discussion in the FGs but not to lead the responses.

A link to an online qualitative survey was sent to secondary school guidance teachers and careers advisors throughout Scotland via an email invitation which was distributed through several forums that the study researchers had prior knowledge of, or contact with, and

through a subsequent snowball approach. The number of teachers contacted is not known. The survey was open for responses from February - March 2018. The online survey consisted of four open questions derived from the research question and informed by the literature. Similar to the FGs, broad questions were asked about the reasons for the low numbers of men in nursing and what might be done to encourage more men to apply. Respondents were also asked about their geographical location, role in the school and gender, but no personally identifiable information. Completion of the survey was taken as consent to participate.

Data analysis

The transcribed data from the FGs with students and lecturers, and the online responses from the qualitative survey of teachers were initially analysed separately by data cluster, then combined. Analysis was carried out by one researcher. Thematic analysis of the qualitative data followed Yin's five-phase cycle: compiling, disassembling, reassembling, interpreting and concluding (Yin 2016), although progress through these phases was not linear or unidirectional. NVIVO 11 software was used to compile and manage the data. Three data clusters were created: Students, Lecturers and Teachers. The data clusters were disassembled or coded and the iterative process continued as more data became available and data saturation was achieved. Mind maps were used in a hierarchical array to visualise and formulate the links between codes and therefore helped progression to the reassembling phase where patterns within the data were discerned. In the interpreting phase the data clusters were brought together to describe and explain the emergent themes whilst still ensuring a fair representation of the data (Yin 2016).

Rigour was promoted from the breadth and depth of data collection and validity assured by the constant comparison process between each data cluster (Yin 2016). Confidence in the results was achieved by the emergence of similar themes from each source. The themes and nomenclature were then refined and confirmed after debriefing and critical discussion by the entire study team who had all actively participated in data collection.

RESULTS

In total 33 students took part in eight FGs (Table 1) and 21 lecturers took part in four FGs (Table 2). Demographic details were not gathered for FG participants, and it was not possible to assess the representativeness of the sample.

A total of 46 teachers participated in the online survey from across Scotland: Grampian (27), Tayside (12), Lothian (1), West of Scotland (6). Respondents worked in variety of roles: Head Teacher/Deputy Head Teacher (8), Guidance teacher (15), Careers advisor (4), Care and support/pastoral care (14). There were 36 female respondents, eight male respondents, and two who did not disclose gender. It was not possible to ascertain how many teachers the link to the online survey was sent to, so a response rate cannot be calculated.

The results are organised into a number of themes. Quotes use 'S' for students, 'L' for lecturers and 'T' for teachers. Identifiers (area of Scotland, gender of participants, field of nursing) are not included with quotes to preserve anonymity.

Work men shouldn't be doing

All the data from students, lecturers and teachers aligned with the general societal view that nursing is not a job that men should be doing.

S16: *My dad wasn't happy about me taking the job in the hospital at first.....we had a massive argument about it. My dad's been a mechanic all his life.....he didn't see that [nursing] as being a type of work he expected me to do.*

T16: *There is no doubt there is still an inherent/subliminal perception that it is a female profession.*

Participants noted the anomalous use of the term 'male nurse' whereas the term 'female nurse' was never needed.

L5: *In my experience, society still does have a bit of a difficulty, I think less so now, but still has a bit of a difficulty with men in nursing. The whole concept of it being referred to as a male nurse "He's the male nurse".*

The assumption of femininity associated with the profession of nursing led to some challenges for the male students in terms of their masculine identity.

S18: *I went out to a chip shop and I was with four of my friends, all of whom do medicine and they're all female, and he [the owner] went "oh, you're from the University of X"*
[Asked what they were studying] And they all said "medicine, medicine, medicine..." and it got to me and I said "nursing."
And he got the person through from the back and he said "look how times have changed, he's the nurse." And he wasn't saying that in a positive way, he was going "look at this..... WHAT?"

Intimate care

The difficulty for nurses who are men of providing intimate care to female patients was also noted.

S6: *I think it's primarily still looked at as being a female role.and a few things that you think about is what happens if you're dealing with female patients, never look worried and nervous about what you're doing, always portray yourself as professional, which puts them at ease.*

L20: *I was eighteen and a half, and I had to grow up very, very quickly. And one of the things, the intimacy angle, obviously I knew nurses did that, but it's one thing to know that they do it and another to actually put yourself in the position where you had to.*

Worthwhile career

Despite the negative stereotypes around nursing, participants agreed that nursing was an attractive career choice because of the chance to work in a caring profession.

S10: *I wanted something that was going to be a worthwhile career, something that I could look back on and say I've helped people, and that was something that drew me to the course.*

In this study nursing was also perceived as a worthwhile career because of its comparative stability, security and breadth of opportunity.

L18: *I think it's a career change for a lot of men, because it's mature men that generally come in, rather than school leavers. So they've maybe been in other professions or industry, and that's not doing so well and then we see them come in because of stability, pensions, lifelong learning, lifelong career.*

Lecturers also felt that there was a need to emphasise the skills and attributes of a nurse and that recruitment should move away from gender-based images. Variety and flexibility were particularly attractive aspects of nursing. The teachers corroborated the view that it was a worthwhile career choice but highlighted that lack of knowledge about the role and variety of careers was a hindrance in providing advice in schools.

T4: *Few role models, careers guidance and teachers know little about the contemporary career*

Although negative experiences were noted, participants in this study felt some fields of nursing or specialties (such as mental health or A&E) were more attractive to men.

S30: *I'm asked a lot why I didn't choose mental health. There's someone else I know who's a male [paediatric nurse] and he finds he's asked that a lot more. 'Why children and why not mental health?' it always seems to be the go-to one.*

Experience, recommendation, role model

A strong and consistent finding in both student and lecturer data was the importance of previous experiences or knowledge from other people, such as being cared for, caring for others or being positively influenced by a significant role model.

S26: *I had one [a role model] in my last job, as a support worker in a place with people with mental health issues.....and my manager said to me "you know, you should just apply for your nurses training because you've got the nature for it"*

Having prior exposure to nursing or caring helped male applicants deal with the challenges of providing intimate care. Similarly, knowledge from a family member could be important.

L4: *Another thing is how many of them [male students] have links, familial links, to medicine and nursing already. So I don't know whether it's the exposure to that that makes them more interested in nursing, or it makes them better at the application process and they have some insight.*

The need for positive role models in advertising or at career events was noted by teachers who suggested improved visibility of men in nursing could be helpful.

T7: *There needs to be more of a breakdown of the stereotypes and I think more communication between schools and male nurses or nursing students might help so that boys can actually see it as an option.*

Students also observed that men were generally absent from recruitment material.

S9: *They're [male nursing students] not in the pictures.*

However, students were cautious about portraying an unrealistic image of nursing by only having male images or male-only events. The male students in the FGs felt that their presence on the programme was challenging stereotypes and they were keen to be change agents.

Financial aspects

Although long-term career stability was attractive, there was also discussion about the perceived low earning potential of nursing being a disincentive to choosing nursing as a career. Lecturers agreed that especially for men who might be changing career, this could be challenging as they are seen as the 'bread winner'.

L11: *I don't understand how the students live on the bursary and have children, and especially if we're going back to the stereotypical man being the breadwinner,*

The importance of the bursary system while on programme in Scotland was also highlighted in the FGs, and concerns were expressed about the potential loss of this support as has happened elsewhere in the United Kingdom.

S20: *It will certainly affect any mature students. If you're like myself and you do this in your 30s, I've got two children, a partner, a mortgage, I simply could not have afforded to have done this without a bursary.*

An additional deterrent to recruitment noted by lecturers was negative publicity in the media about the NHS, such as funding challenges or other crises. They felt this might put off potential male applicants.

Maturity/right age

Both students and lecturers noted that older male applicants may be more resilient and therefore able to cope with the potential stigma of being a male student in a predominantly female environment. This may account for some male applicants choosing nursing in later life when more mature.

S14: *If you told me at 18 when I was leaving school that I would choose to be a nurse 10 years down the line, I would have laughed at you.*

L14: *And if you compare that to girls in fifth or sixth year at school compared to boys in fifth and sixth year at school, they do take that wee bit longer to mature anyway.*

DISCUSSION

Overwhelmingly we found that nursing is viewed as a career that is not suitable for men. This pervasive and powerful negative societal influence has been previously noted as affecting both school leavers and mature male students (Harding et al., 2018; Meadus and Twomey, 2011; Wilson, 2005). The view that nursing is a 'female job' and is not suitable work for men influenced both the decision to take up nursing and the choice of field.

Gendered constructions of nursing have been previously noted. Male nursing students have reported being made fun of and teased about being homosexual (Harding 2007; Powers et al 2018); this can act as a deterrent to men choosing nursing as a career (Muldoon and Reilly 2003). Men can feel excluded and different because of their gender in both the classroom and in the clinical area (Powers et al 2018) and gender perceptions of the profession affects completion rates (McLaughlin et al 2010). The use of the term 'male nurse' appears to perpetuate this gendered professional difference. This powerful deterrent is clearly one that needs to be overcome if more men are to be attracted to the profession.

We found that the provision of intimate care also emphasises the difficulties that students who are male may face. In previous studies two areas of practice placement consistently raise issues for male students: paediatric placements (Meadus and Twomey, 2011) and obstetrics and gynaecology. The latter area is associated with a higher rate of treatment refusal (Christensen and Knight, 2014; Stott, 2007; Wilson, 2005) or feeling anxious that female patients could feel uncomfortable or make accusations about inappropriateness when providing intimate care (Meadus and Twomey, 2011). The need to ask permission from female patients for a nurse who is a man to provide intimate care contrasts with the situation for male doctors. For them, it seems their professional identity trumps their gender such that female patients do not tend to object, or indeed be asked, about being cared for by doctors who are men. However other studies have also reported male students having positive experiences on placement (Wilson, 2005).

In spite of this, there was agreement that nursing is a worthwhile career, providing job security and a range of opportunities. Similarly, others have noted these as important factors in men's decision to study nursing (Harding et al., 2018; Lerardi et al., 2010; Meadus and Twomey, 2011; Stott, 2007). Some technical or specialised clinical areas seem to be particularly attractive to men (DeVito, 2015; McLaughlin et al., 2010; Stott, 2007), therefore placements in such areas may improve the experiences of male students (DeVito, 2016).

Financial security, good career progression and mobility have also previously been noted as attractions of a career in nursing (Christensen and Knight, 2014; DeVito, 2016; Harding et al., 2018; Lerardi et al., 2010; Meadus and Twomey, 2011; Wilson, 2005). Additionally, for men facing redundancy from other employment (Christensen and Knight, 2014) or those dissatisfied with their present job (Harding et al., 2018), these aspects made nursing attractive.

The literature also suggests that many men in nursing have previously had contact with nurses, either being cared for themselves or when a family member was being cared for (Wilson, 2005) or through previous work experience (Harding et al., 2018). Other studies suggest having a family member or acquaintance who worked as a nurse is influential for many men who come into nursing (DeVito, 2015; Harding et al., 2018; Meadus and Twomey, 2011; Wilson, 2005). Such powerful recruitment drivers may not be possible to arrange, but ways of positively marketing nursing to potential male applicants need to be found, such as school visits by men who are nurses (Wilson, 2005), including men at career open days or targeted recruitment (DeVito, 2016). Other options might be gender-neutral marketing campaigns (Wilson, 2005) or careers events that focus on male and female students (Meadus and Twomey, 2011).

Financial issues, and particularly the low earning potential of nurses, are relevant for all nursing students but have previously been identified as being particularly problematic for male nursing students (Wilson, 2005). The loss of the bursary for nursing students in some parts of the UK has already been identified as having a detrimental effect on recruitment to nursing programmes (Maguire, 2018). Paradoxically the greater career advancement of men in nursing is also evident across the UK (Punshon et al 2019) and elsewhere (Muench et al., 2015; Muench & Dietrich 2019).

We found that being more mature helped male nursing students cope. In earlier studies many of the men came from previous careers and were not school leavers (Wilson, 2005). The lack of male school leavers on nursing courses has been noted before, perhaps because of school counsellors' failure to suggest nursing, negative peer pressure or biased advice in favour of male dominated professions (Meadus and Twomey, 2011; Wilson, 2005). The teachers in our study reported a lack of knowledge about nursing: this emphasises the need for improved awareness in schools about careers in nursing.

A strength of this study was the geographical spread of data collected from students and lecturers from across Scotland with a consistency of findings across the country and data sources. Most lecturers came from the university sector: few college lecturers were recruited, so findings cannot be generalised. Similarly, although respondents to the online teachers' survey came from all areas of Scotland, there were fewer respondents from the largest urban areas.

CONCLUSION AND RECOMMENDATIONS

Although nursing is viewed as a worthwhile career, the pervasive societal view that nursing is a female profession was a powerful deterrent to males considering nursing as a career. In the clinical environment, the gendered perceptions persist, with male students feeling differently labelled as a 'male nurse' and inherent challenges in terms of masculinity and the provision of intimate care. Having positive experiences of care/caring or being influenced by a family member or a role model were important drivers to overcoming this negativity. Similarly, being more mature was helpful to cope with the predominantly female environment or the negative stereotypes. Concerns about financial challenges while on programme, or earning potential once qualified were also problematic, particularly for mature male students. However more 'technical' specialities (such as A&E) or certain fields (such as mental health) with a higher proportion of male staff were more attractive to men and consequently easier to work in.

To improve recruitment to the nursing profession generally a more positive societal view of nursing as an attractive career and improved financial rewards are needed. As Ten Hoeve et al (2013) note, societal perceptions of nurses are often based on misconceptions and stereotypes. These in part are created by nurses' lack of visibility and poor public engagement as well as wider cultural and social norms regarding gender and professional status. Both of these are linked to remuneration. Increased public discourse by nurses is needed about the profession, and how men contribute. This should include more publicity about high profile role models who are men. Further, given the lack of knowledge about the nursing profession among the teachers surveyed in this study an opportunity is provided to start this public dialogue with a profession that directly influence the learning of children. Most importantly, however, is that all nurses, male and female, should challenge at every opportunity the gendered assumptions, myths and misconceptions held about nursing.

REFERENCES

- Alboliteeh, M, Magarey, J & Wiechula, R (2017) The Profile of Saudi Nursing Workforce: A Cross-Sectional Study. *Nursing Research and Practice*, Vol 2017. <https://doi.org/10.1155/2017/1710686>
- Ayala, R., Holmqvist, M., Messing, H. & Browne, r. (2014) Blessed art thou among women: male nursing students and gender inequalities in Chile. *Nurse Education Today*, Vol 34(12), 1480 – 1484. doi.org/10.1016/j.nedt.2014.04.022
- Australian Government (2016) Nurses and Midwives NHWDS 2016 Fact Sheet, Department of Health. <https://hwd.health.gov.au/webapi/customer/documents/factsheets/2016/Nurses%20and%20Midwives%202016%20-%20NHWDS%20factsheet.pdf> (accessed 22.3.19)

Chan, Z., Lo, K., Tse, K., & Wong, W., (2014) Self-Image of Male Nursing Students in Hong Kong: Multi-Qualitative Approaches. *American Journal of Men's Health*. 8 (1), 26 – 34. DOI: 10.1177/1557988313488929

Chartered Institute of Personnel and Development (CIPD) (2015) Gender diversity in the boardroom: Reach for the top. https://www.cipd.co.uk/Images/gender-diversity-boardroom_2015-reach-for-the-top_tcm18-10828.pdf

Christensen, M. & Knight, J. (2014) "Nursing is no place for men"— A thematic analysis of male nursing students experiences of undergraduate nursing education. *Journal of Nursing Education and Practice*, 4, 95

DeVito, J. (2016) The Experience of Male Nursing Students. *Nursing Forum*, 51, 246-253

Evans J A (2004) Men Nurses: A Historical and Feminist Perspective. *Journal of Advanced Nursing* 47 (3), 321-328 doi: 10.1111/j.1365-2648.2004.03096.x

Gavine et al.....linked review paper submitted to NET 4.4.19.

Haddad L.M., Toney-Butler T.J. (2019) Nursing Shortage. [Updated 2019 Jan 19]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK493175/>

Harding T. (2007) The construction of men who are nurses as gay. *Journal of Advanced Nursing* 60 (6), 636–644 doi: 10.1111/j.1365-2648.2007.04447.x

Harding, T., Jamieson, I., Withington, J., Hudson, D. & Dixon, A. (2018) Attracting men to nursing: Is graduate entry an answer? *Nurse Education in Practice*, 28, 257-263. <https://doi.org/10.1016/j.nepr.2017.07.003>

Lerardi, J. A., Fitzgerald, D. A. & Holland, D. T. (2010) Exploring male students' educational experiences in an associate degree nursing program. *Journal of Nursing Education*, 49, 215-8

Maguire, D (2018) Nursing student numbers: should we panic yet? <https://www.kingsfund.org.uk/blog/2018/02/nursing-student-numbers-should-we-panic-yet>

McLaughlin, K., Muldoon, O. T. & Moutray, M. (2010) Gender, gender roles and completion of nursing education: a longitudinal study. *Nurse Education Today*, 30, 303-307

Meadus, R. J. & Twomey, J. C. (2011) Men student nurses: the nursing education experience. *Nursing Forum*, 46, 269-79

Muench U, Sindelar J, Busch SH, Buerhaus PI. (2015) Salary Differences Between Male and Female Registered Nurses in the United States. *JAMA*. 313(12):1265–1267. doi:10.1001/jama.2015.1487

Muench, U. & Dietrich, H. (2019) The male-female earnings gap for nurses in Germany: a pooled cross-sectional study of the years 2006 and 2012. *International Journal of Nursing Studies*, 89, 125–131. 10.1016/j.ijnurstu.2017.07.006

Muldoon, O. & Reilly, J. (2003) Career choice in nursing students: gendered constructs as psychological barriers. *Journal of Advanced Nursing*. 43(1), 93–100. doi: 10.1046/j.1365-2648.2003.02676.x

OECD (2016) *Healthcare Workforce Policies in OECD Countries: Right Jobs, Right Skills, Right Places*. OECD Health Policy Studies, OECD Publishing, Paris.
<http://dx.doi.org/10.1787/9789264239517-en>

Powers, K., Herron, E., Sheeler, C. & Sain, A. (2018) The Lived Experience of Being a Male Nursing Students: Implications for Student Retention and Success. *Journal of Professional Nursing* 34, 475–482. <https://doi.org/10.1016/j.profnurs.2018.04.002>

Punshon, G., MacLaine, K., Trevatt, P., Radford, M., Shanley, O. & Leary A. (2019) Nursing pay by gender distribution in the UK – does the Glass Escalator still exist? *International Journal of Nursing Studies*. 93, 21–29. <https://doi.org/10.1016/j.ijnurstu.2019.02.008>

PWC (2017) Women in Tech. Time to close the gender gap.
<https://www.pwc.co.uk/women-in-technology/women-in-tech-report.pdf>

Scottish Government (2017) The CNO commission on widening participation in nursing and midwifery education and careers. Scottish Government, Edinburgh
(<http://www.gov.scot/Resource/0052/00528586.pdf>).

Stott, A. (2007) Exploring factors affecting attrition of male students from an undergraduate nursing course: a qualitative study. *Nurse Education Today*, 27, 325-32

Ten Hoeve, Y., Jansen, G. & Roodbol, P. (2013) The nursing profession: public image, self-concept and professional identity. A discussion paper. *Journal of Advanced Nursing* 70(2), 295–309. doi: 10.1111/jan.12177

U.S. Census Bureau. (2013) Male nurses becoming more commonplace, Census Bureau report <https://www.census.gov/newsroom/press-releases/2013/cb13-32.html> (accessed 22.3.19)

World Health Organisation (2013) *World Health Statistics 2013*. WHO, Geneva.
https://www.who.int/gho/publications/world_health_statistics/2013/en/ (accessed 29.3.19)

Wilson, G. (2005) The experience of males entering nursing: a phenomenological analysis of professionally enhancing factors and barriers. *Contemporary Nurse*, 20, 221-33

Yin R (2016) *Qualitative Research from Start to Finish*. The Guildford Press, London.

Zamanzadeh, V., Valizadeh, L., Negarandeh, R., Monadi, M., Azadi, A. (2013) Factors Influencing Men Entering the Nursing Professiona and Understanding the Challenges Faced by Them: Iranian and Developed Countries' Perspectives. *Nursing Midwifery Studies*. 2 (4), 49 – 56.

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Table 1: Focus groups with male pre-registration students - number and location of focus groups and students

	Total number of pre-registration students in each institution 2018 (% male)	Number of Focus Groups	Number of Students in focus groups
Tayside	1,129 (7.4%)	3	12*
Lothian	129 (8.5%)	2	7
West of Scotland	2077 (8.7%)	2	8
Grampian	915 (3.6%)	1	6

* Including one focus group with 5 MSc students

Table 2: Focus groups with university and further education college lecturers - number and location of focus groups and gender

	Number of Focus Groups	Number of University and FE College Lecturers	Male: Female
Tayside	1	6*	2:4
Lothian	1	3	2:1
West of Scotland	1	4	1:3
Grampian	1	8	2:6

* Including FE College Lecturers