Exploring the Interplay Between Pay, Career Barriers and Management Support: An Intersectional Study of Migrant Doctors.

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Abstract

The UK's National Health Service (NHS) is heavily reliant on migrant labour to deliver essential services. While evidence indicates that overseas doctors have less positive career outcomes that may result in pay gaps in comparison to UK-trained counterparts, extant theoretical explanations have been slow to consider the crucial role of workplace practices, and the degree to which pay gaps differ between multiple identity sub-groups. Adopting an intercategorical approach to analyse statistical survey data from 5,753 NHS doctors, we examine how pay gaps stem from career barriers and management support in male and female International Medical Graduate, European Economic Area and UK doctors. Our findings provide insights into intersectional variations in career barriers and pay gaps for skilled medical migrants which point to penalties for migrants, especially migrant ethnicized women. Based on our findings we extend theoretical explanations of pay gaps by conceptualizing them as a complex multi-layered concept that embraces workplace practices as well as intersecting demographic identities. We also contribute to theory on skilled migration by highlighting the counter-intuitive shape of management support on migrants' careers and diversifying extant understandings of constraint and enablement in migrant careers.

Keywords: Migrant workers, Medicine, Physicians, Health Care Management, Discrimination, Gender Roles, Race/Ethnicity, Mentoring, Careers & Socialization, Newcomer Socialization, Compensation, Rewards & Executive Pay, Multicultural/Cross Cultural Issues, Line Management.

Introduction

Health systems in the UK and the USA have historically been heavily reliant on the contribution of overseas doctors to compensate for skilled staff shortages in the home labour market. Thirty-five percent of doctors in the UK (Simpson et al., 2010) and 25.4 percent in the USA (American Immigration Council, 2018) have graduated outside the country. In the UK, overseas doctors comprise international medical graduates (IMGs) (26 percent) and graduates from the European Economic Area (EEA) (9 percent) (General Medical Council, 2019; Jalal et al., 2019). In the year 2018 there was a 50 percent increase in the number of IMGs coming to the UK (Bogle et al., 2020).

Studies indicate that overseas doctors are less likely to be successful in a medical career in comparison to their UK trained counterparts, experiencing pay gaps and career barriers. For instance, both IMG and EEA doctors are less likely to be offered training positions in highly paid prestigious specialities in comparison to doctors who have attended UK medical schools (Jalal et al., 2019; Majid, 2020). IMG doctors consistently experience racism in their employment (Esmail & Everington, 1993; Linton, 2020). Doctors from Black, Asian and minority ethnic (BAME) backgrounds are more likely to be paid less (Appleby, 2018; Woodhams et al., 2021) and less likely to secure senior positions (Jaques, 2013). While the mutual constitution of the IMG category and minority ethnicity is not absolute, the IMG category reflects longstanding patterns of Commonwealth migration to the UK (Healy & Oikelome, 2011) from India, Pakistan, Sri Lanka and Nigeria, and is made up of mainly BAME doctors. Indeed, health systems in the Global North have been accused of robbing countries in most need of health care human resources (Healy & Oikelome, 2011).

The implications of understanding achievement gaps in migrant career success, including pay and the reasons for it, however, extend beyond the empirical referent. Existing understandings of pay gaps lack integration of the effects of career barriers and workplace

practices (O'Reilly et al., 2015). Historically, dominant frameworks explain pay gaps by focusing on human capital and structural effects that result in vertical and horizontal segregation (Becker, 1985; Blau & Kahn, 2017) connecting productivity and skill investment to rewards. But this is a restricted view of pay, determined by skill supply and skill demand that relies on the logics of market competition to assume that employers fairly reward individual efficiency and productivity. Evidence supporting these assumptions is weak (Castilla, 2008), arguably because they overlook or underestimate the relational and social construction of skill and productivity, influenced by the power and status of workers within workplace relations. Different status groups, for example, can be evaluated similarly, but rewarded differently (Joshi et al., 2015). A recent relational turn in pay gap theory development advocates the consideration of the effects of workplace practices in a holistic assessment of categorical biases and inequality regimes infused with power imbalance. The effectiveness of management support is a particularly pertinent issue in this context, given that structured forms of support has been consistently highlighted as crucial for the progression of overseas doctors (Healy & Oikelome, 2011).

In addition, recent calls from leading researchers to extend knowledge of workplace diversity to embrace mechanisms, processes and practices that foster equality and inclusion in the workplace (Nkomo et al., 2019) are all the more important against the contemporary socio-political background of populism, white supremacy and nationalism. Diversity research primarily focuses on how demographic and other differences affect team performance (Harrison & Klein, 2007; Van Knippenberg et al., 2011) or lead to subgroups within the team (Lau & Murnighan, 1998). Only few studies consider how diverse identities may interact with structural elements to shape work and career outcomes (Harrison & Klein, 2007). Given that individuals may be part of many social groups simultaneously, it is important to consider the interaction between diverse identities in assessing their work and career outcomes.

The challenge to researchers wishing to advance knowledge within this perspective is a methodological one. It requires linked employee-employer datasets of sufficient depth to capture multi-level information on individual employee features of human capital (age and contracted hours being a proxy for experience), status and pay, joined with measures of workplace experience and practice, whilst excluding the influence of sectoral, industry and occupational level factors such as wage bargaining arrangements (Blau & Kahn, 2003), the presence, or not, of labour unions (Western & Rosenfeld, 2011) and the gendered evaluation of occupation skill (Reskin & Roos, 2009). Available data also has to have the requisite breadth to be able to examine outcomes for multiple identity sub-groups.

In this article we rise to this challenge by drawing on a large dataset of organisational-level data from a single employer to examine pay inequalities conditioned not only by human capital variations, but also by workplace experiences and practices. Our original survey study of UK-qualified and immigrant doctors (n=5,753) who work for the NHS comprises six groups of doctors - men and women who are UK-qualified, who qualified in the EEA and who are IMGs. We examine pay gaps and career barriers between groups of male and female IMG, EEA and UK doctors, and the extent to which management support can offset the effects of career barriers and therefore pay disadvantage.

We adopt an intercategorical approach to intersectionality (McCall, 2005) to compare patterns of career outcomes across groups of doctors. The premise of intersectionality is that people experience the influences of multiple affiliations (Richardson & Loubier, 2008). An intercategorical approach provisionally considers social categories as stable to strategically compare and document patterns across groups (McCall, 2005). Following McCall, we use statistical methods to examine social inequalities amongst six groups of doctors situated at distinctive intersecting social locations.

In what follows we review literatures on pay gaps, career barriers and management support to set the context for our study and explain our use of intersectionality. We then introduce our research design and present our findings. We provide insights into intersectional variations in career outcomes and career barriers of skilled medical migrants which point to penalties for migrant doctors, especially for ethnicized migrant women. We show the inequitable impact of management support on the careers of migrant doctors by illuminating important nuances in the effectiveness of inclusionary approaches to migration management. Our key contributions to the literature on international migration involve addressing the relatively under-researched area of enablement within organisations and diversifying extant understandings of constraint and enablement in the careers of skilled migrants. We also extend existing understandings of pay gaps by illuminating the impact of workplace practices. We conclude by identifying an agenda for future research.

Background

Pay gaps and Career Barriers for Migrant Doctors: extant theoretical explanations and their limitations

Pay gaps in the field of medicine are frequently studied on the basis of gender or ethnicity, but rarely simultaneously, nor for migrant doctors. For example, pay data from the NHS Electronic Staff Record (ESR) reveals differences in median basic pay between white and BAME doctors (Appleby, 2018) with differences in age offered as an explanation. The comprehensive Gender Pay Gap in Medicine Review similarly found that most of the gap in basic pay between male and female doctors is explained by vertical segregation and age, but that the gap in total pay which includes enhancements and bonuses is less easily explained (Dacre et al., 2020). Female doctors are less likely to be promoted, in part because they are seen as more likely to be in part-time employment with fewer career opportunities (Dacre et

al., 2020). Migrant doctors may experience other career detriments. They are underrepresented in high-paying prestigious specialties such as neurology (Raghuram et al., 2010). UK and EEA graduates are often prioritised over IMGs for higher specialty training posts (Jalal et al., 2019) with IMGs allocated to work in low-priority specialties (Raghuram et al., 2010) or areas that are unpopular with British graduates with excessive workloads (Esmail & Simpson, 2017).

Some studies offer productivity-based explanations for pay and career outcome differences – but these explanations are incomplete (Bloor et al., 2008; Mainardi et al., 2019). For overseas doctors it has long been shown that enhanced effort does not always lead to career progress. In 1987 the [then] Commission for Racial Equality reported that doctors with overseas qualifications are less likely to be promoted whilst working twice as hard as their counterparts with UK qualifications. Medical career and wage structures are also highlighted as a potential cause of disadvantage. Doctors with an undergraduate degree outside the UK or EEA are less likely to be offered training positions (Majid, 2020) and more likely to take up non-consultant training SAS grade jobs (Healy & Oikelome, 2011) where their experience does not count towards specialist training (Jalal et al., 2019). Healy and Oikelome (2011) draw on survey data to examine how these job-related differences effect doctors' pay, by country of qualification. While they did not find a significant disparity in gross pay between IMG and UK doctors, they argue that IMG doctors' pay is based on working on additional contracts and/or longer hours than their UK counterparts (often on an involuntary basis and without entitlement to overtime pay). Salary, they conclude, does not adequately reflect skills and workload (see also Oikelome & Healy, 2007), but the model excludes many factors that could be relevant in drawing firm conclusions. Esmail et al. (2003) similarly found that non-white consultants are disadvantaged in discretionary awards. While the NHS is transparent about pay gaps in medicine (NHS Digital, 2018), the absence of Government Regulations to formally report

ethnicity pay gaps (Webber, 2020), leaves little impetus for further investigation across migrant groups.

Immigrant doctors' career outcomes may also be affected by facets of racism and/or race related bias that are not easily quantified. Minority ethnic IMG and UK doctors are more than twice as likely to voice concerns regarding racialised bullying, undermining or harassment in comparison to white doctors (Linton, 2020). IMG doctors from minority ethnic backgrounds, are frequently stereotyped as less qualified and less likely to provide quality care in comparison to their UK trained and white counterparts (Atewologan, et al., 2019). The Royal College of General Practitioners (RCGP) showed that ethnic minority UK graduates were nearly four times and IMGs fourteen times more likely to fail their exams at the first attempt as white candidates (Esmail & Roberts, 2013), an effect that could have been the consequence of subjective bias. IMGs have been found to have less autonomy than similar grade UK doctors, suggesting that they are not trusted to use their discretion (Oikelome & Healy, 2007, p. 145), receive fewer opportunities for career development (Jalal et al., 2019), are more likely to be referred to 'fitness to practice' processes than UK or EEA graduates, and receive harsher decisions such as suspension when fitness to practice is evaluated (Dyer, 2009; Tiffin et al., 2018).

It is worth bearing in mind, but rarely investigated, that immigrant doctors' career experiences may also be mediated by gender. In a notable study, Oikelome and Healy (2013) found that female IMG doctors (especially those with dependents working part-time) have greater perceptions of inequality and lower morale than female UK doctors although their aspirations for career are high. Furthermore, although they are contracted to work long hours (Oikelome & Healy, 2007), female IMGs are seen as less likely to receive discretionary points in pay (Esmail et al., 2003) than their UK male counterparts. What is not known, is whether career experiences may be positively mediated by management support.

Management Support

Placing mutual obligation at the heart of the employment contract, management support involves the implementation of workplace practices that equip employees to deal with challenges (Kurtessis et al., 2017), for example providing training and development for opportunities, consulting them about work matters, providing mentorship and building a safe psychological environment that motivates individuals and facilitates their involvement in the workplace (Boxall & Macky, 2009). Well-supported employees feel valued within the workplace, shaping policy-aligned retention efforts (General Medical Council, 2019) as well as career agency (Fernando et al., 2019).

The most common approaches to supporting migrant doctors in the NHS are clinical attachment and induction programmes (Jalal et al., 2019). For doctors who are new to the country, the General Medical Council (GMC) conducts a half-day induction programme 'Welcome to UK practice'. At local level, some hospitals and trusts offer help for overseas doctors, ranging from computer-based modules on specific topics to structured induction programmes (see Bogle et al.'s, 2020, review of the King's Overseas Doctors' Development Program and the Epsom St Helier IMG Academy Program; Jalal et al., 2019). However not all trusts offer comprehensive induction programmes, leaving migrant medical professionals inadequately prepared to work in the UK (Majid, 2020). Management-sponsored BAME networks have also been created by the health service, but these networks cannot operate as lobbying groups and are therefore limited in scope to challenge unfair practice (Healy & Oikelome, 2007). Some trusts offer support in the form of career development initiatives such as positive action leadership programmes for BAME staff members, however doctors are rare recipients of these initiatives (Healy & Oikelome, 2011). It is notable that support initiatives are often hindered by implementation gaps between policy and practice, everyday racism, poor management, and general inaction within health care organisations (Healy & Oikelome, 2011).

BAME doctors may receive little support from senior colleagues in comparison to their white counterparts (Linton, 2020). Indeed, lack of regular constructive feedback is seen as a significant contributor to migrant doctors being referred to the GMC for fitness to practices issues (Atewologan et al., 2019). Overall, scholars have argued that existing measures need to be better administered for IMG staff (Rao, 2014).

While the importance of support is increasingly recognised in the healthcare management literature as well as the broader organisation and management literature, the effects of support remain underexplored in the context of skilled medical migrants and highly skilled migrants more generally (Fernando & Patriotta, 2020; Hajro et al., 2019). The international migration literature has been slow to address enablement within organisations focusing mainly on constraints that migrants encounter in the labour market (Guo & Al Ariss, 2015). Medical migrants are, arguably, an employee group who would find management support enabling, given that they need to adjust to new work-settings and new cultural contexts. It is therefore important to understand if all migrant doctors (with different combinations of immigrant status and gender) experience similar levels of management support and whether or not it is effective in closing pay and career gaps and for all groups.

In the next section we will explain intersectionality theory; arguing it has utility in comparing outcomes and experiences between groups of doctors with different combinations of gender and immigrant status.

Intersectionality

Intersectionality theory emphasizes the interaction between multiple dimensions and modalities of social relations and subject formations (McCall, 2005). The premise of this approach is that people are members of more than one social group, simultaneously experiencing influences from multiple affiliations (Richardson & Loubier, 2008). The 'social locations' within which different categories intersect should be the forefront of any

investigation into work and career inequalities (Tatli & Özbilgin, 2012). McCall (2005) distinguishes three approaches to intersectionality, defined in terms of their stance toward categories: anticategorical complexity, intracategoricalism and intercategoricalism. Anticategorical complexity emerged from feminist poststructuralism and considers social life as complex—overflowing with multiple and fluid determinations of subjects and structures—rendering fixed categories nothing but a social fiction. Intracategoricalism, related to Black feminism, focuses on particular social groups at neglected points of intersection (McCall, 2005, p. 1174). It thus restricts the scope of investigation to only few dimensions across categories (e.g. women and black), rather than a full range of dimensions across a full range of categories.

Intercategorical complexity, is successfully deployed to examine wage inequality (McCall, 2005), and can be considered appropriate for this study. This approach adopts existing analytical categories in a strategic manner to document relationships of inequality between them. In McCall's words, "the intercategorical approach […] begins with the observation that there are relationships of inequality among already constituted social groups, as imperfect and ever changing as they are, and takes those relationships as the centre of analysis. The main task of the categorical approach is to explicate those relationships and doing so requires the provisional use of categories" (p. 1784-5). The difference between the intercategorical approach and the intracategorical approach is that the former examines inequalities between social groups rather than within a single social group.

Intersectional scholars problematise the use of isolated categories in research studies. They do not render them false, but they warn scholars about their generalisability. Given that various migrant groups and even gendered migrant groups tend to be circumscribed into a distinct category and linked to relatively poor career outcomes in the migration literature, we suggest that an intercategorial approach to intersectionality provides an appropriate framework to problematise extant understandings. The subject is multigroup and the method is

systematically comparative. In line with McCall (2005), we argue that intersectionality is not a methodology, but rather a framework, within which different methods and methodologies can be developed (see also Garry, 2011, p. 830).

In this article we adopt an intercategorical approach to comparative analysis to address the following research questions:

1a. How large are pay gaps for groups of doctors by immigrant status and gender?
1b. Which factors explain pay gaps and how much of it is unexplained?

2a. How do perceived career barriers link to relative pay outcomes via seniority and turnover intention?

2b. How do career barriers vary across combinations of immigrant status and gender?

3a. To what extent is management support effective in reducing perceived career barriers?
3b Are there differences between migrant groups in experiencing management support?
3c. Is management support equally effective for all groups in overcoming career barriers?
3d. Does management support remain effective for doctors with young dependents?

Methods

Data Collection

Data in this paper is drawn from the Gender Pay Gap in Medicine (GPGiM) Review (Dacre et al., 2020) online survey with sections about pay and working time, grade and seniority, role, employer, gender, immigrant status, length of service in the NHS, age plus experiences of career barriers and management support, family, and domestic responsibilities. Most investigations of single and multi-strand pay inequality analyse large national or international datasets incorporating multiple employers and occupations that, due to the number of competing explanations and limited data depth, can only go so far in narrowing

causes. Additionally, one of the reasons for the elusiveness of explanations of intersectional group pay gaps and workplace practices is the methodological challenge of obtaining comprehensive data that is of sufficient depth and still provide adequate sample sizes for meaningful analysis. A single-employer, single-occupation investigation of a large workforce, such as ours, has significant potential to address our exploratory research questions.

The sampling frame was the UK General Medical Councils' list of Registered Medical Practitioners, which is a register of all 242,433 licensed doctors in the UK (England, Wales, Scotland and Northern Ireland). The GMC randomly selected doctors on the register. A total of 39,978 emails with survey links were sent out in the second week of November 2018. The survey was open for 4 weeks, with a follow-up reminder sent in the penultimate week. The research team received 5,753 completed surveys: a useable response rate of 14.4 percent.

Methods of Analysis

To address the first research question, we compare average pay across groups. In line with the intersectional approach of measuring difference across groups with combined axes of disadvantage (Woodhams et al., 2015) we divide the sample into six groups by migrant status and gender. In line with ONS pay gap methodology, pay is denoted in a per-hour format to standardise differences in hours worked. Pay measures include basic and discretionary elements such as bonus, shift work premia and clinical excellence awards but exclude private income. Mean pay measures are limited in what they can tell us about the causes of pay gaps between groups, so we make use of the Oaxaca-Blinder decomposition (OBD) technique (Blinder, 1973; Oaxaca, 1973) that is frequently used in pay gap analysis (Boll & Lagemann, 2018; Ferreira Freire Guimarães & Silva, 2016). The technique identifies and isolates the extent to which differences in between migrant and non-migrant pay might be due to differences in workforce composition i.e. job and career variables such as grade/ seniority (measured in five broad grades), length of service (years), region of work such as in an urban or rural location,

plus type of employer (trust, general practice, university) and also gender and age. These features, together, comprise the 'explained' portion. The technique also isolates a proportion of the pay gap which is 'unexplained' by our variables. The unexplained proportion incorporates two elements a) where there is a different pay off for the same feature between groups, for example age or length of service and b) where reasons for differences are not explained. Both can be considered to be evidence of discrimination (Boll et al., 2016; Del Río et al., 2011). To address our second set of research questions and explore unexplained factors that might connect to pay gaps, we follow the social cognitive tradition of career research which indicates that people's perception of contextual barriers significantly correlates with career success (Lent et al., 1994). We use Hayes' (2017) hierarchical regression modelling to examine whether doctors' perceptions of career barriers influence their seniority and turnover intentions with various controls added. We also make use of ANOVA and Tukey post-hoc tests to determine whether groups of migrant doctors perceive different strengths of career barrier. Our final set of research questions focus on the role of management in helping to reduce perceived career barriers, so we test the relationship between management support and career barriers via regression analysis and further use of ANOVA and Tukey post-hoc.

Demographic Composition of the Sample

Table 1 sets out the characteristics of the achieved response sample and demonstrates the following.

Insert Table 1 about here.

Of the achieved sample, 15.8 percent are IMG doctors, 7.8 percent are EEA trained and 76.4 percent are UK-trained. Because the GPGiM sample includes GPs and academic medics, there are limits to the extent to which the sample can be compared with the Medical and Dental Workforce Census data in Table 2, however we can see that there is an under-representation of

migrant doctors in our sample relative to the hospital and community health services (HCHS) doctor population (General Medical Council, 2019; Jalal et al., 2019). IMGs comprise only 15.8% of the study total compared with 25.8% of the HCHS population in Table 2, reflecting perhaps that IMGs are more likely to work in the narrower population represented in the Medical and Dental Workforce Census data. Women are over-represented in our sample (57.6 percent compared with 45.1% of the population). Again, this could reflect differences in the speciality basis of our sample compared with the HCHS population.

Insert Table 2 about here.

Most of the IMG doctors (59.9 percent) in the GPGiM sample were trained in India, Pakistan and Bangladesh. A lower proportion (21.1 percent) undertook their training in Africa. Women are in the majority in each of the migrant-status groups except in the IMG group where there are marginally fewer women (46.4 percent). Post hoc tests show that women are under-represented in the IMG group compared with UK-trained and EEA-trained doctors ($p < 0.001$). There are gendered patterns in length of service with the NHS, for example UK-trained men have longer length of service with the NHS than all other groups ($p < 0.001$) with an average of almost 8 years more service than the two groups of migrant women. UK-trained female doctors have longer length of service than IMG female doctors and EEA-trained female doctors ($p < 0.001$). IMG male doctors have longer length of service than both groups of immigrant female doctors ($p < 0.01$). Mean age also shows gendered patterns with all groups of men being older by four to five years ($p < 0.001$), but the oldest are IMG men with a mean age of 46 years. UK-trained female doctors are younger than IMG female doctors ($p < 0.001$).

The hypothesis that migrant doctors work longer hours (Healy & Oikelome, 2011) is demonstrated. All male doctors report more hours of work than female groups. The two male migrant groups report the highest hours. UK-trained female doctors work significantly fewer hours than all other groups. Post hoc analyses also show that there are more UK-trained female

doctors who have young dependents than UK-trained male doctors ($p < 0.05$), and more IMG female doctors who have young dependents than EEA-trained male doctors ($p < 0.05$). Post hoc tests show that there are more doctors who are, or have, worked part-time in all three female groups than UK trained male doctors ($p < 0.001$), and more UK-trained male doctors who are, or have worked part-time than IMG male doctors ($p < 0.001$). There are more UK-trained female doctors who are, or have worked part-time than EEA-trained male doctors ($p < 0.001$), IMG male doctors ($p < 0.001$), and IMG female doctors ($p < 0.01$).In terms of grade and seniority distribution, in agreement with previous findings (Bornat et al., 2011; also see Table 2), the most successful group are UK-trained men – 63.9 percent are consultants, GPs and senior academics, compared with 50.3 percent for IMG men and 42.2 percent for UK-trained women. Migrant men are more successful than migrant women (a seniority gap of 4.9 percent for EEA doctors and 8.5 percent for IMG). UK-trained men are rarely found in the non-training SAS grades (9.7 percent), but this is the destination grade for UK-trained women, and all groups of migrant men and women (see also Healy & Oikelome, 2011). Training and junior academic grades are more evenly distributed across groups, however there is an over-representation of UK-trained women. UK-trained women comprise the majority of GPs and in Public Health. UK-trained male doctors are in higher grades than UK-trained female doctors ($p < 0.001$) and IMG female doctors ($p < 0.05$). UK-trained female doctors are in significantly lower grades than all other groups. Proportions of migrant doctors are highest in the Midlands regions of England.

FINDINGS.

Research question 1a: How large are pay gaps for groups of doctors by immigrant status and gender?

As a starting point in our exploration, we calculated mean hourly pay and percentage pay gaps for each immigrant status group in comparison with male UK trained doctors.

Insert Table 3 about here

Table 3 shows male UK-qualified doctors have the highest hourly rate (£39.47), followed by male IMG doctors (£35.81). The highest-paid doctors in both gender groups are UK-qualified. All groups earn a significantly lower hourly rate than male UK-qualified doctors, and all female groups earn significantly less than male IMG doctors. Pay gaps range from 9.3 percent comparing male UK with male IMG doctors, to 19.6 percent comparing male UK with female IMG doctors. Where a group is both female and migrant e.g. female EEA and female IMG, pay gaps are the largest; amounting to nearly 20 percent in each case.

This, however, is only a limited analysis and offers little in the way of explanation. One possible reason for the large migrant pay gap is differences in workforce composition. For example, pay gaps may emerge because of the different distribution of groups across broad specialties, by age, length of service or unequal representation in specialties and senior grades. Table 3 enables us to draw only limited conclusions on how these factors plus gender and immigration status vary to explain gaps. We also can't see how much of the pay gap is unexplained. The second task within this first set of research questions is to uncover reasons for pay gaps plus to report the proportion of the pay difference that is unexplained i.e. generated by factors that are hidden from our analysis. These might include bias and discrimination, but also local organisational variations in career barriers and managing, and how this varies by group.

Insert Table 4 about here.

Research question 1b: Which factors explain pay gaps and how much of it is unexplained?

Table 4 gives the outcome of a series of decompositions of pay gaps for each paired migrant, non-migrant, male and female group. The first step in explaining these gaps is to delineate the explainable from the unexplainable element. The table shows that the proportion

of the pay gap that is explained by factors in the decomposition equation varies considerably between pairs but is generally more explainable for men. Broadly speaking, in comparison with UK-trained male doctors (columns 2 – 5), around 40% of each pay gap is not explained by variables in the equation. There are three pairs where a statistically significant part of the pay gap is unexplained by measured factors, either because there are different levels of payoff for the same characteristic such as years of experience, age etc, possibly because of unequal allocation of discretionary pay points (Esmail et al., 2003; Oikelome & Healy, 2007; 2013) or because data is missing regarding a widespread feature, for example, indirectly discriminatory career barriers. All three of these pairings involve groups of female doctors. For pair three (male UK vs female IMG); the pair with the largest pay difference, 42 percent of the pay gap is unexplained. The largest unexplained proportion (93 percent) is created by comparing male IMG and female UK, but the absolute pay gap is small, so in actual terms, this is less important. For now, in relation to the explainable element only, we will look at the primary factors that cause pay gaps. For the sake of clarity in reporting, we focus only on comparisons that are relevant to the theme of this paper i.e. the position of migrant male and female doctors in relation to UK-trained males.

Seniority/ speciality.

Segregation within job grades, especially at the highest level of seniority i.e. Consultant/ GP/ Professor and Reader, explains a considerable, statistically significant element of pay gaps. More male UK-qualified doctors are in senior grades, accounting for 18 percent of the pay gap with male EEA-trained doctors, 27 percent of the pay gap with female IMG-trained doctors, 47 percent of the small pay gap with male IMG doctors, but only six percent of the large pay gap with female EEA-trained doctors. For three pairs, a proportion of the pay gap is also explained by a within-grade under-payment for SAS doctors. In comparison with male UK doctors, this explains a further six percent of the pay gap with male EEA doctors,

nine percent of the pay gap with female IMG doctors and six percent of the pay gap with female EEA doctors. Finally, that male IMG doctors are over-represented in the trainee/ junior academic grades explains eight percent of their pay gap.

Age and length of service.

Differences in mean age are linked to career and pay success because older groups typically accrue greater human capital in the form of experience and service (Mincer, 1997). This cannot be assumed in the case of IMG doctors because their less-straightforward NHS career path requires additional qualifications and service to achieve success. It is unsurprising, given these structural constraints, that male IMG doctors have 43 percent of their pay gap with UK-trained males explained by being paid less for the same age. They also have shorter NHS length of service, explaining eighteen percent of the pay gap for male EEA doctors. Differences in mean age and length of service do not emerge as factors that explain female migrant pay differences.

Specialty, regional differences.

Descriptively, are differences in the horizontal segregation of men and women migrant and non-migrant doctors working in different broad specialties for example hospital trusts (HCHS) or GP practices, in different regions of the country and in urban or rural areas. None of these compositional differences explain pay differences between groups.

Career barriers and management support for UK-qualified and migrant doctors.

Above we showed that pay gaps between migrant doctor groups and UK-qualified doctors in the NHS can be partially explained by vertical segregation and careers that are differently structured for IMG doctors. Reducing turnover and increasing promotion to senior grades will reduce migrant/ gender pay gaps. However, there is a significant 'unexplained' element that is especially applicable to female doctors. Our second set of research questions

extends our understanding of how pay gaps arise by examining the role of workplace career barriers. First, we investigate the relationship between perceived career barriers and determinants of pay gaps for all doctors, and second, we examine whether career barriers are equally experienced (See Fig 1). Finally, the third set of research questions addresses the efficacy of management support.

Insert Figure 1 about here.

Research question 2a. How do perceived career barriers link to relative pay outcomes via seniority and turnover intention?

To address research question 2a we use survey items "seniority" and "turnover intention" as indicators of career success and career barriers as an independent variable to examine if the latter influences the former. As part of the survey, doctors were asked to rate the extent to which the following 12 aspects have been a barrier for their medical career progress; the perception and attitudes of senior medical colleagues; workplace bullying; lack of role models or mentors; a long-hours culture; lack of opportunities for professional development; lack of quality affordable childcare; partner's career; periods of less than full-time working; taking a career break; being unable to easily move location; changing medical specialties, and availability of flexible working, on a four-point Likert scale (1=not at all; 4=a great deal). The composite variable "career barriers" was computed at the mean.

To examine the effect of perceived career barriers on NHS doctors' seniority and intention to leave medicine we conducted two hierarchical regression analyses. Because there is likely to be a relationship between the dependent variables and age, part-time employment, and length of service, we add these controls. Findings are shown in Table 5.

Insert Table 5 about here

Analysis demonstrates that a doctors' perception of career barriers is strongly and significantly predictive of their seniority (model 2 and model 4). The higher are perceived career barriers,

the lower is the seniority (B = -0.12, SE = 0.04, $p < 0.01$) and vice versa. In addition, perceived career barriers predict turnover via an intention to leave medicine, and more strongly than mean age, part-time employment, or length of service. The higher the perceived career barriers, the stronger is the intention to leave (B = 0.54, SE = 0.04, $p < 0.001$).

Research question 2b. How do career barriers vary across combinations of immigrant status and gender?

Extant literature suggests that a doctors' immigration status and gender will influence perceived career barriers. An ANOVA analysis of our data supports this. Table 6 and Figure 2 show that career barriers are generally perceived to be low, but migrant and gender status are influential.

Insert Table 6 and Figure 2 about here.

Male doctors perceive lower career barriers than females. UK-qualified males note the lowest. Post hoc comparisons show that differences among migration groups are statistically significant with IMG doctors perceiving the highest. The interaction of gender and ethnicity is also strong. The female IMG group perceives the highest barriers, significantly higher even than other female groups. The male UK group (Mean = 0.51, SD = 0.42) has a significantly lower level of perceived career barriers than all five groups: female UK (Mean = 0.85, SD = 0.52) at the $p < 0.001$ level, male EEA (Mean = 0.66, SD = 0.45) at the $p < 0.01$ level, female EEA (Mean = 0.94, SD = 0.47) at the $p < 0.001$ level, male IMG (Mean = 0.86, SD = 0.53) at the $p < 0.001$ level, and female IMG (Mean = 1.10, SD = 0.56) at the $p < 0.001$ level. Career barriers are likely to play a significant role in pay gaps for groups of immigrant women by reducing their NHS tenure and likelihood of attaining a senior role. IMG women are especially likely to be disadvantaged.

The role of management support in reducing career barriers.

Our review of literature of factors that determine pay gaps also suggested that management support may be effective in reducing career barriers, especially in the case of migrant doctors. In advancing this perspective, the survey asked doctors to rate the extent they felt supported by management at work. This was measured by four items rated from "strongly disagree" (1) to "strongly agree" (6) on the following "in relation to career, the following have helped: mentoring; management-led peer networks; support or encouragement from a senior colleague; and support or encouragement from organization leadership". The composite variable 'management support' was computed at the mean. With reference to management support, we address the following four research questions (Figure 3); is it effective in overcoming the perceived career barriers we saw above (a), is it equally experienced by all six gender/ migrant groups (b), is it equally effective for all in overcoming perceived career barriers (c) and does having young dependents have an impact on its effectiveness (d)?

Insert Figure 3 about here.

Research Question 3a: To what extent is management support effective in reducing perceived career barriers?

To examine the effect of perceived management support on NHS doctors' career barriers, we conducted a hierarchical regression analysis using management support as the independent variable and career barriers as the dependent variable (Table 7). Because age, length of service and part-time working are assumed to impact perceived career barriers, once again, we added them as controls.

Insert Table 7 about here.

The analysis shows that doctors' perception of management support is significantly linked to their perception of career barriers. The higher the level of perceived management support, the lower are the perceived career barriers. The predictive potential of management

support on career barriers is strong, even with controls inserted (B = -0.07, SE = 0.01, p < 0.001). Being part-time increases the perception of career barriers and this is not reduced by management support (B = 0.28, SE = 0.02, p < 0.001).

Research Question 3b: Are there differences between migrant groups in experiencing management support?

We then compared the six groups regarding their experience of management support. The table of means and means plot are presented in Table 8 and Figure 4.

Insert Table 8 and Figure 4 about here

ANOVA analysis showed that perceptions of management support are generally positive. Post-hoc comparisons reveal statistically significant differences for two paired comparisons only. Both male (Mean = 3.99, SD = 1.0) and female UK-qualified groups (Mean = 3.99, SD = 0.97) perceive a significantly lower level of management support than the male IMG group (Mean = 4.2, SD = 0.98). There is a general increase in perceived management support in the non-UK trained groups (Means from 4.11 for EEA female to 4.2 for IMG male). The more important concern for equalizing employment and reducing pay gaps is the effect of management support, ie whether it reduces career barriers for all groups in equal measure.

Research Question 3c: Is management support equally effective for all groups in overcoming career barriers?

The conditional effects of management support for the six groups are presented below in Table 9 and Figure 5.

Insert Table 9 and Figure 5 about here

We use PROCESS 3.4 in SPSS (Hayes, 2017) to analyze the interaction effect of management support on doctors' perceived career barriers and group membership. The overall interaction model is significant (Overall model F (11, 3765) = 113.71, p < 0.001; R^2 = 0.15).

Our findings show that for all groups, management support significantly reduces their strength of career barriers, except for UK-qualified males (b = -0.02, t (3765) = -1.39, $p > 0.05$), who perceive very few in the first place. This effect is most significant for all groups of women (UK female: b = -0.08, t (3765) = -6.78, $p < 0.001$; EEA female: b = -0.08, t (3765) = -2.04, $p < 0.001$; IMG female: b = -0.13, t (3765) = -4.11, $p < 0.001$) and for IMG doctors (IMG male: b = -0.11, t (3765) = -4.21, $p < 0.001$).

Research Question 3d: Does it remain effective for doctors with young dependents?

Given the potentially negative impact of raising children on careers in medicine, we examined whether management support is perceived to be more, or less, effective in reducing career barriers for those with dependents under 18. This entails a three-way interaction analysis of the effectiveness of management support, plus having responsibility, or not, for dependents under 18, on perceived career barriers. The overall three-way model is significant (Overall model F (23, 3785) = 37.85, $p < 0.001$; R^2 = 0.19), and the detailed conditional effects are shown in Table 10.

Insert Table 10 about here

Findings are enlightening. They show that management support is most effective in reducing barriers for doctors with young dependents. For others, management support significantly reduces perceived career barriers only for UK-qualified females (b = -0.04, t (3785) = -2.62, $p < 0.001$), IMG males (b = -0.12, t (3785) = -3.09, $p < 0.001$), and IMG female doctors (b = -0.17, t (3785) = -3.69, $p < 0.001$). It is effective for all groups who have dependents except UK-qualified males. It does not, however, become more effective. The IMG group, and notably IMG women, report that the effectiveness of management support deteriorates if they have dependents (IMG males: b = -0.11, t (3785) = -3.08, $p < 0.001$; IMG

female b = -0.08, t (3785) = -2.02, $p < 0.01$, which is weaker than the effect of management support for IMG doctors without children).

Discussion

Given the chronic labour shortages in the UK's NHS, there is a significant need to recruit and retain doctors from overseas. Intensive workloads have led to a high turnover of UK-trained doctors migrating to countries such as Australia and New Zealand (Rimmer, 2017). The recent withdrawal of the United Kingdom from the European Union has exacerbated the staffing crisis (Booth, 2019). The primary objective of our study was to explore factors that condition pay gaps between gendered migrant and non-migrant groups in a medical context, drawing on the role of workplace practices in enabling career progress and reducing turnover and pay gaps. Through the analysis of a large-scale survey of pay and job-related variables for migrant groups using an intercategorical approach, we noted that patterns of vertical segregation and longer length of service act as explanations for pay differences, but for many migrant groups that there was a substantial proportion that is not explained, implying a potential role for discrimination. Further, we found that career barriers have a significant link to pay gaps by shortening careers and increasing disparities in seniority. Management support, on the other hand, significantly reduced the harmful potential of career barriers for most groups except for those at the intersection of migrant and parent. These are outcomes that have implications for management theory and practice within, and external to, the empirical setting. Our findings generate broader discussion on managing skilled medical migration focusing on the role of management support, intersectionality in career outcomes, and the need to recognize both in theoretical explanations of pay gaps.

The inequitable impact of management support on migrant doctors' careers.

The extant literature on medical migrants has consistently recognised the importance of support for doctors' career progression (Healy & Oikelome, 2011) while acknowledging the

negative impact of 'lack of support' (Majid, 2020). Studies have also critically reviewed various programmes of support (Bogle et al., 2020; Healy & Oikelome, 2011; Jalal et al., 2019). We extend this conversation by addressing the impact of management support on migrant doctors and intersectional variations in this impact. In contrast to existing understandings (Atewologan et al., 2019; Linton, 2020), our findings did not point to significant disparities in levels of perceived support between groups of doctors. More importantly, we found that management support can significantly reduce career barriers for doctors apart from UK-qualified male doctors who experience very few career challenges. The effect of management support in reducing career barriers was particularly significant for women and IMG doctors.

Management systems within the NHS will always be partially flawed, not least because of constraints on NHS funding, however, we also found significant and systematic inequities in the impact of management support. For instance, we found that the experience of management support deteriorates for those in the IMG migrant group with young dependents - especially for IMG women – the group with the highest career barriers. This finding raises questions about the nature of managerial support especially for IMG women doctors. Perhaps managers invest time and energy to show sensitivity towards a particular work-life situation but don't have capacity to invest organizational resources to solve the issue. For female doctors with families, practical resources may be crucial to effectively harmonise work with familial responsibilities. If management support is slow to comprise organisational resources that enable individuals to negotiate practical solutions to work-life balance problems, the effectiveness of support is more likely to decline for women doctors when they have children. Given that IMG women doctors experience the highest level of career barriers in comparison to UK trained and EEA trained doctors, we might expect them to be more impacted by the lack of practical forms of support than others.

IMG women have been found to have high career aspirations (Oikelome & Healy, 2013). Women from South Asian cultures, for example, are heavily encouraged by their families to achieve great heights in their careers (Dale et al., 2002; Fernando & Cohen, 2011). From this perspective we may wonder if the work-related careers barriers that encountered by IMG women doctors are so strong (in comparison to other groups) that management support is inadequate to mitigate these effects, especially when there are young dependents in the picture.

Our findings therefore extend existing understandings in the literature on skilled migration that provides insights into labour market constraints encountered (Annisette & Trivedi, 2013; Guo & Al Ariss, 2015), and addresses how these constraints are navigated by situated individuals (Zikic & Richardson, 2016). We move existing debates forward by addressing *enablement within organisations*. Specifically, we draw on our findings to show that organisationally mandated forms of management support (in terms of mentoring, workplace networks, support and/or encouragement from senior colleagues and organisational leaders) can reduce perceived career barriers for all overseas doctors, notwithstanding intersectional variations in their impact.

We thus contribute to theory on skilled migration by conceptualising migrant' career barriers as a function of management support, within a given set of demographic constraints. Illuminating the complex and counter-intuitive shape of management support on migrants' careers we set an important starting point for future research and further theorisation on the role of support in the careers of skilled migrants.

Intersectional variations in the career outcomes and career barriers of skilled medical migrants pointing to penalty for ethnicized migrant women

Extant literature indicates that migrant doctors have greater perceptions of inequality (Linton, 2020) and less favourable career outcomes than their UK counterparts (Oikelome & Healy, 2013) despite enhanced effort (Healy & Oikelome, 2011; Oikelome & Healy, 2007).

The current COVID-19 pandemic has brought inequities related to ethnicity in medicine to the fore, highlighting how doctors with South Asian heritage work in front-line SAS and staff grade posts (Healy & Oikelome, 2011) where they are especially vulnerable to the virus (Cook et al., 2020). Our findings not only confirm prevailing understandings, but through an inter-categorical approach (McCall, 2005) which systematically compares male and female UK, EEA and IMG doctors, we extend understandings by providing empirical evidence of 'ethnically mediated' differences in the career barriers and career outcomes of migrant doctors, particularly female migrant doctors.

While the mutual constitution of the IMG category and minority ethnicity is not absolute, IMGs to the UK come from mainly former Commonwealth countries and therefore comprise BAME doctors, who experience significant racism in their employment (Esmail & Everington, 1993; Limb, 2014). What is notable in our findings is how doctors' career barriers and career outcomes are mediated by the intersection of gender and migrant status. Female IMGs are most disadvantaged group of the six, perceiving significantly greater career barriers than female EEA doctors and their male IMG counterparts. Previous studies have usefully pointed out that female migrant doctors are disadvantaged in comparison to their UK-qualified counterparts (Oikelome & Healy, 2013), we extend these findings by distinguishing between EEA and IMG female migrant doctors and showing that the latter experience significantly higher career barriers than the former which provides strong evidence of a penalty for ethnicized migrant women.

The vast literature on skilled migration has recognised that migrants from non-western countries are more likely to be disadvantaged in the labour market than skilled migrants from the West (Guo & Al Ariss, 2015). However, most research studies have adopted an intra-categorical approach to understand the distinct experiences of a single migrant group considering the effects of selected intersectional identities (Jalal et al., 2019; Johansson &

Śliwa, 2014). By adopting an inter-categorical approach (McCall, 2005) to compare migrant groups at different social locations, we provide empirical evidence of skilled non-Western migrants encountering comparatively unfavourable career barriers, while also illuminating how these unfavourable career barriers vary at the intersection between migrant status and gender. By illuminating fine-grained intersectional nuances in the career outcomes of skilled migrants, we diversify existing understandings of constraint and enablement in the skilled migration literature, setting an agenda for future studies to provide explanations for these fine nuances.

Pay gaps and the influence of workplace practices.

The traditional understanding in the management literature is that pay gaps can be resolved by practices that equalise human capital and structural aspects of career (Becker, 1985; Blau & Kahn, 2017). For example, in theory, best practice equality policies such as targeted attention to training, retention and promotion will increase migrant doctors' mean age, length of service, experience and seniority ("stage for age") detriment relative to non-migrant doctors. Over time, all else being equal (including allocation of discretionary payments), their pay will increase, and the explainable gap will narrow. However, here we have shown here that addressing structural aspects of medical careers will close gaps for only migrant men. Fifty percent of large gaps between the male UK-qualified doctors and both groups of immigrant women doctors is statistically unexplained by structural and capital differences. Leveraging 'best practice' equality practices in their current form will not assist.

Theoretical Implications.

The theoretical implications of our study, then, lie in our novel intersectional pay gap analysis for migrant doctors, incorporating the differential impact of workplace practices. In the tradition of Reskin (2003) and Joshi et al., (2015) we expose the limitations of human capital and structural explanations in linking observable individual characteristics and reward. Building on the links they establish between micro (personal) and macro (industry level)

characteristics, we add evidence of meso-level (workplace) practices that have the potential to moderate the connection. We have shown the impact of workplace practices; career barriers that widen pay gaps by negatively leveraging factors "intention to leave" and" progression to a senior role", but that management support that can counter these effects. Further, we demonstrate the importance of an intersectional perspective by showing that findings do not hold for all groups, particularly for those at the intersection of multiple forms of disadvantaged identity – in this case ethnicized, female, immigrant and parent. Given this, we encourage pay gap theorists to "bring the firm back into the conceptualisation of inequalities" (Tomaskovic-Devey & Avent-Holt, 2019, p. 7) conceptualising pay differences as a complex multi-layered concept that is reflective of inequalities that are embedded in social and power relations in organisations, embracing workplace management practices whilst also being sensitive to intersecting demographic identities (Acker, 1990; Acker, 2006; Rubery et al., 2005; Tomaskovic-Devey & Avent-Holt, 2019). By doing so, future studies will be better informed about the constituent elements driving inequality at work for intersectional groups. Appropriate workplace policy measures can be designed that will assist in closing gaps.

We also contribute to diversity theorising more broadly. Existing research has primarily examined the effects of diversity in teams considering the impact of demographic faultlines on group processes and outcomes, such as group conflict and performance (Thatcher & Patel, 2012) although some recent studies have also investigated how faultlines affect individual and organizational level outcomes (Bezrukova et al., 2016; Chung et al., 2015). We extend this literature by examining differences in advantage/ disadvantage between groups. Specifically, we show how the impact of management support varies across demographic faultlines to shape the pay gaps of migrant doctors. This is important because it contributes a multilevel and between group perspective to existing understandings of faultlines.

Conclusion

Our findings raise several questions for future research and management practice. The differential impact of management support on migrant doctors provides a crucial starting point for developing a future research agenda on inclusive practices in migration management. First, it is important to gain an in-depth qualitative understanding of the nature of support received by skilled migrants situated at different intersecting social locations, distinguishing between practical and ideological elements. Second, it is important to examine the mechanisms through which management support instigates changes (if any) on individuals' frameworks of career thinking and enactment. Third, it is important to consider how effective skilled migrants with different gender and cultural identities are in mobilising the support that they are given. Fourth, it is important to understand the extent to which relationships between support givers and support providers influences its effectiveness. It is clear that support lies at the heart of management practice that helps to retain migrant doctors and potentially skilled migrants in other industries. Gaining a contextualised understanding of the antecedents and effects of support is crucial. Finally, it is important to capture the effects of support practices by continuing to analyse pay gaps at the intersections of gender, ethnicized migrant status and responsibility for young dependents.

Intersectional variations in career outcomes and career barriers of skilled medical migrants pointing to a penalty for ethnicized IMG migrant women call for future research in number of interrelated areas. For example, it is important to examine discrimination through qualitative studies to shed light on the unexplained elements of pay gaps. The scarcity of studies on EEA doctors is problematic because, following Brexit and a rise in perceived racism, there is a growing intention of EEA doctors to leave the NHS (Booth, 2019; Chick & Exworthy, 2018). Given our findings that EEA doctors are less advantaged than their UK counterparts, there is a need to understand their career thinking and enactment and take appropriate measures to address problems to avoid a significant staffing crisis. It is also important to understand how

distinctive ethnic and/or cultural identities mediate the career thinking and enactment of migrant women, distinguishing between those with and without young dependents plus how they are perceived by others in their workplace, especially support givers. Finally, it is important to inductively understand how to support the career development of different categories of skilled migrants. Indeed, this knowledge is crucial to move beyond one stop solutions and develop specific tailored interventions to advance careers and reduce pay gaps for migrant employees.

References

Acker J. (1990). Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & Society, 42*(2): 139-158. https://doi.org/10.1177/089124390004002002

Acker J. (2006). Inequality regimes: Gender, class, and race in organizations. *Gender & Society, 20*(4): 441-464. https://doi.org/10.1177/0891243206289499

American Immigration Council (2018). *Foreign-trained doctors are critical to serving many U.S. Communities.* January www.americanimmigrationcouncil.org

Annisette, M., & Trivedi, V. U. (2013). Globalization, paradox and the (un)making of identities: Immigrant chartered accountants of India in Canada. *Accounting, Organizations and Society, 38*(1): 1–29. https://doi.org/10.1016/j.aos.2012.08.004

Appleby, J. (2018). What is the ethnicity pay gap among NHS doctors? *BMJ, 362*: k3586. https://doi.org/10.1136/bmj.k3586

Atewologan, D. Kline, R., & Ochieng, M. (2019). *Fair to Refer. General Medical Council* Retrieved Feb 08, 2021, from https://www.gmc-uk.org/-/media/documents/fair-to-refer-report_pdf-79011677.pdf

Becker, G. S. (1985). Human Capital, Effort, and the Sexual Division of Labour. *Journal of labor Economics, 3*(2): 533-538. https://doi.org/10.1086/298075

Bezrukova, K., Spell, C. S., Caldwell, D., & Burger, J. M. (2016). A multilevel perspective on faultlines: Differentiating the effects between group- and organizational-level faultlines. *Journal of Applied Psychology*, *101*(1): 86-107. https://doi.org/10.1037/apl0000039

Blau, F. D., & Kahn, L. M. (2003). Understanding international differences in the gender pay gap. *Journal of Labor economics*, *21*(1), 106-144. https://doi.org/10.1086/344125

Blau, F. D., & Kahn, L. M. (2017). The Gender Wage Gap: Extent, Trends, and Explanations. *Journal of Economic Literature*, *55*(3): 789-865. https://doi.org/10.1257/jel.20160995

Blinder, A. S. (1973). Wage discrimination: Reduced form and structural estimates. *The Journal of Human Resources, 8*(4): 436-455. https://doi.org/10.2307/144855

Bloor, K., Freemantle, N., & Maynard, A. (2008). Gender and variation in activity rates of hospital consultants. *Journal of the Royal Society of Medicine*, *101*(1): 27-33. https://doi.org/10.1258/jrsm.2007.070424

Bogle, R., Lasoye, T., Winn, S., Shah, D., Quadry, R., Yanga, M., Szram, J., Mehta, A., & Menon, G. (2020). Supporting International Medical Graduates in the NHS: Experiences from the pre-COVID and COVID environment. *The Physician*, *6*(2). https://doi.org/10.38192/1.6.2.1

Boll, C., & Lagemann, A. (2018). *Gender pay gap in EU countries based on SES (2014).* Publications Office. https://data.europa.eu/doi/10.2838/978935

Boll, C., Leppin, J., Rossen, A., & Wolf, A. (2016). *Magnitude and impact factors of the gender pay gap in EU countries.* Report prepared for and financed by the European Commission–Directorate-General for Justice, European Union (Hrsg.), Hamburg. https://op.europa.eu/en/publication-detail/-/publication/aa27ac5b-fc83-11e5-b713-01aa75ed71a1/language-en

Booth, R. (2019). Racism rising since Brexit vote, nationwide study reveals. *Guardian,* May 20. https://www.theguardian.com/world/2019/may/20/racism-on-the-rise-since-brexit-vote-nationwide-study-reveals

Bornat, J., Henry, L., & Raghuram, P. (2011). The making of careers, the making of a discipline: Luck and chance in migrant careers in geriatric medicine. *Journal of Vocational Behavior, 78*(3): 342–350. https://doi.org/10.1016/j.jvb.2011.03.015

Boxall, P., & Macky, K. (2009). Research and theory on high-performance work systems: progressing the high involvement stream. *Human Resource Management Journal, 19*(1): 3–23. https://doi.org/10.1111/j.1748-8583.2008.00082.x

Castilla, E. (2008). Gender, Race, and Meritocracy in Organizational Careers. *The American Journal of Sociology, 113*(6): 1479–1526. https://doi.org/10.1086/588738

Chick, W., & Exworthy, M. (2018). Post-Brexit views of European Union doctors on their future in the NHS: A qualitative study. *BMJ Leader*, *2*(1): 20-24. https://doi.org/10.1136/leader-2017-000049

Chung, Y., Liao, H., Jackson, S. E., Subramony, M., Colakoglu, S., & Jiang, Y. (2015). Cracking but not breaking: Joint effects of faultline strength and diversity climate on loyal behavior. *Academy of Management Journal, 58*(5): 1495-1515. https://doi.org/10.5465/amj.2011.0829

Commission for Racial Equality (CRE) (1987). *Overseas Doctors' Experience and Expectations*, London: Committee for Racial Equality.

Cook, T., Kursumovic, E., & Lennane, S. (2020). *Exclusive: deaths of NHS Staff from Covid-19 analysed*. https://www.hsj.co.uk/exclusive-deaths-of-nhs-staff-from-covid-19-analysed/7027471.article

Dacre J, Woodhams C, Atkinson C, Laliotis, I., Williams, M., Wild, S., & Brown, D. (2020). *Independent Review into Gender Pay Gaps in Medicine in England*. Department of Health and Social Care.

Del Río, C., Gradín, C., & Cantó, O. (2011). The measurement of gender wage discrimination: the distributional approach revisited. *The Journal of Economic Inequality*, *9*(1): 57-86. https://doi.org/10.1007/s10888-010-9130-7

Dale, A., Shaheen, N., Kalra, V., & Fieldhouse, E. (2002). Routes into education and employment for young Pakistani and Bangladeshi women in the UK. *Ethnic and Racial Studies*, *1*(25): 942-968. https://doi.org/10.1080/0141987022000009386

Dyer, C. (2009). Rate of serious complaints against UK doctors is higher for those qualifying outside Europe. *BMJ*, *338*: b1983. https://doi.org/10.1136/bmj.b1983

Esmail, A., & Everington S. (1993). Racial discrimination against doctors from ethnic minorities. *BMJ, 306*(6879): 691–692. *https://doi.org/10.1136/bmj.306.6879.691*

Esmail, A., & Roberts, C. (2013). Academic performance of ethnic minority candidates and discrimination in the MRCGP examined actions between 2010 and 2012: Analysis of data. *BMJ, 347*: f5662. https://doi.org/10.1136/bmj.f5662

Esmail, A., & Simpson, J. (2017). International medical graduates and quality of care: The care is good, now we must tackle the prejudice. *BMJ*, *356*: j574. https://doi.org/10.1136/bmj.j574

Esmail, A., Abel, P., & Everington, S. (2003). Discrimination in the discretionary points award scheme: comparison of white with non-white consultants and men with women. *BMJ, 326*(7391): 687–688. https://doi.org/10.1136/bmj.326.7391.687

Fernando, W. D. A., & Cohen, L. (2011). Exploring the interplay between gender, organizational context and career. *Career Development International*, *16*(6): 553-571. https://doi.org/10.1108/13620431111178326

Fernando, W. D. A., Cohen, L., & Duberley, J. (2019). Navigating sexualised visibility: A study of British women engineers. *Journal of Vocational Behavior, 113*: 6-19. https://doi.org/10.1016/j.jvb.2018.06.001

Fernando, W. D. A., & Patriotta, G. (2020). "Us and Them": Sensemaking and identity processes in skilled migrants' experience of occupational downgrading, *Journal of World Business*, *55*(4): 101109. https://doi.org/10.1016/j.jwb.2020.101109

Garry, A. (2011). Who is included? Intersectionality, metaphors, and the multiplicity of gender. *Hypatia: A Journal of Feminist Philosophy, 26*(4): 826-850. https://doi.org/10.1111/j.1527-2001.2011.01194.x

General Medical Council (Great Britain), (2019). *Workforce report: The State of Medical Education and Practice in the UK, 2019*. General Medical Council.

Ferreira Freire Guimarães, C. R., & Silva, J. R. (2016). Pay gap by gender in the tourism industry of Brazil. *Tourism Management*, *52*: 440-450. https://doi.org/10.1016/j.tourman.2015.07.003

Guo, C., & Al Ariss, A., (2015). Human resource management of international migrants: Current theories and future research. *The International Journal of Human Resource Management, 26*(10): 1287-1297. https://doi.org/10.1080/09585192.2015.1011844

Hajro, A., Stahl, G.K., Clegg, C., & Lazarova, M. (2019). Integrating Skilled Migrants: A Multi-Level Framework of the Individual, Organizational, and Societal Influences on Migrants' Acculturation Outcomes. *Human Resource Management Journal*, *29*(3): 328-352. https://doi.org/10.1111/1748-8583.12233

Harrison, D. A., & Klein, K. J. (2007). What's the differences? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, *32*(4): 1199-1228. https://doi.org/10.5465/amr.2007.26586096

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Healy, G., & Oikelome, F. (2007). Equality and diversity actors: a challenge to traditional industrial relations? *Equal Opportunities International*, *26:* 44-65.

Healy, G., & Oikelome, F. (2011). *Diversity, equality migration and work: an international perspective.* Palgrave Macmillan.

Jalal, N., Bardhan, K.D., Sanders, D., & Illing, J. (2019). Overseas doctors of the NHS: migration, transition, challenges and towards resolution. *Future Healthcare Journal*, *6*(1): 76–81. https://doi.org/10.7861/futurehosp.6-1-76

Jaques, H. (2013). White doctors are almost three times more likely to land hospital jobs than ethnic minority doctors. *BMJ, 347*: f5697. https://doi.org/10.1136/bmj.f5697

Johansson, M., & Śliwa, M. (2014). Gender, foreignness and academia: An intersectional analysis of the experiences of foreign women academics in UK business schools. *Gender, Work and Organization*, *21*(1): 18-36. https://doi.org/10.1111/gwao.12009

Joshi, A., Son, J., & Roh, H. (2015). When can women close the gap? A meta-analytic test of sex differences in performance and rewards. *Academy of Management Journal*, *58*(5): 1516–1545. https://doi.org/10.5465/amj.2013.0721

Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: a meta-analytic evaluation of organizational support theory. *Journal of Management 43*(6): 1854–1884. https://doi.org/10.1177/0149206315575554

Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review, 23*(2): 325-340. https://doi.org/10.5465/amr.1998.533229

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of vocational behavior*, *45*(1): 79-122. https://doi.org/10.1006/jvbe.1994.1027

Limb, M. (2014). NHS doctors face racism, exclusion, and discrimination, report finds. *BMJ. 349*: g4960. https://doi.org/10.1136/bmj.g4960

Linton, S. (2020). Taking the difference out of attainment. *BMJ*, *368*: m438. https://doi.or/0.113/mj.m438.

Mainardi, G. M., Cassenote, A. J. F., Guilloux, A. G. A., Miotto, B. A., & Scheffer, M. C. (2019). What explains wage differences between male and female Brazilian physicians? A cross-sectional nationwide study. *BMJ Open, 9*(4): e023811. https://doi.org/10.1136/bmjopen-2018-023811

Majid, A. (2020). What lies beneath: Getting under the skin of GMC referrals. *BMJ*, *368*: m338. https://doi.or/0.113/mj.m338

McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society, 30*(3): 1771-1800.

Mincer, J. (1997). The production of human capital and the life cycle of earnings: Variations on a theme. *Journal of Labour Economics*, *15*(1, Part 2): S26-S47. https://doi.org/10.1086/209855

NHS Digital (2018). NHS Basic Pay [cited 2021 Feb 8]. https://www.ethnicity-facts-figures.service.gov.uk/workforce-and-business/public-sector-pay/nhs-basic-pay/latest#full-page-history

Nkomo, S. M., Bell, M. P., Roberts, L. M., Joshi, A., & Thatcher, S. M. B. (2019). Diversity at a critical juncture: New theories for a complex phenomenon. *Academy of Management Review, 44*(3): 498-517. https://doi.org/10.5465/amr.2019.0103

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review 14*(3): 693–709. https://doi.org/10.2307/2525981

Oikelome, F., & Healy, G. (2007). Second-class doctors? The impact of a professional career structure on the employment conditions of overseas- and UK-qualified doctors. *Human Resource Management Journal, 17*(2): 134-154. https://doi.org/10.1111/j.1748- 8583.2007.00033.x

Oikelome, F., & Healy, G. (2013). Gender, Migration and Place of Qualification of Doctors in the UK: Perceptions of Inequality, Morale and Career Aspiration. *Journal of Ethnic*

and Migration Studies, *39*(4): 557-577. https://doi.org/10.1080/1369183X.2013.745233

O'Reilly, J., Smith, M., Deakin, S., & Burchell, B. (2015). Equal pay as a moving target: International perspectives on forty-years of addressing the gender pay gap. *Cambridge Journal of Economics*, *39*(2): 299-317. https://doi.org/10.1093/cje/bev010

Raghuram, P., Henry, L., & Bornat, J. (2010). Difference and distinction? Non-migrant and migrant networks. *Sociology, 44*(4): 623-641. https://doi.org/10.1177/0038038510369360

Rao, R. (2014). Improving the coaching and mentoring of IMGs. *BMJ, 348*: g3424. https://doi.org/10.1136/bmj.g3424

Reskin, B. F. (2003). Including mechanisms in our models of ascriptive inequality: 2002 presidential address. *American Sociological Review*, *68*(1): 1. https://doi.org/10.2307/3088900

Reskin, B. F., & Roos, P. A. (2009). *Job queues, gender queues: Explaining women's inroads into male occupations.* Temple University Press.

Richardson, A., & Loubier, C. (2008). Intersectionality and leadership. *International Journal of Leadership Studies, 3*(2): 142–61. https://doi.org/10.1177/0892020618791006

Rimmer, A. (2017). Number of British doctors working in Australia and New Zealand is rising. *BMJ*, *359*: j4554. https://doi.org/10.1136/bmj.j4554

Rubery, J., Grimshaw, D., & Figueiredo, H. (2005). How to close the gender pay gap in Europe: towards the gender mainstreaming of pay policy. *Industrial Relations Journal, 36*(3): 184-213. https://doi.org/10.1111/j.1468-2338.2005.00353.x

Simpson, J. M., Esmail, A., Kalra, V. S., & Snow, S. J. (2010). Writing migrants back into NHS history: Addressing a 'collective amnesia' and its policy implications. *Journal of*

the Royal Society of Medicine. 103(10): 392-396. https://doi.org/10.1258/jrsm.2010.100222

Tatli, A., & Özbilgin, M.F. (2012). An emic approach to intersectional study of diversity at work: A Bourdieuan framing. *International Journal of Management Reviews*, *14*(2): 180-200. https://doi.org/10.1111/j.1468-2370.2011.00326.x

Thatcher, S. M., & Patel, P. C. (2012). Group faultlines: A review, integration, and guide to future research. *Journal of Management*, *38*(4): 969-1009. https://doi.org/10.1177/0149206311426187

Tiffin, P. A., Orr, J., Paton, L. W., Smith, D. T., & Norcini, J. J. (2018). UK nationals who received their medical degrees abroad: Selection into, and subsequent performance in postgraduate training: A national data linkage study. *BMJ Open*, *8*(7): e023060. https://doi.org/10.1136/bmjopen-2018-023060

Tomaskovic-Devey, D., & Avent-Holt, D. (2019). *Relational inequalities: An organizational approach*. Oxford University Press.

Van Knippenberg, D., Dawson, J. F., West, M. A., & Homan, A. C. (2011). Diversity faultlines, shared objectives, and top management team performance. *Human Relations*, *64*(3): 307-336. https://doi.org/10.1177/0018726710378384

Webber, A. (2020). Ethnicity pay gap reporting: Firms urged not to wait for legislation. *Personnel Today* 26th Feb. https://www.personneltoday.com/hr/dont-wait-for-legislation-ethnicity-pay-gap-reporting/

Western, B., & Rosenfeld, J. (2011). Unions, norms, and the rise in US wage inequality. *American Sociological Review, 76*(4): 513-537. https://doi.org/10.1177/0003122411414817

Woodhams, C., Lupton, B., & Cowling, M. (2015). The snowballing penalty effect: Multiple disadvantages and pay. *British Journal of Management*, *26*(1): 63-77. https://doi.org/10.1111/1467-8551.12032

Woodhams, C., Williams, M., Dacre, J., Parnerkar, I., & Sharma, M. (2021). Retrospective observational study of ethnicity-gender pay gaps among hospital and community health service doctors in England. *BMJ Open, 11*(12), e051043. http://dx.doi.org/10.1136/bmjopen-2021-051043

Zikic, J., & Richardson, J. (2016). What happens when you can't be who you are: Professional identity at the institutional periphery. *Human Relations, 69*(1): 139-168. https://doi.org/10.1177/0018726715580865

Tables

Table 1

Achieved Sample Descriptive Data

	UK		European Economic Area		International Medical Graduate	
Gender						
Male	1768 (40.2%)		184 (41.2%)		488 (53.6%)	
Female	2628 (59.8%)		263 (58.8%)		422[a] (46.4%)	
F (2, 5750) = 28.16***						
	Male	Female	Male	Female	Male	Female
Mean age (years)	45.10	40.09	45.76	42.21	46.25	42.86
F (5, 4660) = 45.86***						
Mean length of service in NHS (years)	19.44	14.56	13.30	11.34	14.40	11.75
F (5, 5714) = 66.58***						
Mean hours of work (weekly)	46.87	40.95	47.78	44.36	47.74	44.09
F (5, 5286) = 50.52***						
Grade and seniority						
Professor/ Consultant/GP/Director of Public Health/ Reader	867 (38.8%)	867 (38.8%)	81 (3.6%)	99 (4.4%)	184 (8.2%)	137 (6.1%)
Within group distribution	63.9%	42.4%	55.9%	51.0%	50.3%	41.8%
Associate Specialist, Specialty Doctor, Staff Grade	131 (18.7%)	306 (43.7%)	31 (4.4%)	40 (5.7%)	94 (13.4%)	99 (14.1%)
Within group distribution	9.7%	15.0%	21.4%	20.6%	25.7%	30.2%
Senior Lecturer/ Specialty Registrar, GP Registrar	158 (24.5%)	355 (55.1%)	15 (2.3%)	24 (3.7%)	51 (7.9%)	41 (6.4%)
Within group distribution	11.6%	17.4%	10.3%	12.4%	13.9%	12.5%
Lecturer/ Research Fellow Core/ Specialty Trainee 1 & 2, Foundation year 1 & 2.	136 (25.7%)	307 (58.0%)	11 (2.1%)	17 (3.2%)	25 (4.7%)	33 (6.2%)
Within group distribution	10.0%	15.0%	7.6%	8.8%	6.8%	10.1%
Teaching Fellow, Clinical Trainee	65 (20.1%)	208 (64.2%)	7 (2.2%)	14 (4.3%)	12 (3.7%)	18 (5.6%)

Within group distribution	4.8%	10.2%	4.8%	7.2%	3.3%	5.5%
F (5, 4447) = 31.36***						
Region						
Northern Ireland	53 (36.6%)	68 (46.9%)	9 (6.2%)	5 (3.4%)	6 (4.1%)	4 (2.8%)
Scotland	184 (33.3%)	298 (53.9%)	11 (2.0%)	24 (4.3%)	20 (3.6%)	16 (2.9%)
Wales	78 (30.7%)	107 (42.1%)	9 (3.5%)	12 (4.7%)	33 (13.0%)	15 (5.9%)
North East	90 (32.4%)	124 (44.6%)	7 (2.5%)	8 (2.9%)	30 (10.8%)	19 (6.8%)
North West	167 (30.0%)	255 (45.9%)	20 (3.6%)	21 (3.8%)	48 (8.6%)	45 (8.1%)
Yorkshire and Humber	148 (31.8%)	195 (41.9%)	9 (1.9%)	11 (2.4%)	64 (13.8%)	38 (8.2%)
East Midlands	79 (24.3%)	137 (42.2%)	14 (4.3%)	12 (3.7%)	42 (12.9%)	41 (12.6%)
West Midlands	123 (29.9%)	162 (39.4%)	15 (3.6%)	14 (3.4%)	59 (14.4%)	38 (9.2%)
East of England	115 (30.9%)	141 (37.9%)	17 (4.6%)	17 (4.6%)	45 (12.1%)	37 (9.9%)
Greater London	281 (27.9%)	475 (47.2%)	37 (3.7%)	81 (8.0%)	57 (5.7%)	76 (7.5%)
South East	248 (33.2%)	333 (44.6%)	21 (2.8%)	29 (3.9%)	57 (7.6%)	58 (7.8%)
South West	198 (32.0%)	321 (51.9%)	15 (2.4%)	28 (4.5%)	25 (4.0%)	32 (5.2%)
Urban/Rural						
Urban	1215 (31.6%)	1702 (44.2%)	118 (3.1%)	190 (4.9%)	330 (8.6%)	293 (7.6%)
Suburban	348 (26.3%)	676 (51.2%)	48 (3.6%)	49 (3.7%)	106 (8.0%)	94 (7.1%)
Rural	181 (36.3%)	223 (44.7%)	15 (3.0%)	19 (3.8%)	38 (7.6%)	23 (4.6%)
Employment type						
Hospital or Community Health Services	1105 (30.8%)	1558 (43.4%)	121 (3.4%)	176 (4.9%)	353 (9.8%)	280 (7.8%)
General Practitioner	281 (26.8%)	614 (58.6%)	23 (2.2%)	35 (3.3%)	41 (3.9%)	53 (5.1%)
Public Health	11 (22.4%)	29 (59.2%)	0 (0.0%)	1 (2.0%)	1 (2.0%)	7 (14.3%)
Academic or Clinical Academic	102 (45.5%)	85 (37.9%)	14 (6.3%)	9 (4.0%)	5 (2.2%)	9 (4.0%)
Young dependents						
Dependents under 18 (yes/ no)	635 (28.4%)	1032 (46.2%)	62 (2.8%)	91 (4.1%)	229 (10.3%)	183 (8.2%)
F (5, 4732) = 10.42***						
Part-time experience						
Has worked part-time (yes/ no)	316 (21.3%)	934 (63.0%)	22 (1.5%)	68 (4.6%)	37 (2.5%)	106 (7.1%)
F (5, 4778) = 70.11***						

[a] Sample does not always sum to 5,753 due to missing responses.

Note. Missing data is deleted listwise.

Table 2

UK medical workforce by grade and country of origin

	UK		European Economic Area		International Medical Graduate	
	Male	Female	Male	Female	Male	Female
All Staff	35769 (50.7%)	34701 (49.2%)	4485 (54.0%)	3822 (46.0%)	18063 (65.9%)	9335 (34.1%)
Consultant and Director of Public Health	175234 (64.1%)	9797 (35.9%)	1929 (60.0%)	1285 (40.0%)	8346 (73.4%)	3019 (26.6%)
Associate Specialist, Specialty Doctor, Staff Grade	916 (33.2%)	1840 (66.8%)	623 (52.1%)	572 (47.9%)	3981 (68.3%)	1846 (31.7%)
Registrar Group	11735 (42.4%)	15963 (57.6%)	1711 (49.8%)	1723 (50.2%)	5273 (57.1%)	3959 (42.9%)
Foundation Year 1 & 2 & Other Doctors in Training	5118 (42.9%)	6812 (57.1%)	204 (48.1%)	220 (51.9%)	372 (43.2%)	489 (56.8%)
Hospital Practitioner, Clinical Assistant & Other Staff	578 (58.3%)	414 (41.7%)	34 (50.0%)	34 (50.0%)	138 (70.4%)	58 (29.6%)

Note. Reproduced from Health and Social Care Information Centre's Medical and Dental Workforce Census (2014)

Table 3

Mean hourly pay (£) and pay gaps (%)

	Male UK (N=1457)		Male European Economic Area (N=152)		Male International Medical Graduate (N=376)		Female UK (N=2161)		Female European Economic Area (N=196)		Female International Medical Graduate (N=322)
£ per hour	39.47		34.19		35.81		32.45		32.33		31.75
Pay gaps	£	%	£	%	£	%	£	%	£	%	
Male European Economic Graduate	5.27***	13.34	-								
Male International Medical Graduate	3.65***	9.27	-1.6	4.74	-						
Female UK	7.02***	17.79	1.74	5.09	3.36***	9.38	-				
Female European Economic Graduate	7.13***	18.09	1.86	5.44	3.48*	9.72	0.12	0.37	-		
Female International Medical Graduate	7.71***	19.56	2.44	7.14	4.05***	11.34	0.69	2.16	0.57	1.79	-

*p<0.1, ** p<0.05, *** p<0.01

Table 4

Oaxaca- Blinder decomposition of hourly pay.

(Model 1)		(Model 2)		(Model 3)		(Model 4)		(Model 5)		(Model 6)		(Model 7)	
Comparison	Hourly pay (£)	Comparison	Hourly pay (£)	Comparison	Hourly pay (£)	Comparison	Hourly pay (£)	Comparison	Hour pay (£)	Comparison	Hour pay (£)	Comparison	Hour pay (£)
Male International Medical Graduate	35.691*** (1.027)	Male European Economic Area	33.428*** (1.501)	Male UK	38.191*** (0.659)	Male International Medical Graduate	35.691*** (1.026)	Male UK	38.191*** (0.659)	Male International Medical Graduate	35.691*** (1.026)	Male International Medical Graduate	35.691*** (1.027)
Female International Medical Graduate	31.422*** (1.415)	Male UK	38.191*** (0.659)	Female International Medical Graduate	31.422*** (1.415)	Male UK	38.191*** (0.659)	Female European Economic Area	32.053*** (1.896)	Female UK	31.717*** (0.443)	Female European Economic Area	32.053*** (1.897)
difference	4.268**	difference	-4.763***	difference	6.768***	difference	-2.500**	difference	6.138***	difference	3.974***	difference	3.638*
	(1.749)		(1.639)		(1.561)		(1.220)		(2.008)		(1.118)		(2.157)
explained	4.268**	explained	-2.546*	explained	3.925***	explained	-1.699	explained	2.171	explained	0.296	explained	1.131
	(1.745)		(1.400)		(1.128)		(1.038)		(1.357)		(0.837)		(1.410)
unexplained	0.000	unexplained	-2.217	unexplained	2.844*	unexplained	-0.801	unexplained	3.967**	unexplained	3.678***	unexplained	2.506
	(0.457)		(1.523)		(1.558)		(1.256)		(1.777)		(1.111)		(1.799)
explained		explained		explained		explained		explained		explained		explained	
age	7.617***	age	0.822	age	1.194	age	3.240**	age	-0.010	age	5.146**	age	-1.813
	(2.537)		(1.323)		(0.902)		(1.380)		(0.762)		(2.318)		(3.500)
agesq	-6.867***	agesq	-0.422	agesq	-1.327	agesq	-2.159*	agesq	0.772	agesq	-4.815**	agesq	3.251
	(2.352)		(1.011)		(0.940)		(1.144)		(1.159)		(2.297)		(3.574)
nhstenure	1.002*	nhstenure	-1.704**	nhstenure	1.407	nhstenure	-1.247**	nhstenure	0.025	nhstenure	0.024	nhstenure	0.331
	(0.549)		(0.800)		(0.939)		(0.488)		(1.129)		(0.312)		(0.572)
GP	0.224	GP	-0.093	GP	0.019	GP	-0.194	GP	-0.005	GP	-0.135	GP	0.318
	(0.332)		(0.123)		(0.057)		(0.181)		(0.070)		(0.385)		(0.825)
trust	-0.119	trust	0.020	trust	-0.001	trust	0.173	trust	-0.016	trust	0.228	trust	-0.401
	(0.251)		(0.063)		(0.037)		(0.138)		(0.166)		(0.349)		(1.078)
urban	-0.028	urban	0.042	urban	0.001	urban	-0.001	urban	0.050	urban	0.016	urban	0.064
	(0.069)		(0.121)		(0.024)		(0.021)		(0.071)		(0.032)		(0.107)
rural	0.126	rural	0.017	rural	-0.009	rural	0.003	rural	-0.021	rural	0.005	rural	-0.000
	(0.123)		(0.038)		(0.071)		(0.027)		(0.041)		(0.019)		(0.004)
seniority_1	0.359	seniority_1	-0.845*	seniority_1	1.826***	seniority_1	-1.186***	seniority_1	1.100*	seniority_1	-0.047	seniority_1	-0.511

	(0.343)		(0.485)		(0.456)		(0.355)		(0.578)		(0.257)		(0.590)
seniority_2	0.075	seniority_2	-0.280*	seniority_2	0.593**	seniority_2	-0.322	seniority_2	0.390**	seniority_2	-0.277**	seniority_2	-0.089
	(0.106)		(0.148)		(0.244)		(0.209)		(0.172)		(0.124)		(0.125)
seniority_3	-0.139	seniority_3	0.005	seniority_3	0.001	seniority_3	-0.052	seniority_3	-0.003	seniority_3	-0.001	seniority_3	-0.121
	(0.136)		(0.020)		(0.026)		(0.056)		(0.030)		(0.043)		(0.135)
seniority_4	0.072	seniority_4	0.197	seniority_4	0.009	seniority_4	0.194*	seniority_4	-0.132	seniority_4	0.346**	seniority_4	0.197
	(0.139)		(0.128)		(0.088)		(0.104)		(0.183)		(0.135)		(0.228)
seniority_5	0.000	seniority_5	-0.123	seniority_5	-0.023	seniority_5	0.017	seniority_5	-0.014	seniority_5	-0.002	seniority_5	-0.002
	(0.003)		(0.144)		(0.040)		(0.038)		(0.037)		(0.027)		(0.023)
region_1	0.013	region_1	0.001	region_1	-0.013	region_1	0.025	region_1	-0.001	region_1	-0.034	region_1	0.127
	(0.060)		(0.009)		(0.058)		(0.066)		(0.011)		(0.072)		(0.148)
region_2	0.011	region_2	-0.058	region_2	0.169	region_2	-0.084	region_2	-0.011	region_2	0.008	region_2	0.037
	(0.071)		(0.079)		(0.155)		(0.128)		(0.052)		(0.064)		(0.133)
region_3	0.135	region_3	-0.033	region_3	0.011	region_3	-0.019	region_3	-0.004	region_3	-0.002	region_3	-0.005
	(0.151)		(0.044)		(0.026)		(0.027)		(0.014)		(0.024)		(0.051)
region_4	-0.006	region_4	-0.000	region_4	-0.018	region_4	0.003	region_4	-0.009	region_4	0.000	region_4	-0.002
	(0.018)		(0.004)		(0.027)		(0.012)		(0.025)		(0.002)		(0.012)
region_5	-0.012	region_5	0.003	region_5	-0.034	region_5	0.015	region_5	0.003	region_5	0.018	region_5	0.090
	(0.214)		(0.015)		(0.060)		(0.030)		(0.032)		(0.043)		(0.119)
region_6	-0.125	region_6	-0.004	region_6	0.000	region_6	0.006	region_6	0.067	region_6	-0.084	region_6	0.096
	(0.127)		(0.053)		(0.023)		(0.063)		(0.067)		(0.065)		(0.236)
region_7	0.094	region_7	-0.032	region_7	0.103	region_7	-0.017	region_7	-0.009	region_7	-0.003	region_7	-0.021
	(0.105)		(0.057)		(0.119)		(0.031)		(0.031)		(0.012)		(0.052)
region_8	-0.012	region_8	0.001	region_8	0.014	region_8	-0.053	region_8	-0.058	region_8	-0.062	region_8	-0.100
	(0.095)		(0.032)		(0.040)		(0.071)		(0.055)		(0.062)		(0.179)
region_9	-0.010	region_9	-0.001	region_9	0.005	region_9	-0.009	region_9	-0.002	region_9	-0.052	region_9	-0.021
	(0.063)		(0.010)		(0.021)		(0.021)		(0.015)		(0.044)		(0.052)
region_10	0.101	region_10	-0.026	region_10	0.052	region_10	0.019	region_10	-0.006	region_10	0.033	region_10	-0.365
	(0.134)		(0.054)		(0.061)		(0.040)		(0.179)		(0.042)		(0.413)
region_11	-0.105	region_11	-0.017	region_11	-0.051	region_11	-0.029	region_11	0.072	region_11	-0.021	region_11	0.093
	(0.119)		(0.062)		(0.070)		(0.071)		(0.088)		(0.033)		(0.158)
region_12	0.054	region_12	-0.016	region_12	-0.006	region_12	-0.023	region_12	-0.007	region_12	0.006	region_12	-0.022
	(0.084)		(0.044)		(0.047)		(0.074)		(0.027)		(0.080)		(0.118)
unexplained													
Pure	16.676		46.074*		-13.506		30.415*		58.816**		41.537**		88.571***
Unexplained	(25.990)		(23.809)		(23.115)		(18.130)		(23.685)		(17.539)		(26.410)
Constant	-14.867		-48.291**		16.349		-31.216*		-54.848**		-37.860**		-86.064***
	(25.633)		(23.401)		(22.843)		(18.004)		(23.998)		(17.437)		(26.674)
N	508.000	N	1228.000		1336.000		1392.000		1253.000		1972.000		425.000

Note. Standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Table 5

Regression analysis of the relationship between career barriers, grade, and turnover intention

	(Model 1) Grade	(Model 2) Grade	(Model 3) Turnover intention	(Model 4) Turnover intention
NHS Length of service	0.04***	0.04***	0.01***	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)
Age	0.03***	0.03***	-0.01**	-0.02***
	(0.00)	(0.00)	(0.00)	(0.00)
Part-time contract	-0.35***	-0.37***	0.24***	0.09
	(0.04)	(0.05)	(0.04)	(0.05)
Barrier		-0.12**		0.54***
		(0.04)		(0.04)
_cons	2.35***	2.42***	2.86***	2.66***
	(0.12)	(0.13)	(0.11)	(0.13)
r^2	0.30	0.32	0.01	0.06
F-stat	530.02***	333.97***	18.05***	54.46***
N	3642	2854	4617	3625

Note: Standard errors in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6.

Mean of perceived career barriers between groups

	N	Mean	Std. Deviation
Male UK	1238	.51	.42
Male European Economic Area	139	.66	.45
Female UK	1612	.85	.52
Male International Medical Graduate	357	.86	.53
Female European Economic Area	174	.94	.47
Female International Medical Graduate	279	1.10	.56
Total	3799	.77	.52

$F(5, 3793) = 113.71$, $p < 0.001$

Table 7

Regression analysis influences including management support on career barriers

	(Model 1) Career barriers	(Model 2) Career barriers
Age	0.01***	0.01***
	(0.00)	(0.00)
NHS tenure	-0.02***	-0.02***
	(0.00)	(0.00)
Part-time contract	0.28***	0.28***
	(0.02)	(0.02)
Management support		-0.07***
		(0.01)
_cons	0.33***	0.64***
	(0.05)	(0.06)
r^2	0.12	0.14
F-stat	163.32***	143.31***
N	3628	3612

Note: Standard errors in parentheses.
*$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8

Means of perceived management support between groups.

Group	N	Mean	Std. Deviation
Male UK	1523	3.99	1.00
Female UK	2184	3.99	.97
Male European Economic Area	153	4.11	.98
Female European Economic Area	200	4.14	.97
Male International Medical Graduate	398	4.20	.98
Female International Medical Graduate	324	4.14	.94
Total	4782	4.03	.98

F (5, 3793) = 113.71, $p < 0.001$

Table 9:

Moderation effect of management support on career barriers.

Group	Effect	Standard Errors	*t*	*LLCI*	*ULCI*
Male UK	-0.02	0.01	-1.39	-0.05	0.01
Female UK	-0.08	0.01	-6.78***	-0.11	-0.06
Male European Economic Area	-0.12	0.04	-2.87***	-0.21	-0.04
Female European Economic Area	-0.08	0.04	-2.04***	-0.14	-.00
Male International Medical Graduate	-0.11	0.03	-4.21***	-0.16	-0.06
Female International Medical Graduate	-0.13	0.03	-4.11***	-0.19	-0.07

F (11, 3765) = 113.71, $p < 0.001$; R^2=.15.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10

Dependents <18 years old as moderator of effectiveness of management support in reducing career barriers

Group	Young dependents <18 years old	Effect	Standard Errors	*t*	*LLCI*	*ULCI*
Male UK	None	-0.01	0.02	-0.72	-0.04	0.02
	1 or more	-0.02	0.02	-1.13	-0.07	0.02
Female UK	None	-0.04	0.02	-2.62***	-0.07	-0.01
	1 or more	-0.14	0.02	-7.82***	-0.18	-0.11
Male European	None	-0.06	0.06	-1.10	-0.17	0.05
Economic Area	1 or more	-0.19	0.07	-2.81***	-0.31	-0.06
Female European	None	-0.05	0.04	-1.15	-0.14	0.04
Economic Area	1 or more	-0.19	0.06	-2.88***	-0.31	-0.06
Male International	None	-0.12	0.04	-3.09***	-0.20	-0.05
Medical Graduate	1 or more	-0.11	0.04	-3.08***	-0.19	-0.04
Female International	None	-0.17	0.04	-3.69***	-0.25	-0.08
Medical Graduate	1 or more	-0.08	0.04	-2.02**	-0.17	-0.02

F (23, 3785) = 37.85, $p < 0.001$; R^2=.19.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figures.

Figure 1

Study Design: Research Questions 2a and 2b.

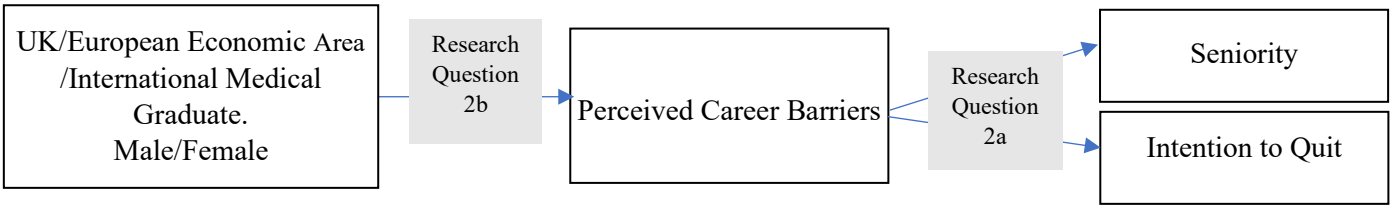


Figure 2

Means plot of perceived career barriers between groups

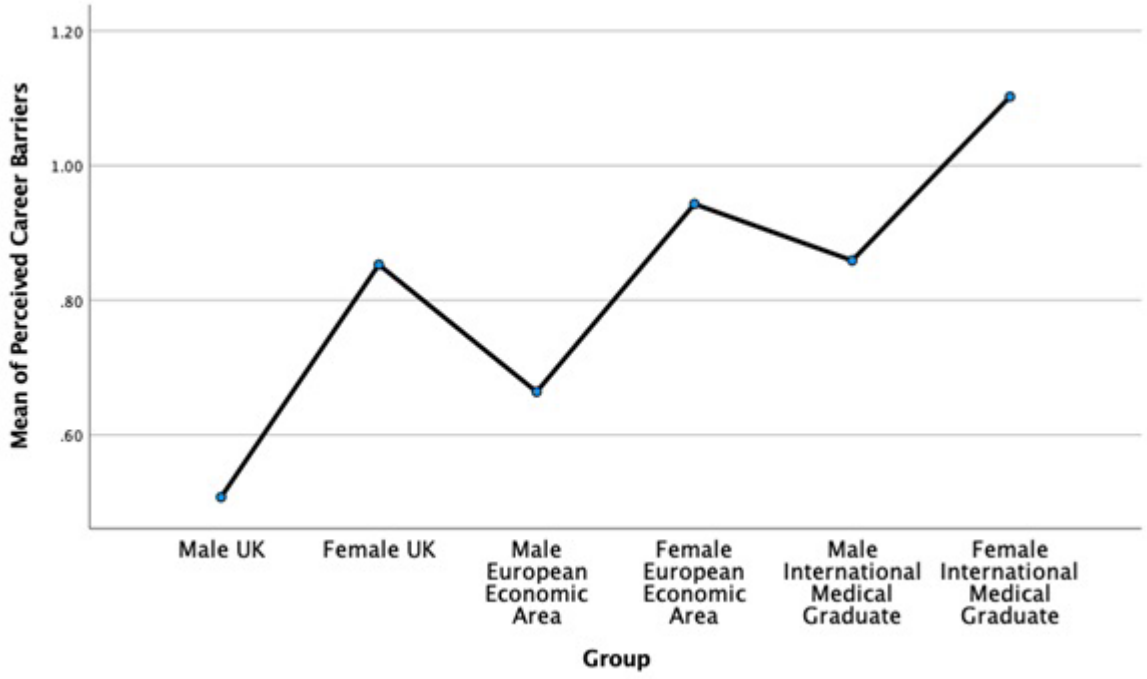


Figure 3

Study Design: Research Questions 3a to 3d

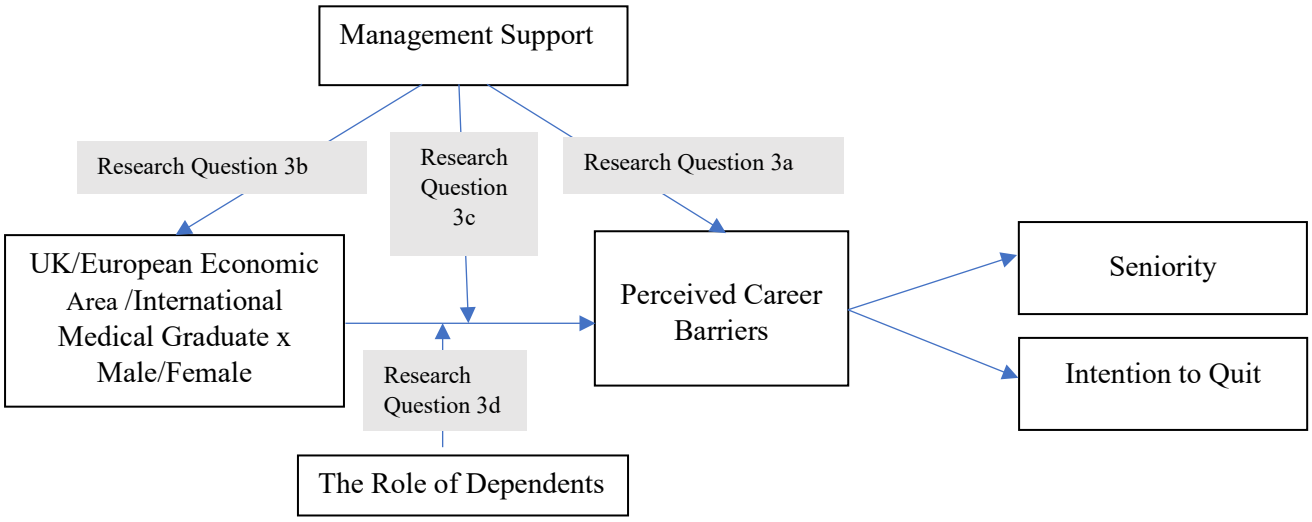


Figure 4

Means plot of perceived management support between groups.

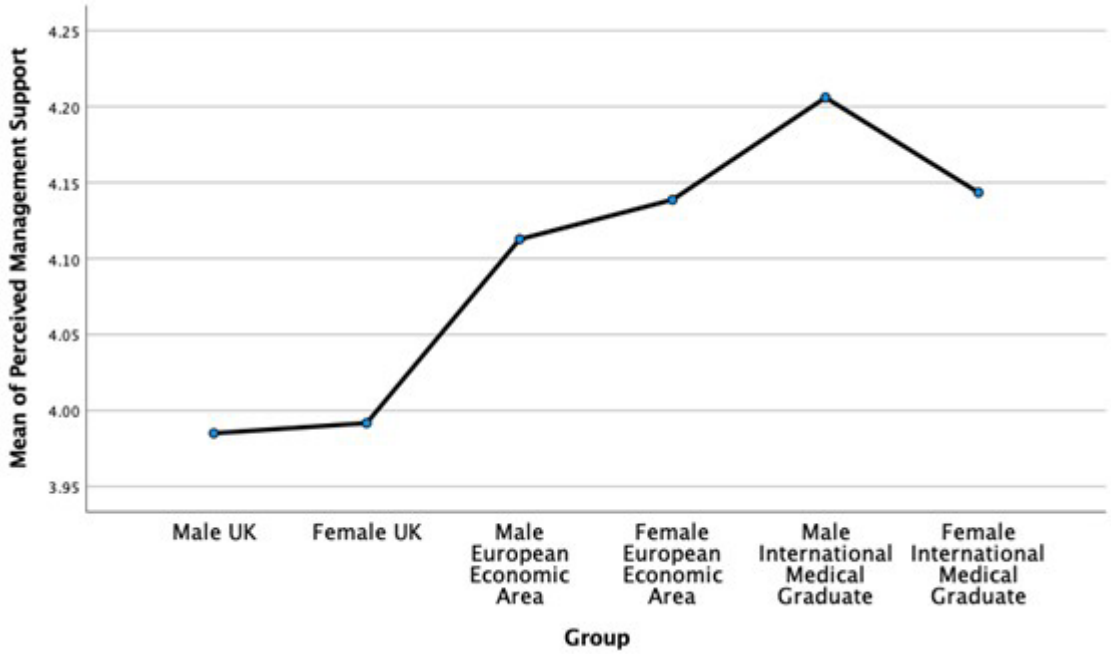
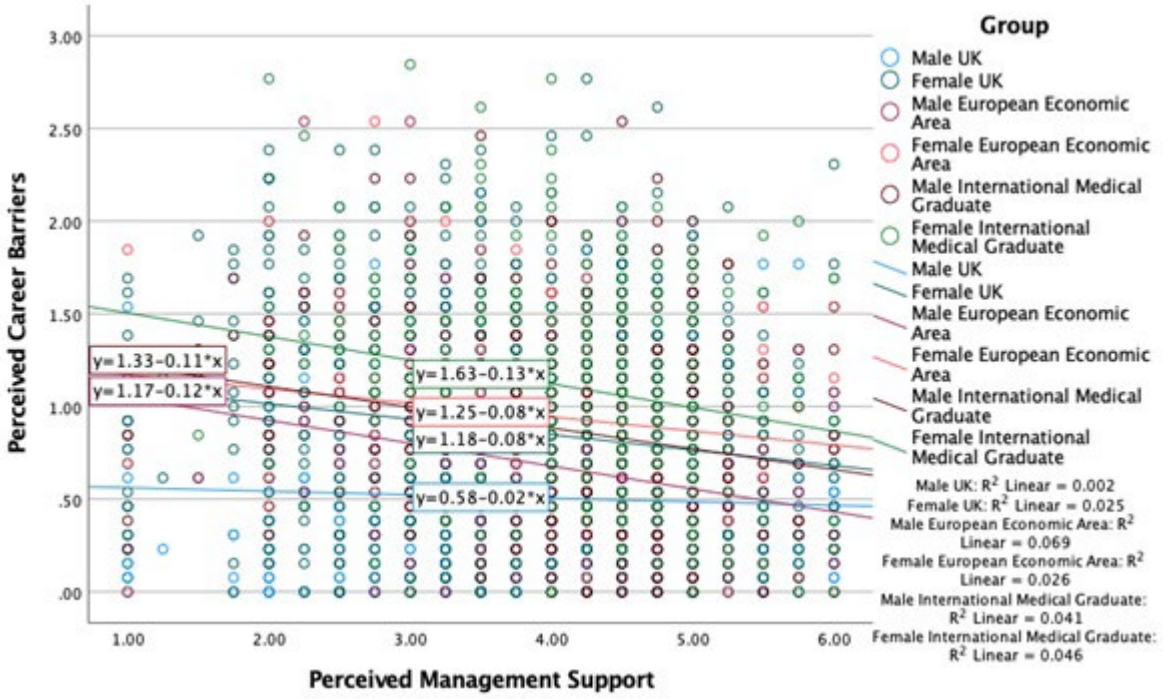


Figure 5

Moderation effect of management support on career barriers



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