Exploring gender differences in doctors' working lives

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Abstract

Background: As the proportion of women in medicine draws towards parity, long-standing questions about gender differences in the way that doctors work become more pertinent. Gender differences in medical working patterns and career choices are well documented; but there is a lack of understanding of everyday differences in the working lives of male and female doctors, particularly in UK hospital medicine. In this thesis, potential sources of gender variations in activity rates, previously reported in the literature, are identified.

Methods: Multiple methods were employed to explore potential gender differences in doctors' working lives. Systematic review methods synthesised existing literature on gender differences in the communication style, content and length of medical consultations. Qualitative methods were used to develop in-depth and contextualised understanding of potential gender differences in UK hospital consultants' working lives, using observation and interviews. Potential variations in clinic length data were analysed quantitatively and synthesised with the existing literature using meta-analysis. Finally, a pilot questionnaire was designed and tested to build on qualitative findings and investigate variations in a wider sample.

Results: Doctors' gender appears to influence their working lives, and the interface between home and work, and these influences may partly explain variations in activity rates. Specifically, female doctors appear to spend longer on consultations; adopt different styles of communication such as lowered dominance and greater use of psychosocial communication; experience greater barriers in their careers such as gender discrimination and problems with work-family conflict; and may experience lower levels of cooperation from colleagues.

Conclusions: This research provides important and timely understanding about the sources of gender differences in the working lives of hospital consultants, which may affect both the quality and quantity of care provided by male and female doctors.

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Author’s declaration

This thesis presents the original research that has been undertaken by the author and this research has not previously been submitted for an award. Selected aspects of this research have been undertaken with the collaboration of other researchers, including second reviewing for the systematic review described in Chapter 4 and some data collection described in Chapter 5. For transparency, full details of these collaborations are given in Sections 4.3.3 and 5.2.3.1.

Edited versions of selected chapters have been submitted to research journals and are currently under review. To the best of the candidate’s knowledge, this thesis does not contain material that has previously been published, except where reference is given in the text.

1

Introduction

1.1 Thesis rationale

Growing numbers of women are entering the medical workforce, with women now comprising 60% of all UK medical school graduates (Elston 2009). Authors have referred to this as the 'feminisation' of the medical workforce and raised concerns about the potential impact this may have on healthcare provision (Burton and Wong 2004, Lawrence 2004, McKinstry 2008, Weizblit, Noble et al. 2009). For example, a recent report by the Royal College of Physicians suggests that potential variations in working preferences of male and female doctors[1] may have profound implications for future service provision and management (Elston 2009) and Coombes (2009) calls for greater understanding of the impact of increased numbers of women entering the medical workforce and the potential for workforce redesign.

Workforce planners have traditionally tried to balance the supply of doctors with the demand or healthcare needs of the population by increasing or decreasing the number of medical school positions (Maynard and Walker 1997). As a result of this focus on balancing supply and demand, much of the current literature surrounding the effect of increasing proportions of women in medicine has focused on the implications of gender differences in participation rates or work preferences such as part-time working or career choices of male and female doctors. Weizbilt and colleagues (2009), for example, examined gender differences in doctors' working practices using data on Canadian doctors' total hours of work, hours spent on direct clinical care, sickness and annual leave from work, with findings suggesting female doctors may be less

[1] The terms male/female and men/women are used interchangeably throughout this thesis to refer to individuals' gender and gender differences.

‘productive’ than male doctors due to differences in working patterns. These variations in working patterns are important, for example Goldacre and colleagues (2001) have demonstrated a 20% difference in the estimated whole-time equivalents (WTE) for male and female doctors (60% WTE for women and 80% for men) following losses due to part-time working and non-participation fifteen years after graduation. Furthermore, these variations have financial implications for the National Health Service (NHS) as the cost to train doctors remains the same (currently £564,112 up to consultant level (Personal Social Services Research Unit 2012)) but for less return on the investment. McKinstry (2007) stresses that the working patterns of the feminised medical workforce may mean that either more doctors need to be employed, different ways of working longer hours will need to be made available to women, or more male doctors will need to be encouraged into particularly female-dominated specialties, such as general practice.

While these concerns around labour supply are important, more recently authors have also stressed the importance of considering other factors when making workforce planning forecasts, for example, the population health needs may vary over time and there may be productivity differences across healthcare providers (Birch, O'Brien-Pallas et al. 2003, Birch, Kephart et al. 2009, Tomblin Murphy, Kephart et al. 2009). In the UK, authors have suggested that rather than concentrating on the supply of and demand for doctors, workforce planners and governments should consider other ways of increasing activity from the existing stock of doctors and reducing variation (Maynard and Walker 1997, Goldacre 1998, Bloor, Hendry et al. 2006). Rather than just employing more staff, what can we do to make the existing workforce more efficient? The concept of workforce productivity has become increasingly important in healthcare over recent years as the demand for healthcare increases (due to an aging population, technological advances and greater public expectations of care) and increased supply side problems (e.g. shorter working hours due to the European Working Time Directive (EWTD) (Goldacre 1998). Furthermore, in order to meet cost savings of £20bn by 2015 as specified by the ‘Nicholson challenge’ (Department of Health 2009), NHS organisations are under increasing pressure to focus on productivity and value for money. These pressures make it even more timely for policy makers to consider other possible solutions to increasing medical workforce outputs within existing budgets, such as increasing activity rates or reducing sources of variation.

Studies exploring these sources of variation have identified doctors' gender as a factor which affects productivity (Woodward and Hurley 1995, Benedetti, Baldwin et al. 2004, Bloor, Freemantle et al. 2008), a finding with important implications given the growing numbers of women entering the medical profession internationally. Bloor and colleagues (2008) undertook an analysis of the Hospital Episodes Statistics in England, which contains routinely collected data on NHS consultant activity rates. The unit of analysis was Finished Consultant Episodes (FCEs), which are defined as one period of healthcare assigned to one hospital consultant. Information about each inpatient episode was used to enable adjustment for patient case-mix and provider details such as consultants' age, contract (only consultants on full-time or maximum part-time contracts were included), specialty and hospital trust were also used. After adjusting for these variables, findings revealed a highly statistically significant difference ($p<0.0001$) between male and female hospital consultants' inpatient activity rates, with female consultants' approximately 20% lower compared to their male equivalents. Highly statistically significant differences were also found in outpatient attendance data for male and female consultants. Similar findings have been reported in Canada, where statistically significant differences in the number of services provided by male and female doctors have been reported to range from 22.1% to 33% depending on specialty (Woodward and Hurley 1995). In the US, Benedetti and colleagues (2004) have revealed 21% lower rates of inpatient visits amongst female physicians in obstetric and gynaecology, although this was based on self-report in surveys which may be less reliable than centrally collected data.

While these studies provide valuable evidence about the potential effect of greater numbers of women entering medicine, little is known about why these variations in activity rates exist. There may be contextual differences, for example, in the day to day working lives of male and female doctors that could explain these gender variations in productivity. This thesis explores how and why male and female doctors may differ at work, as greater understanding of these issues may help to generate ways of improving or standardising activity rates in the future.

1.2 Thesis aim and approach

The broad aim of this thesis is to explore potential variations in the working lives of male and female doctors, with emphasis on identifying potential sources of variations in

productivity that have previously been reported in the literature (Woodward and Hurley 1995, Benedetti, Baldwin et al. 2004, Bloor, Freemantle et al. 2008). The nine chapters which comprise this thesis have been used to develop theoretical and practical insights into these potential sources of gender variations in activity rates and address existing gaps in the research literature using multiple methods.

1.2.1 Multiple methods

Health services research has historically been associated with quantitative methods and positivism; however, following a shift in the 1980s researchers have increasing begun to use qualitative research methods in health research (Morgan 2007). While quantitative research is based on enumerative induction which can be generalised to wider populations, qualitative research is generally used to formulate theory through analytic induction (Brannen 1992). Other key differences between qualitative and quantitative research have been outlined by Hammersley (1992) as: words vs. numbers, natural vs. artificial settings, meanings vs. behaviours, inductive vs. deductive, cultural patterns vs. scientific laws and idealism vs. realism.

Various authors advocate combining these qualitative and quantitative methods in single studies, building upon the strengths and weaknesses of each method by integrating them within a research design (Adamson 2005). The combination of methods in this way is commonly referred to in the literature as either ‘multiple methods’ or ‘mixed methods.’ Although, in practice, very similar in nature and terms that are often used interchangeably, these approaches can be distinguished by the level of, and point at which, integration takes place (O'Cathain, Murphy et al. 2010). Although study findings are integrated in the discussion chapter of this ‘multiple methods’ thesis, in ‘mixed methods’ research integration occurs during the analysis stage, for example with triangulation across earlier studies shaping the analysis of later studies (O'Cathain, Murphy et al. 2010).

By adopting a multiple methods approach in this thesis, different methods are employed to address different aims of the research, with quantitative methods adding breadth to knowledge and qualitative methods adding depth to knowledge. By combining quantitative and qualitative approaches, Teddie and Tashakkori (2003) also suggest that research can complement each other by generating and testing theories, in this case to explore potential gender differences in doctors’ working lives.

While adopting multiple methods may be challenging due to the time required to collect different types of data and the familiarity that is needed with both qualitative and quantitative methods (Creswell 2009), this approach was considered the most appropriate for studying potential variations in the working lives of male and female doctors in this thesis. The comprehensiveness of this approach enables alternate viewpoints to be generated from each method; each shedding light on potential gender differences in the working lives of doctors from a variety of angles. As Adamson (2005) suggests, this allows a more complete picture to be built than if the methods were employed alone, as the strengths of one method can be used to enhance another. For example, contextualised and rich information about potential sources of gender variations in doctors' lives were generated through qualitative investigation in this thesis that could not necessarily be developed through quantitative enquiry alone and the findings were then explored within a wider sample of doctors using quantitative survey methods to build on findings and allow extrapolation to other populations.

1.2.2 Thesis structure

In order to explore the question 'why are there gender differences in the activity rates of UK hospital consultants', some contextual background to this thesis is first provided which describes the history of women in medicine in **Chapter 2**, from ancient history to the present day. Following this, workforce data from the UK NHS is summarised in this chapter to describe trends and gender differences in medical workforce participation, career progression, part-time working and specialty choices.

The theoretical perspectives relating to gender differences that underpin this thesis are described within **Chapter 3** using the fields of economics, sociology and psychology to explore how wider historical, economic, social and cultural forces may interact and influence gender differences in the behaviours of individuals.

As a starting point for the primary research in this thesis, a quantitative approach was first adopted in **Chapter 4.** This explores the existing literature on gender differences in doctors' communication during medical consultations using systematic review methods and meta-analysis.

In order to build on these systematic review findings and address gaps identified in the literature, a qualitative study was undertaken in Chapters 5 and 6 which sought to

develop in-depth contextualised understanding of the various factors that may influence the working lives of male and female doctors differently. **Chapter 5** describes the methodology and methods for this primary research study, which studied hospital consultants at two hospital trusts in England using interview and observational methods. **Chapter 6** presents the results of this study and discussion of findings.

A quantitative approach was then taken in **Chapter 7** in order to analyse data on consultation times and time use between patient consultations that was collected during this observational study. The effect of doctors' gender on use of time in outpatient clinics is described and individual consultant's clinic times are then integrated with qualitative findings from observations to explore whether certain characteristics were associated with longer consultations. Gender difference results on clinic length are then synthesised with findings from the systematic review undertaken in Chapter 4 to provide an overall estimate of the effect of doctors' gender on length of medical consultations.

Findings from the systematic review and qualitative study undertaken in this thesis are then tested more widely using survey methods with a sample of UK hospital consultants. **Chapter 8** describes the development and feasibility testing of a pilot questionnaire, which explored aspects of consultants' working lives such as their work-life balance, interactions with colleagues and consulting styles.

Finally, the findings from this thesis are drawn together in **Chapter 9**, which provides a synthesis of the key study findings and discusses implications for policy, future research and conclusions.

2

Women in medicine

In this chapter, contextual background to this thesis is provided, including a historical background to the position of women in medicine over the centuries, and a description of the situation for women in medicine today. Following this, routinely collected data from the Department of Health and NHS Information Centre (NHS IC) is summarised to demonstrate trends and to discuss changes that have been occurring in primary and secondary care, different career grades, part-time working and specialty choices as the medical workforce has become more 'feminised.'

2.1 Historical background

2.1.1 Ancient history

Women's role in medicine and healing is evident throughout history, from the ancient world through to the present day, albeit in different forms and associated with various conflicts along the way.

Ancient history refers to the time from the earliest recorded human history up to the Early Middle Ages (5th century AD). In the ancient world, healing was based on religious beliefs whereby the sick prayed to gods to heal them. Interestingly, Bourdillon (1988) points out that many of these were female, such as the goddess Isis whom the Egyptians worshipped as a healer. In Ancient Greece, goddesses were also commonly worshiped for the healing powers people believed they possessed, such as the goddess Hygieia, whose name is the basis of the word 'hygiene' that is used today (Bourdillon 1988).

By the 3rd century BC the work of Hippocrates began to be taught and this heavily influenced medical tradition until the 17th century AD (Bourdillon 1988). The role of women in medicine began to change as a class and gender divide emerged in medical care, for example through systems such as witch-hunting, described below.

2.1.2 The Middle Ages, witch-hunting and midwifery

During the Middle Ages (5th to 15th centuries) the majority of healing was undertaken in the home, where members of the household and 'wise women' would tend to the sick as few people could afford the care of trained medical practitioners (Bourdillon 1988). These 'wise women' used their experience and knowledge of herbal remedies passed down from generation to generation to treat the sick (Bourdillon 1988). However, the methods employed by women healers were in opposition to the Church and were thought to represent a threat to the religious messages preached and the formal medical licences that were issued by the Church to university-trained doctors (Ehrenreich and English 1973, Bourdillon 1988).

During centuries of witch-hunting, which started in the 14th century and lasted until the 18th century (Bourdillon 1988), the Church distinguished between peasant (female) healers, referred to as witches, and upper class trained (male) physicians, as those that practised *magic* and those that practised *medicine* (Ehrenreich and English 1973). The more successful these 'peasant healers' were, the more it was feared that people would become less reliant on prayer, God and the Church. The Church was therefore heavily involved in discrediting the role of such women, and encouraged witch hunting throughout Europe (Achterberg 1991). Practicing "conjour[ing], and witchcraft and sourcery and enchantments" were crimes punishable by death (Bourdillon 1988, p19). A significant text written by two monks in 1487, the Malleus Maleficarum (hammer of witches), described how witchcraft was to be feared and urged the public to be cautious of midwives, who were commonly considered to be witches at the time:

> "For when they do not kill the child, they offer it to the devil in this manner. As soon as the child is born the midwife, if the mother herself is not a witch, carries it out of the room on the pretext of warming it, raises it up, and offers it to the Prince of Devils, that is Lucifer, and to all devils. And this is done by the kitchen fire"
>
> Malleus Maleficarum, 1487 In: (Bourdillon 1988, p20)

Moreover, as Achterberg (1991, p75) asserts, it was not that the women healers were unsuccessful or dangerous in their practices, but rather they represented a threat to both the Church and the medical profession:

> "It was never insinuated that women lacked the knowledge or the wisdom to ply the healing arts – indeed, quite the opposite: women were credited with knowing their business, with having powerful secret remedies… However, because they were women – not men, nor philosophers, nor priests, nor physicians – any manifestation of their healing practices was deemed the work of demons."

Feminist writers Ehrenreich and English (1973) suggest that witch-hunting signified the beginning of male suppression of women's healing role. In the early 18th century and following centuries, the laws against witchcraft were revoked across Europe (Bourdillon 1988), however women healers were largely discredited by this time and had been replaced by formally trained male physicians.

During the period of witch-hunting, midwifery was the only clinical profession in which women were legally allowed to practise, as it's lower status did not attract male medical practitioners (Achterberg 1991). Midwives were subject to similar levels of extreme regulation and punishment as the wise women of the time, for example, Achterberg (1991, p79) describes how "the midwives were frequently fined, imprisoned, or even sentenced to death if they displeased an influential patient or assisted at the birth of a stillborn or deformed child." Again, this profession was under the control of the Church, who issued licences enabling midwives to practise (Bourdillon 1988).

Women's role in midwifery continued until the 17th and 18th centuries when male 'barber-surgeons' took over the role as 'man-midwives' (Ehrenreich and English 1973). The introduction of obstetric forceps encouraged the masculinisation of this field of medicine as only members of the Barber Surgeon Guild (mainly men) were allowed to use these surgical instruments (Bourdillon 1988). Gradually it became fashionable for women to have man-midwives attend their childbirth as this was associated with greater wealth and the presumption that male practitioners possessed greater midwifery skills compared to women (Achterberg 1991). This resulted in the gradual reduction in proportion of female midwives over time.

2.1.3 Nineteenth century: nursing

With the advent of modern scientific medicine in the 19th century, a divide began to emerge between the activities of curing and caring, both of which had traditionally been undertaken by general healers, but later were divided into the work of doctors and nurses (Ehrenreich and English 1973). Nursing was not always a profession; it was something that was traditionally done without pay and which had always been associated with women, as Florence Nightingale is reported to have often said: “every women is a nurse” (Achterberg 1991, p148).

In the early 19th century, hospital nurses had a reputation for “drunkenness, prostitution and thievery” and nursing was an unattractive field of work, even for women (Ehrenreich and English 1973, p33). However, due to its lower status, nursing became the only clinical role left available for women as all other fields of medical practice had been taken over by men.

With the influence of Florence Nightingale and other nursing reformers such as Mary Seacole and Dorothea Dix, in the mid 19th century, hospital nursing began to change and become a respectable profession that attracted female workers (Ehrenreich and English 1973). Although Nightingale was strongly opposed to the registration of nursing as a profession, stating once that “nursing should not be a profession, it should be a calling” (Shyrock, RH (1968) cited in (Achterberg 1991, p151), the introduction of the Florence Nightingale Training School for Nursing in 1860 signalled a change towards greater respectability of nursing as a profession (Achterberg 1991). Following decades of petitioning from influential nursing figures such as Ethel Fenwick, nursing was established as a profession in 1919, requiring formal training and registration in order to practise (Achterberg 1991). The field of nursing has continued to expand since this time, although it continues to attract a majority of female workers (Achterberg 1991).

2.1.4 Nineteenth century: medicine

During the early 19th century there was a domestic ideology amongst the bourgeoisie in society that women should be protected from paid work altogether (Jackson 2011) and limitations were placed on the type of work that women could undertake. This led to the majority of the female labour force working in other women’s homes, for example as household nurses or governesses (Riska 1993). These restrictions led to some women

going to great lengths to conceal their identity as women and pursue male occupations incognito. Hurwitz and Richardson (1989) suggest that there were many cases of this and describe the story of Hannah Sneal, who masqueraded as a man to join the British army in search of her husband who had deserted her. In the medical profession, the case of Dr James (Miranda) Barry perhaps best demonstrates the lengths that women would go to in order to practise medicine at this time. Dr Barry's career as a physician spanned several decades following qualification as a medical doctor in Edinburgh in 1812 and included achieving the highest accolade as inspector general of hospitals in the British army (Hurwitz and Richardson 1989). However, it was not until Dr Barry's death in 1865 that it was discovered she was in fact a woman (Hurwitz and Richardson 1989).

During the 19th century scientific discovery and new laboratory techniques brought about the era of 'modern medicine' which remained characterised by the masculinisation and professionalisation of medicine (Witz 1992), as women were still excluded from undertaking the university medical training that was required to practise (Bourdillon 1988). Biological arguments were often used to justify women's exclusion from education and the professions, for example Dr E H Clark published the book 'Sex in Education' which warned that "higher education in women produces monstrous brains and puny bodies, abnormally active cerebration and abnormally weak digestion, flowing thought and constipated bowels" (Clark 1873, In: (Achterberg 1991, p146). In the medical profession, the Medical Registration Act, introduced in 1858, did not exclude women explicitly, however the royal colleges, universities and medical institutions did so by either prohibiting women from studying medicine or from the academic examinations that would allow them to practise medicine (Witz 1992). This occurred despite the 'Enabling Act' of 1875 which theoretically allowed British universities to grant medical licenses to women (Abbott 2005), but did not prevent university and medical institutions adopting "gendered credentialist mechanisms" whereby they selectively choose whether or not they wished to admit women on to their courses (Witz 1992, p102).

The first women to practise medicine in Britain did so in the mid 19th century using loopholes in universities' legislation. For example, the first woman registered by the General Medical Council (GMC), Dr Elizabeth Blackwell, an American medical graduate, was able to register in 1858, but this was only possible under a clause which allowed women with foreign medical degrees to register as a medical doctor in the UK

(Witz 1992). Similarly, upon realising that a woman (Elizabeth Garrett Anderson) had been awarded a medical qualification for her studies in midwifery in 1865, the Society of Apothecaries (later the British Medical Association) banned future women entrants (Bourdillon 1988). In Edinburgh there were similar restrictions, for example Sophia Jex Blake was allowed to attend medical lectures but faced strong opposition and harassment from male students. Despite sitting the same examinations as male students, she was only given a Certificate of Proficiency rather than the medical degree that was awarded to her male counterparts and which was required to practise as a doctor (Bourdillon 1988). Frustrated by these restrictions, she left Edinburgh and continued her studies in Berne, where she was finally awarded a medical degree, and again in Dublin, allowing her to register with the GMC.

In 1874 a group of determined and pioneering women, including Elizabeth Garrett Anderson and Sophia Jex Blake, established the first medical school in Britain to allow women to graduate in medicine, the London School of Medicine for Women (now the Royal Free Hospital School of Medicine) (Achterberg 1991). Sophia Jex Blake later moved back to Edinburgh where she established the Edinburgh Hospital and Dispensary for Women and Children in 1885 (Achterberg 1991).

2.1.5 Twentieth century

During the First World War, labour shortages led to a gradual increase in numbers of women gaining entry into employment across a range of occupations (Giddens 2006). At this time there were also growing numbers of women studying medicine in Britain in order to meet the needs of the country, as men became enlisted in the armed forces (Elston 1993). However, there were still restrictions on where women could study medicine, with only a small number of medical schools allowing women. From 1915 some hospitals in London that had previously only accepted male medical students began to train women, including Kings College Hospital and University College Hospital (Bourdillon 1988). The London School of Medicine for Women, which had been founded by Elizabeth Garrett Anderson and colleagues, trained approximately one quarter of all female British medical students in the 1930s (Elston 1993). The variations in medical school bars on women studying medicine continued until 1944 when, as a result of continued public pressure, a government committee decided that public funds would only be made available to those schools that allowed a ‘reasonable’ proportion of women, “say one fifth” to be accepted (Ministry of Health: p99, 1944 cited

in: (Elston 1993)). While this was a positive step to improving women's participation, these recommendations became the basis for quotas that restricted all but the strongest of female candidates from entering medical schools at this time (Elston 1993).

Despite the gradual gains that women made following the Second World War, men continued to be the sole income contributors for the majority of households and women were financially dependent on men (Jackson 2011). There were still restrictions placed on women in the workplace, for example 'marriage bars' restricted the employment of women once they married or became pregnant (Jacobsen 2007). This was adopted by many employers, even in post-war Britain, and was particularly common in white collar and professional work (Jackson 2011). Connolly and Gregory (2007) suggest that the abolition of the marriage bar may have been the largest contributory factor to women's increasing participation in the post-war workforce.

From the 1960s to 1980s the feminist movement and rise of female emancipation sparked an increase in women entering the general workforce. Various acts of legislation, such as The Equal Pay Act (Stationery Office 1970) and The Sex Discrimination Act (Stationery Office 1975a), also took effect during this time and began to address the inequalities in paid and unpaid work. The Employment Protection Act (1975) was also introduced and gave more maternity rights to women and protected their jobs whilst on maternity leave. Similar laws were enforced internationally, for example the Treaty of Rome which was in place from 1957 and encouraged 'equal remuneration for equal work' in the six European member states; and the US Civil Rights Act (1964) addressed various forms of discrimination in America (Connolly and Gregory 2007).

During the 1970s and 1980s there were also general changes to the labour market that encouraged greater female participation in the workplace. A reduction in heavy industry led to a fall in men's employment as a result of widespread redundancies, unemployment and early retirement in many industries such as coal mining (Lindsay 2003). The relative reduction in men's employment over time and uncertainty in male wages contributed to budget constraints and a greater requirement for women to participate in market work. By the 1980s, dual incomes became commonplace (Hakim 1996). During this period, the service sector and part-time working also started to grow, both of which contributed to the increasing numbers of women in the labour market

(Lindsay 2003). Meanwhile, changing attitudes in society generally in relation to gender roles and expectations at work and in the home may also have altered women's tastes for work.

It was not until these wider cultural changes, legislation and feminist movements in the late twentieth century that women's participation in medicine really started to increase. Amidst wider social pressure and new legislation, medical workforce planners also recognised a need to increase numbers of British trained doctors and reduce reliance on an overseas medical workforce. This need was predominantly met by an increasing number of female doctors from the 1960s onwards (Elston 1993). During the 1970s the application system for medical schools also became more formalised and based on merit, or the A level results of applicants (Elston 1993), rather than previous systems of class and gender discrimination. This encouraged greater numbers of female applicants, who were achieving grades similar to boys in schools at this time (Department for Education and Skills 2007).

Today, girls are higher educational achievers than boys (Ofsted 2011) and there has been a general move towards more women than men participating in higher education (Thompson and Bekhradnia 2009). There is also greater balance in the types of A level subjects studied by male and female students today, with girls comprising 56% of entries to A level biological sciences and 48% of chemistry A levels (Ofsted 2011). These changes have all contributed to the growing numbers of women that have been entering the medical profession.

2.2 Today's medical workforce

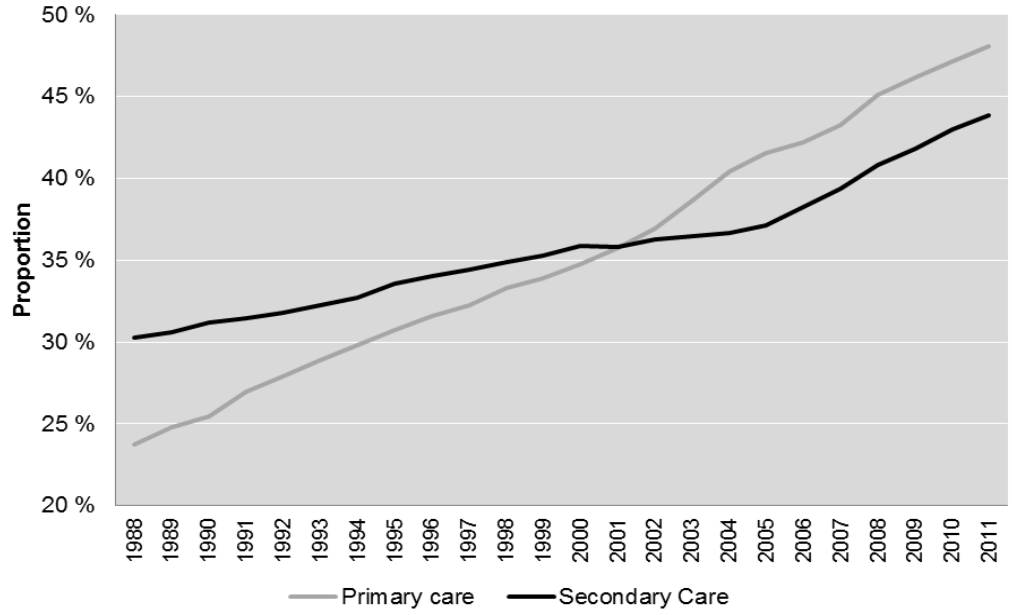
Women now represent just under half of the total labour force in the UK (Office for National Statistics 2010a). In the UK, the participation rate for women in the labour market generally, is high (71.9%) and this is comparable to the US (71.4%) and other countries such as those in Scandinavia, which tend to have participation rates over 70% (OECD 2010). The lowest labour force participation rate for women in the OECD is in Turkey (30.9%), and it is also low in other middle income countries such as Mexico (48.2%) and Chile (53.6%) (OECD 2010).

Over the past four decades the proportion of women entering medical schools in the UK has increased rapidly, and female medical students now outnumber males (Elston

2009). When the Universities Central Council on Admissions (UCCA) first measured the proportion of male and female medical applicants in 1963, women comprised fewer than 34% of applicants and only 29% of acceptances (BMA 2009). Female medical students rose to approximately 40% in 1980, increasing by approximately 10% in each subsequent decade (McManus 2002).

While the proportion of women studying medicine has increased substantially over recent decades (as shown in Figure 2.1), the numbers of women actually practising medicine is yet to reach parity. In some countries, notably Scandinavian and Post-Soviet countries, there are equal or greater numbers of women practising medicine (OECD 2010) and further international comparisons are made below. At present, women represent 46% of the medical workforce in England, with the proportion of women working in primary care greater than secondary care (Figure 2.1). Estimates suggest that by 2017 women will account for over half of the UK medical workforce (Elston 2009).

Figure 2.1: Trends in proportion of female doctors working in primary and secondary care in England 1988-2011.



Data sources: Department of Health (2007a, 2007b) and NHS Information Centre (2010b, 2010c, 2011a, 2011b, 2012a, 2012b)

The changing gender composition of the medical workforce is comparable to other professional occupations in the UK, where women also represent 44% of all employment (Office for National Statistics 2010b). The legal profession, in particular, has followed a similar path to that of medicine, moving from a historically male dominated workforce that excluded female participation (Nicolson 2005), towards near equality today with 46% of legal professionals now women (Office for National Statistics 2010b). Nevertheless, there are still some professional occupations that remain male dominated, for example 85% of architects are male (Office for National Statistics 2010b) and women are also underrepresented in engineering and technology (Ofsted 2011).

Similar changes to the gender composition of the medical workforce have also occurred internationally. The World Health Organisation (2006) has collected global data on the proportion of women employed as physicians in a large number of countries. While it is possible that there may be considerable variability across countries in terms of the quality of data and reference year, it provides a useful international comparison to the changes that have been occurring in England.

Table 2.1 displays the available data for European countries and countries in the rest of the world that have a total physician workforce of greater than 20,000. The majority of data was collected during the early 2000s and in Europe the mean proportion of women working as physicians was 40.32% (SD 8.78). This is comparable to the proportion of female doctors working in England at this time (37% based on 2002 data (NHS Information Centre 2006b, NHS Information Centre 2010b)). The proportion of women working as physicians was noticeably lower in the rest of the world (median 33%, inter-quartile range 24-36%), although this is slightly skewed by the relatively low proportion of female physicians in Japan (15%), Nigeria (20%) and Bangladesh (24%).

Table 2.1: International data on the proportion women in the physician workforce.

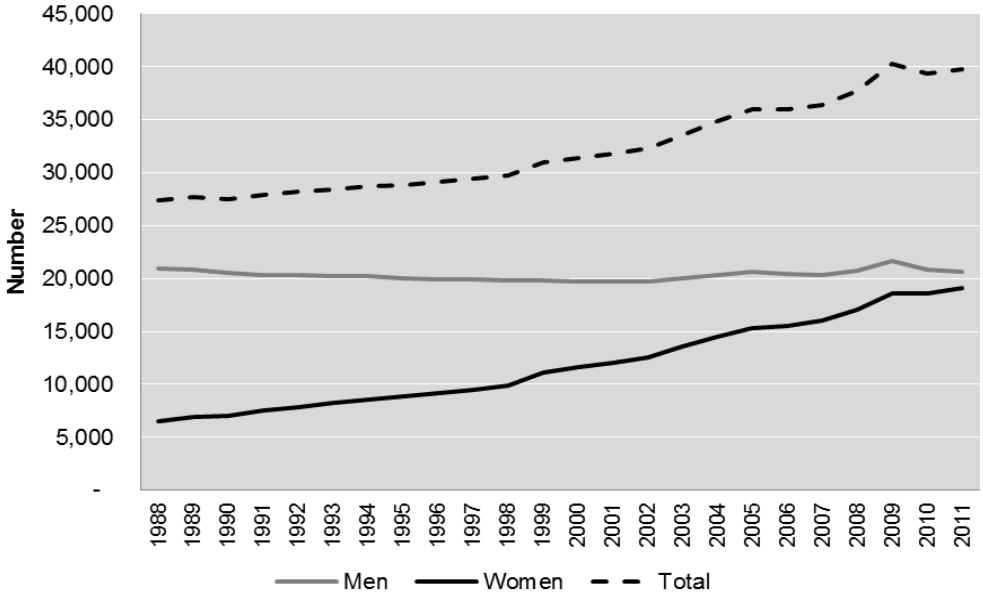
Country	Year	Percentage women	Country	Year	Percentage women
Europe:			**Rest of world:**		
Austria	2003	35	Algeria	2004	53
Bolivia	2001	28	Bangladesh	2004	24
Denmark	2002	41	Brazil	2000	35
Estonia	2000	60	Canada	2003	33
France	2004	38	Egypt	2003	36
Germany	2003	37	Japan	2002	15
Greece	2001	35	Mexico	2000	32
Hungary	2003	51	Nigeria	2004	20
Iceland	2004	25	Pakistan	2004	35
Ireland	2004	37	Thailand	2000	37
Italy	2004	35	USA	2000	28
Netherlands	2003	37			
Portugal	2003	46			
Spain	2003	44			
Sweden	2003	41			
Switzerland	2002	31			

Data source: World Health Organisation (2006).

2.3 Trends in gender balance of primary and secondary care

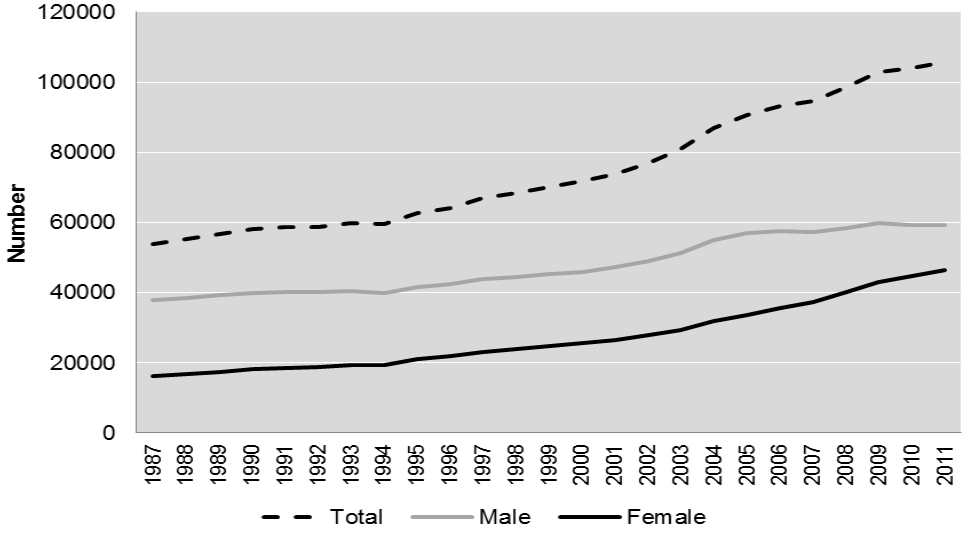
The increasing proportion of women working in the medical workforce has occurred alongside substantial increases in the size of the medical workforce, which can be seen in Figures 2.2 and 2.3. The trend of increasing numbers of female doctors is particularly apparent in primary care, which comprised only 23.7% women in 1988, doubling to 48% in 2011 (Figure 2.1). Figure 2.2 demonstrates that the increasing numbers of doctors working in primary care can almost solely be attributed to the increasing numbers of women in this field of medicine. In secondary care, there have been increasing numbers of both men and women over the past decades, however in recent years the number of women appears to be increasing at a slightly faster rate than men (Figure 2.3).

Figure 2.2: Number of male and female general practitioners in England from 1988-2011



Data source: Department of Health (2007a) and NHS Information Centre (2010c, 2012a)

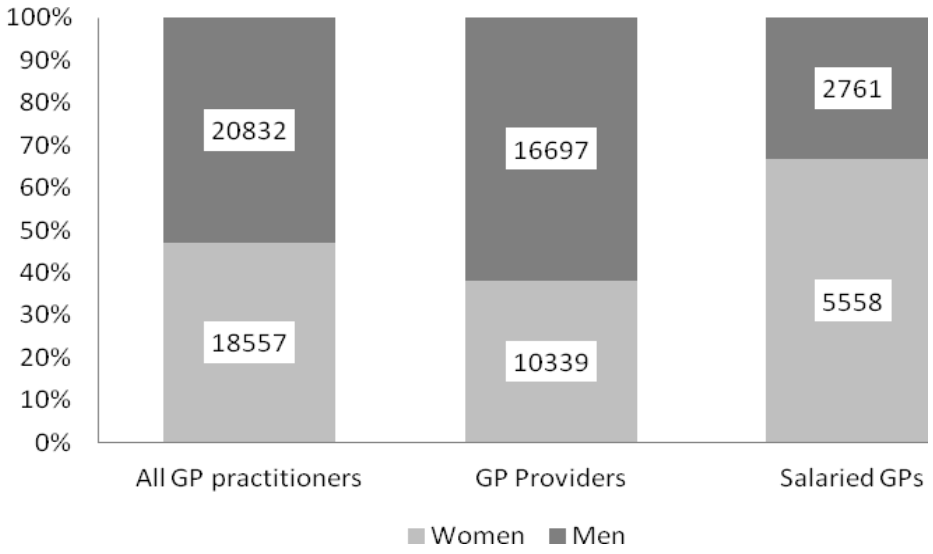
Figure 2.3: Number of male and female Hospital and Community Health Service (HCHS) medical and dental staff in England from 1987-2011



Data sources: Department of Health (2007b) and NHS Information Centre (2010a, 2011b, 2012b)

Despite almost equal numbers of male and female general practitioners (GPs), there are differences in the type of contracts held by male and female doctors. Figure 2.4 highlights the tendency for GP providers to be men and salaried GPs to be women. This highlights 'vertical gender segregation' in positions held by male and female general practitioners, a term which is used by sociologists to refer to women's lower likelihood to hold positions of power and prestige in organisations, despite similar levels of skills or experience. It is also possible, however, that differences presented in Figure 2.4 may be a cohort effect as a result of age differences in male and female GPs owing to women's relatively recent movement into the profession. These issues are discussed in more detail in the Chapter 3 using economic and sociological theories.

Figure 2.4: Proportion of all GP practitioners,[1] providers[2] and salaried GPs in England, by gender in 2010.



Data source: NHS Information Centre (2011a)

[1] Including GP registrars and retainers.
[2] These are defined as GPs who have entered into a contract with the local Primary Care Trust to deliver services and are not salaried as such.

2.4 Career progression

2.4.1 The UK medical training system

Medical training in the UK involves a period of undergraduate study; generic 'foundation' years of medical training which are followed by a period of specialist training before applications for consultant and GP positions can be made. Similar to most other developed countries, this involves formal study, on-the-job training under supervision and medical examinations (British Medical Association International Department 2007).

After studying in medical school for between 4 and 6 years, students are registered as doctors with the General Medical Council and enter foundation programmes for a period of two years. During this training stage doctors are referred to as foundation year one (FY1) doctors and foundation year two (FY2) doctors. This training stage provides junior doctors with experience in a variety of specialties and helps them to make decisions about which area they plan to specialise in (Eccles and Sanders 2009). In other countries the timeline and process for early medical training varies slightly, although there are still the same elements of undergraduate study, followed by on-the-job training to attain generic medical competencies. For example, in Canada and the US, medicals students spend 2-4 years as undergraduates followed by 3-4 years studying for a medical degree (British Medical Association International Department 2007)

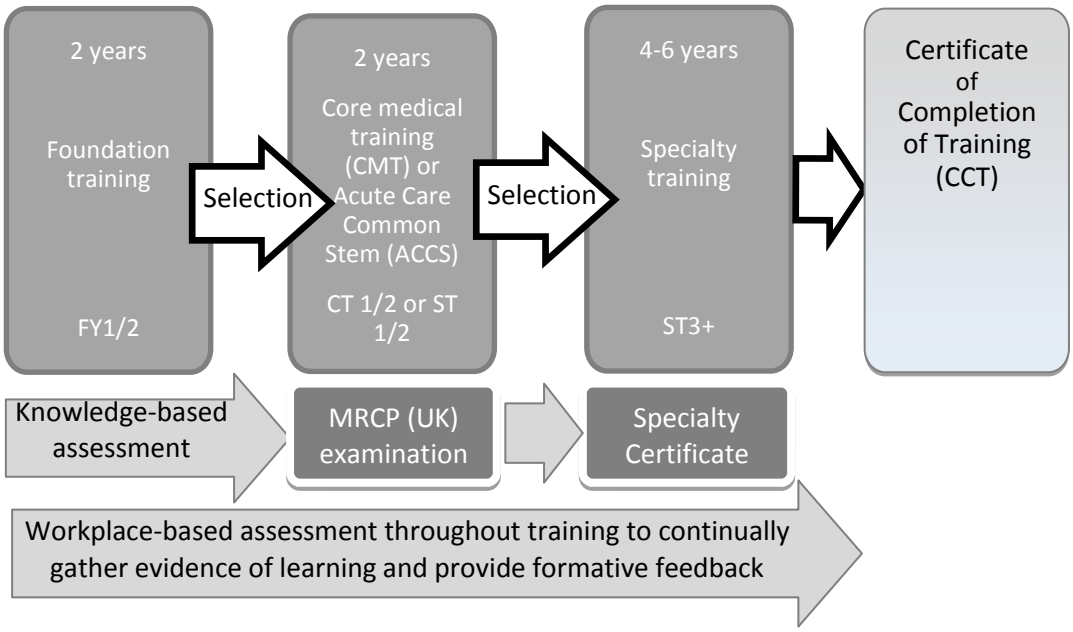
During the foundation year training stages, doctors were previously referred to as pre-registration house officers (PRHO) and senior house officers (SHO), but since August 2007, the SHO and Specialist Registrar (SpR) grades have been combined into a new Specialty Registrar grade (StR) (NHS Medical Careers 2011). Following the foundation years, specialty choices are made and this leads onto either 'uncoupled' core training or 'run-through training' depending on specialty.

Run-through specialty training begins directly after the foundation years and continues without interruption or requirement to reapply for a further training post before completion. Trainees continue through the training grades in the run-through route provided they pass an annual review of their competency (NHS Medical Careers 2011). 'Uncoupled' or core training typically lasts two years, at which point applications are

made for higher specialty training programmes in order to continue specialty or GP training (NHS Medical Careers 2011). This process of 'uncoupled' training is described in Figure 2.5 (RCPE 2011), and the majority of specialties now take this form. During the first phase of the core training route trainees learn generic skills and receive core training in General Internal Medicine (or Acute Medicine). This phase lasts for two to three years (termed 'CT1/2' or 'ST1/2' (commonly known as registrars)) and is followed by an application for the second phase of specialty training. This phase, previously known as senior registrars, lasts from 4 to 6 years depending on specialty (Elston 2009).

Table 2.2 provides information about the type of training route applicable to each specialty. It is possible that the characteristics of different specialty training routes may relate to differences in proportion of male and female doctors working in specialties, discussed under Section 2.6. For example, more female trainee doctors choose specialties that fall under the run-through training route.

Figure 2.5: Core training route.



Source: Adapted RCPE (2011) flow chart

Table 2.2: Training routes by specialty.

Run-through (ST1/2/3/4)	Uncoupled (CT1/2, ST3/4/5)
Paediatrics and Child Health	Core medical training, leading to competitive entry to medical specialties
Obstetrics and Gynaecology	Core surgical training, leading to competitive entry to surgical specialties
General Practice	Core psychiatry training, leading to competitive entry to psychiatry specialties
Public Health	Anaesthesia
Histopathology	Emergency Medicine
Clinical Radiology	
Ophthalmology	
Chemical Pathology	
Neurosurgery	
Medical Microbiology/Virology	
Academic Clinical Fellowship (ACF)	

Source: Modernising Medical Careers (2012)

Upon completion of postgraduate specialist clinical training, doctors are awarded a Certificate of Completion of Training (CCT), which allows them to register with the GMC specialist register and enables them to apply for a consultant or GP post (Eccles and Sanders 2009, Elston 2009).

In the UK, there are also senior doctor grades, known as 'staff and associate specialists' (SAS doctors) that are used to describe doctors that are no longer in medical training, but who are not consultants or GPs. SAS doctors are required to have fulfilled some level of postgraduate medical training and, in an overview of the SAS grades, NHS Medical Careers (2011) suggest that doctors may opt to work as SAS doctors if they desire a break from medical training, greater work-life balance or if they struggle to gain entry onto specialist training positions. Using previous terminology, doctors in the SAS grade included associate specialists; clinical assistants; clinical medical officers; hospital practitioners; locums; specialist doctors; staff grade doctors; and trust doctors (BMA 2011). These terms have now been dissolved and replaced by the term 'specialty doctor.' Some of these previous terms are used in the routinely collected data by the NHS Information Centre on workforce numbers, and for simplicity will be grouped together as 'SAS' doctors in the rest of this chapter.

2.4.2 Gender differences in career progression

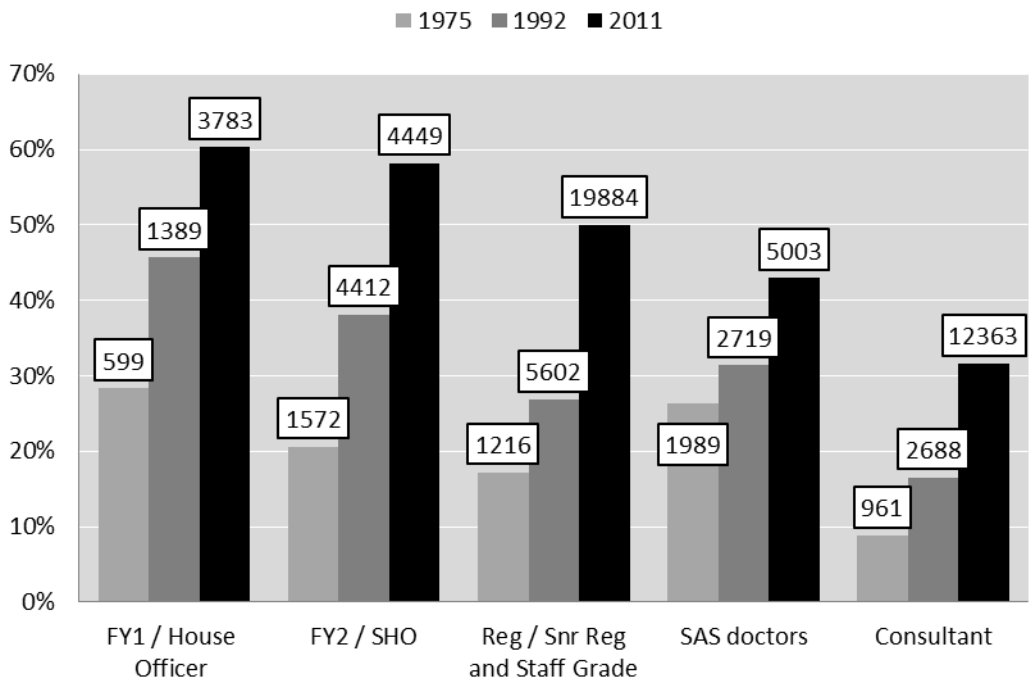
Several authors have commented on the under-representation of women in leadership positions in medicine; for example in 2004 the former President of the Royal College of Physicians, Dame Carol Black, controversially discussed her concerns about the

potential ‘downgrading’ of the future medical profession that may result from women’s lesser tendency towards leadership roles (Lawrance 2004). In addition, many authors have suggested female doctors struggle to break through a ‘glass ceiling’ in order to reach these higher positions in medicine (Kvaerner, Aasland et al. 1999, BMA 2004, Levinson and Lurie 2004, Carnes, Morrissey et al. 2008). Levinson and Lurie (2004) have drawn parallels with other professions such as law and business, where women are also less likely to hold senior positions. Similar findings are evident in the nursing workforce, where recent research suggests that female nurses’ slower career progression compared to male nurses may be related to motherhood (McIntosh, McQuaid et al. 2012). Various theories can be used to provide explanations for women’s lower likelihood to hold positions of higher authority and power in the labour market, and these are discussed in detail in the following chapter.

While research suggests that male doctors progress faster in their careers than women, the current evidence base suggests that this may largely be a reflection of more women working part-time or taking career breaks to have a family (Taylor, Lambert et al. 2009). In cohort studies of medical students, Taylor and colleagues measured the time to reaching consultant posts in hospital practice and principal posts in general practice. After accounting for full-time or part-time working, gender differences in career progression were greatly reduced and there was no statistically significant difference in the career progression of male and female doctors that had always worked full-time (Taylor, Lambert et al. 2009). The current patterns of part-time working for male and female doctors are described in the next section of this chapter whilst theoretical explanations for gender differences in working hours are explored in Chapter 3.

Despite the ‘glass ceiling’ concerns of many authors, data from the NHS Information Centre suggests that the general influx of women into medicine in England appears to be slowly reducing gender differences in career grade as women filter through into higher positions in medicine. This trend is demonstrated in Figure 2.6 which shows a growing proportion of women across all grades. There is a cohort effect whereby the trend is slower to change in the higher positions, such as consultant posts, due to the length of time needed to reach this level. Figure 2.6 also shows that female doctors outnumbered males in 2011 in the first two years of medical training; foundation years one and two (FY1 and FY2) and there were equal numbers of men and women in the registrar group (NHS Information Centre 2012b).

Figure 2.6: Proportion of female doctors in different hospital grades: 1975, 1992 and 2011. Numbers are given in boxes.[1]



Data sources: Department of Health (2007b) and NHS Information Centre (NHS Information Centre 2012b)

[1] 'SAS doctors' include specialty doctors, associate specialists, hospital practitioners and clinical assistants. Whilst 'staff grade' doctors are also 'SAS doctors', the historical data does not separate these from senior registrars so they are grouped together here.

2.5 Trends in gender balance of part-time working

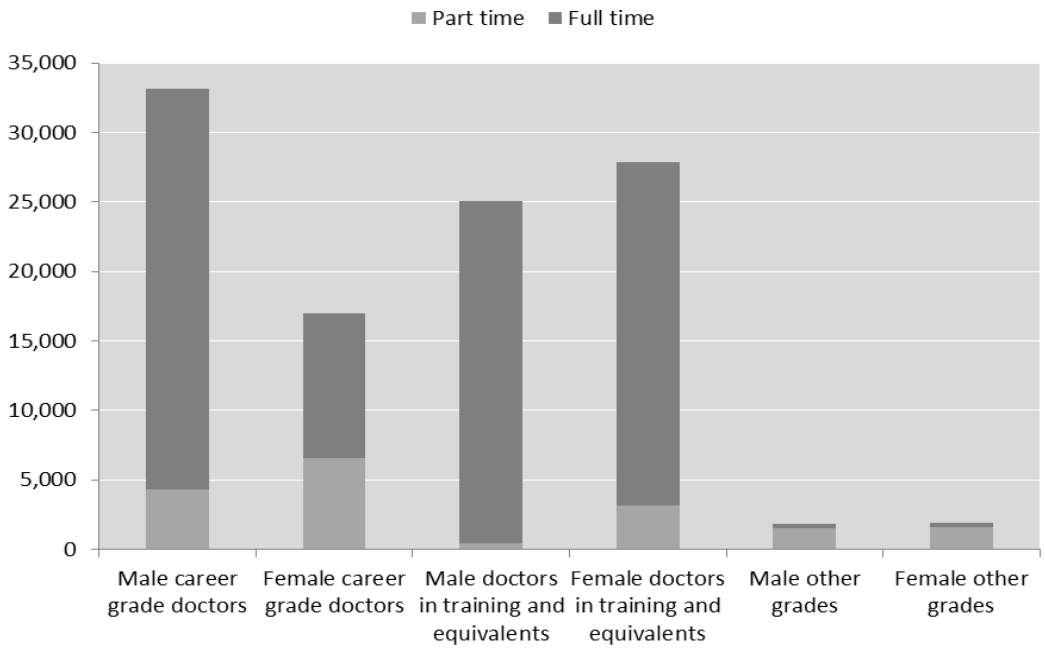
Gender differences in rates of part-time working are strongest in primary care, which offers greater flexibility and therefore attracts more female doctors (Elston 2009). In general practice 49% of female GPs work part-time, compared with 12% of males (Elston 2009). In hospital medicine, the numbers of female doctors working part-time have been increasing over time; however the actual proportion of female hospital doctors choosing to work part-time has reduced from 39% in 1975 to 24% in 2011 (Department of Health 2007b, NHS Information Centre 2012b). This is reflected in the male hospital doctor population as well, where the proportion of men working part-time

has reduced substantially, from 35% in 1975 to 10% today (Department of Health 2007b, NHS Information Centre 2012b).

The ‘target income hypothesis’ (Evans 1974) can be used to explain these changes as it suggests that individuals will adjust their labour supply (e.g. work hours) according to their ‘target income’ level. Based on this theory, it is possible that the reducing proportion of doctors working part-time in secondary care may reflect a lowering need to undertake private practice (which is associated with higher incomes and greater part-time working in the NHS) as the consultant contract reform (Department of Health 2003) has increased remuneration for hospital consultants.

Today the vast majority of hospital doctors work full-time; however, as Figure 2.7 demonstrates, part-time working becomes more common as doctors progress in their careers. Additionally, gender differences in part-time working appear to increase as doctors move up the career ladder. For example, there is a large gender difference in part-time working amongst career grade doctors (including consultants, staff grades, associate specialists and specialty doctors), with approximately three times more women career grade doctors working part-time compared to men at the same career level. This trend is also noticeable when looking specifically at the consultant grade (which forms part of this ‘career grade’ group), as 34% of female consultants currently work part-time compared to only 13% of male consultants (NHS Information Centre 2012b).

Figure 2.7: Number and proportion of doctors in England working part-time and full-time, by career grade.[1]



Data source: NHS Information Centre (2012b)

[1]'Career grades' include consultants, staff grades, associate specialists and specialty doctors; 'doctors in training' include registrars, FY2s, SHOs, FY1s, HOs and other doctors in training; 'other grades' include hospital practitioners, clinical assistants, other staff.

2.6 Trends in women's hospital specialty choices

Table 2.3 demonstrates the increasing numbers of women at both registrar and consultant level across each specialty since 1992, whilst Figures 2.8 and 2.9 give insight into the proportion of women in each specialty over time.

The specialties with the highest proportion of female registrars include public health medicine and community health service (PHM & CHS), obstetrics and gynaecology and paediatrics (Figure 2.8). Interestingly, both the obstetrics and gynaecology and paediatrics specialties follow the 'run-through' training route (MMC 2012), which may be more attractive to female applicants as a result of the greater job security and stability that is associated with this training route compared to the 'uncoupled' route

which requires re-application for training posts after 2 years, sometimes resulting in a change in location.

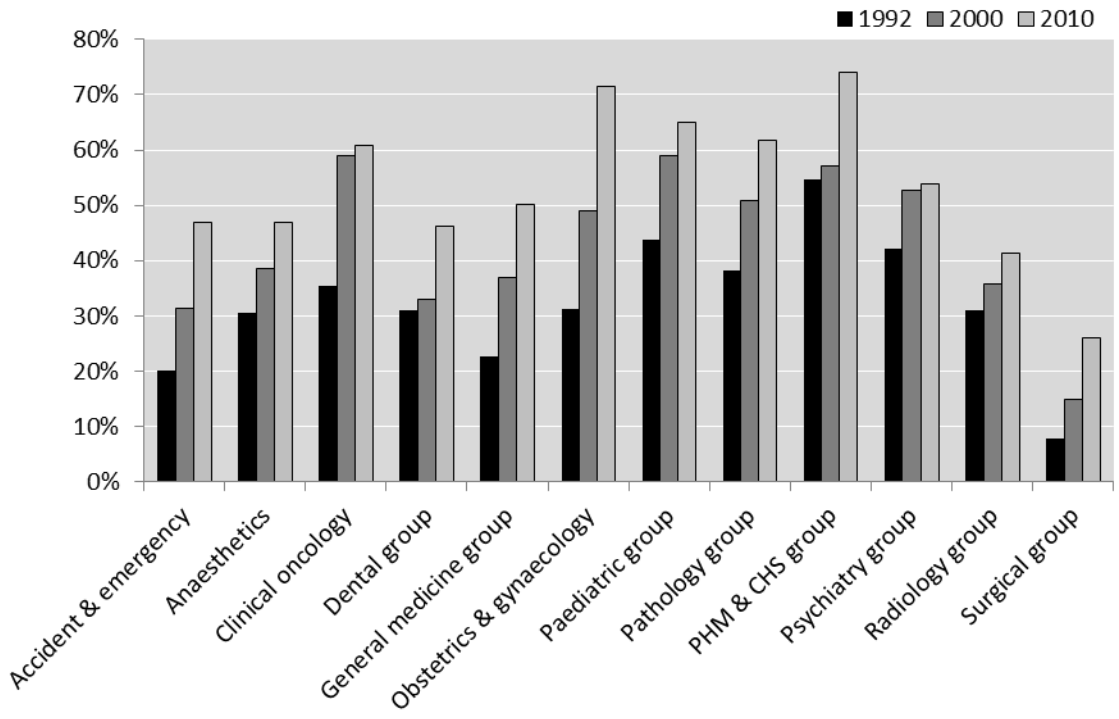
The number of female registrars is currently highest in the general medicine group (n=5266), which has more than twice the number of women than the specialty with the next highest number of female registrars (paediatrics) and is reflective of the generally high numbers overall in this specialty. While surgery currently has the lowest *proportion* of female registrars (Figure 2.8), the *number* of women specialising in this group has increased more than tenfold since 1992 (Table 2.3) and this is now one of the specialties with the largest number of female registrars (NHS Information Centre 2011b, NHS Information Centre 2011c).

Table 2.3: Number of female registrars and consultants by specialty in 1992, 2000 and 2010

	1992		**2000**		**2010**	
	Reg	Cons	Reg	Cons	Reg	Cons
Accident & emergency	26	23	105	75	967	302
Anaesthetics	381	456	635	825	2,101	1,718
Clinical oncology	46	42	108	86	271	224
Dental group	91	51	88	89	214	197
General medicine group	524	450	1067	933	5,266	2,468
Obstetrics & gynaecology	236	116	461	271	2,068	733
Paediatric group	251	240	675	552	2,600	1,192
Pathology group	311	401	321	642	746	1,133
PHM & CHS group	198	172	178	351	173	488
Psychiatry group	593	558	500	957	1,736	1,741
Radiology group	161	281	235	463	454	816
Surgical group	172	121	415	275	1,984	701

Data sources: NHS Information Centre (2006a, 2010b, 2011b, 2011c)

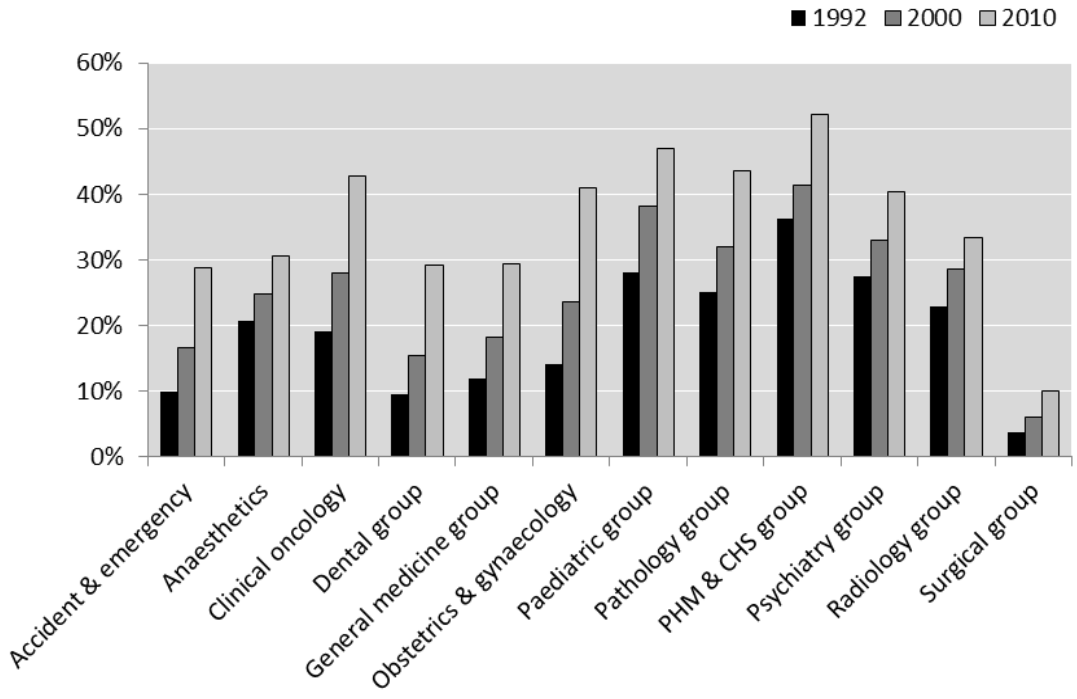
Figure 2.8: Proportion of female registrars in each specialty: 1992, 2000 and 2010.



Data sources: NHS Information Centre (2011b, 2011c)

Despite the growing number and proportion of women holding consultant positions, the male-to-female consultant ratio continues to vary widely across specialties, with some that are approximately 50% female (e.g. Public Health Medicine and Community Health Service (PHM & CHS) and paediatrics) and others that remain male-dominated (e.g. surgery) (Figure 2.9). The specialty that has shown the greatest increase in proportion of female consultants over the past 18 years is obstetrics and gynaecology, where the proportion of female consultants has increased by 27 percentage points. Even in surgery, the specialty with the lowest proportion of female consultants, there have been substantial changes to the gender demographic of consultants, as reflected in the registrar data above and demonstrated in over a five-fold increase in numbers of female surgical consultants since 1992.

Figure 2.9: Proportion of female consultants by specialty in 1992, 2000 and 2010



Data sources: NHS Information Centre (2006a, 2010b, 2011b)

2.7 Summary

This chapter has described the historical role of women as healers, their gradual movement towards gaining medical qualifications and the current situation of female doctors in medicine today. Despite the increasing numbers of female medical graduates, there remain large differences in the workforce behaviours of male and female doctors. For example, female doctors are more likely to work part-time and hold different preferences for medical specialism.

Understanding these gender differences is important, for example for future workforce planning, however it would be over-simplistic to solely consider the quantitative differences in male and female doctors' medical practice, as have been described in this chapter. This thesis will therefore explore more qualitative issues that are raised by

the increasingly feminised workforce, for example: how do male and female doctors' working behaviours and working lives differ?

In the next chapter, theoretical explanations for the existence of gender differences in the workplace generally, and more specifically in medicine, are explored using economic, sociological and psychological literature.

3

Theoretical perspectives

3.1 Introduction

The potential implications of increasing numbers of women entering medicine, such as workforce planning issues and productivity concerns that are discussed in Chapter 1, make it important to consider how gender differences may arise and what this means in practice for doctors' working lives and working practices in the NHS.

A multidisciplinary approach is developed in this chapter using perspectives from economics, sociology, and psychology to investigate the various theoretical mechanisms through which gender differences in doctors' working lives may arise. These fields are interrelated, as gender differences are considered here to be socially constructed and influenced by historical, economic, social and cultural forces that interact with each other to create and reinforce gender differences in individuals' behaviour.

> "A constructivist perspective of gender… underlines that sex and gender, biology and culture are related and inter-reliant. In this perspective gender refers to the constantly ongoing social construction of what is considered "feminine" and "masculine", based on sociocultural norms and power. Gender is not a fixed or 'natural' category, but subject to change and negotiation." (Risberg, Hamberg et al. 2003, p2)

The terms 'gender' and 'sex' are sometimes, and incorrectly, used interchangeably. In health services research, for example, the term 'gender' is widely adopted and is sometimes used to refer to biological differences between men and women in place of the term 'sex.' It is useful, therefore, to provide a definition of these terms. The concept of gender is a relatively new term which was developed following the second wave

feminist movements of the 1970s, and some feminists suggest this is polite euphemism that has replaced the term 'sex' (Jackson 2011). To define the two terms, Giddens (2006) refers to sex as the physiological differences between men and women, whereas gender reflects the psychological, social and cultural differences between men and women. Feminist sociologists Jackson and Scott (2002, p2) further suggest that gender "encompasses the social division and cultural distinction between women and men as well as the characteristics commonly associated with femininity and masculinity." Other sociologists have argued that rather than gender being a fixed trait or role, it is adaptable: "[gender] is an achieved status: that which is constructed through psychological, cultural, and social means" (West and Zimmerman 1991, p13). Within this thesis, the term 'gender' is used throughout to refer to the economic, social, cultural, and psychological differences between male and female doctors that may explain variations in their working lives.

Early theorists suggested that biological determinism, or physiological sex differences, could be used to explain gender differences in men's and women's behaviours. In the late 19th and early 20th centuries, sociologists such as Weber and Durkheim failed to acknowledge the importance of *gender* rather than *sex* differences in their investigations of society and social issues. For example, Chafetz (1999, p4) describes how many of the founding fathers of sociology believed that women were intellectually inferior to men and thought that women were "deficient in the sense of justice and reasoning ability required of all life beyond the care of husband and children." Giddens (2006) also comments on the commonly held belief at the time that men were predisposed to different behaviours to women, such as aggression and hunting. This over-simplified, or essentialist, biological approach ignores the differences that occur across cultures and over time.

It is essential to adopt a multi-disciplinary approach to questions of gender differences in consultant working lives, as it would be erroneous to presume that men and women differ as a result of biological *sex* differences, as opposed to an interaction between personal characteristics and wider social forces that have historically affected men and women differently. In this chapter, the discipline of economics is used first to highlight how gender differences in the family and the labour market may arise, in order to discuss the wider historical and economic context in which gender differences in doctors' working lives may be understood. Wider societal changes in the economic roles of men and women also occur alongside changing social expectations and

gendered roles. The discipline of sociology is therefore used to explore these factors, in particular the influence of patriarchy and social roles on groups' and individuals' behaviours. Finally, a psychological perspective is used to identify how these economic and social factors impact on individuals' behaviours.

3.2 Economic perspectives

The wider economic and social position of men and women at work and in the family can be explored using the discipline of economics. Key areas of relevance to the study of gender differences in doctors' working lives are considered here using economic theory, including the gender division of labour, which is discussed here using theories from the field of family economics, and theories of gender discrimination in the workplace, which is related to the field of labour economics.

3.2.1 Family Economics

The area of economics concerned with how families or households behave, described as 'family economics', emerged from Gary Becker's work, notably 'A Treatise on the Family' (Becker 1981). Replacing the traditional approach of labour supply theory, which suggested that all non-market time was spent on leisure, Becker's work was important as it examined, for the first time, the role of non-market work, or domestic labour, on trends in the family (Blau 1989). Economic theories, such as Becker's model and bargaining theories, described in this section, are important as they identify possible explanations for the existence of gender differences in the home.

Feminist sociologists have coined the term 'second shift' to refer to the domestic responsibilities that women face when returning home from work (Hochschild 1989, Sheldon 1992). Even in today's society of greater equality between men and women, there remain large gender differences in the work undertaken in the home: in the UK time use survey women reportedly spent 3 hours per day on housework, compared to 1 hour 40 minutes by men (Office of National Statistics 2005). A recent study has explored time trends in the division of domestic work across 16 countries and suggested that women will continue to do the majority of non-market work until approximately 2050 (Kan, Sullivan et al. 2011).

Understanding the mechanisms underlying these differences is important as they may have implications for men's and women's behaviours in the medical workplace. Studies in Norway and Canada, for example, suggest that female doctors may receive lower levels of spousal support for domestic and childcare responsibilities compared to men, and female doctors feel these differences interfere with their work and affect their career progression (Gjerberg 2003b, Jovic, Wallace et al. 2006). In addition to a 'second shift', female doctors in the UK are statistically significantly more likely to care for a dependent adult than male doctors (Davidson, Lambert et al. 1998) - what some sociologists refer to as the 'third shift' (Abbott 2005). These differences have implications for male and female doctors' working patterns and career choices, as described in the Chapter 2, female doctors are more likely to work part-time and specialise in certain areas of medicine.

3.2.1.1 Becker

Becker's theories of family economics, which examined the existence of gendered roles in the home, were developed at a time when households were predominately formed of nuclear families and traditionally characterised by gendered roles, with women specialising in domestic work and men in market work. Although perhaps less relevant today as a result of changes in the traditional family unit and changing economic profiles of men and women as a result of women's greater participation in market work, this model is worth discussing as it formed the basis of new ways of thinking in economics by considering why gendered roles exist in the home.

Central to Becker's work was the assumption that men and women have different 'comparative advantages,' which, if pooled in a cooperative and altruistic manner, could maximise the utility of the household. This relates to the amount of human capital an individual possesses; a term used in economics to refer to the "productive capacities of human beings as income producing agents in the economy" whereby the 'productive capacity' is the amount of skill or knowledge an individual has (Rosen 1989, p137). Traditionally, gender differences in human capital were seen to arise because women placed greater emphasis on 'the family' compared to men, due to their biological reproductive roles and, therefore, become more specialised in that area (Blau 1989). In economic terms, the historical division of labour was considered to be 'rational' as one

member of a household specialises, or holds greater 'human capital', in one area (women in domestic labour) and one in another (men in paid work) (Mueser 1989).

The gender division of labour may, however, put women at a disadvantage as they become dependent on men for economic reasons, they may be less involved in making decisions and there are larger consequences of divorce for women if they are reliant on husbands for financial security (Blau 1989, Chafetz 1999). This becomes a vicious circle as women's traditional specialisation in non-market work leads to them spending less time in the labour market, which in turn reduces women's likelihood to invest in formal education and training compared to men (Blau 1989).

3.2.1.2 Changing family structures

Significant changes to the historical gender division of roles in the home and the labour market have occurred over past decades, and since Becker's theories were first introduced. Legal changes, such as the introduction of 'no fault divorce' in 1971 following the Divorce Reform Act (1969), were associated with changes to the family unit, as they enabled couples to divorce without requiring evidence of wrong-doing by either party. Additionally, public policies, such as improved state provision of care for the elderly, and technological advances, such as the introduction of electric washing machines and other time saving appliances, have influenced production in the home (Lundberg and Pollak 2007). These factors have all increased women's ability to participate in market work as less time is needed for non-market work.

These changes have, in turn, changed the structure of the traditional nuclear family unit over recent decades, with lower marriage rates, birth rates and fertility rates, higher divorce rates and greater labour force participation amongst women (Jacobsen 2007). For example, in England and Wales, marriage rates were only 19.8 per 1000 unmarried women in 2010, compared to rates of approximately 60 per 1000 in the early 1970s (Office for National Statistics 2012). Even over the course of one decade (1996 to 2006), the number of married couples reduced by 4% in the UK, partly due to the increasing numbers of cohabiting couples and lone parents, the latter of which increased by 11% in the same time period (Office for National Statistics 2007).

Understanding the changes that have occurred to the family unit are important, as Ermisch (2008) points out, the family and labour market are co-dependant; the labour market affects the behaviours of families and households, whilst family context affects market behaviours, such as labour supply. For example, changes in the composition of the family may have influenced changing tastes for market work as women have needed to become more financially self-reliant, and women may have more time to participate in the labour market as family sizes have reduced. Alternatively, the direction of causality may have been the reverse. Connolly and Gregory (2007, p2) suggest that women's increasing participation in the labour market has "brought an unprecedented degree of financial independence for women, and has been a key element in the transformation of their economic and social status." As a result of women's higher workforce participation, the relative benefits of marriage for women may have reduced; contributing to falling marriage rates. Women's increasing educational status may also explain trends towards later marriages (Jacobsen 2007) and increasing value placed on women's time, which in turn may lead to lower birth rates and higher opportunity cost of having children (Becker 1989).

Given these changes to the traditional family unit, Becker's view of a household comprising two married adults and children, serving together to maximise production and utility of the household, is much less relevant today. Ermisch (2008) suggests that bargaining theories of resource allocation in the home may now be more applicable.

3.2.1.3 Bargaining theories

Critics of Becker's model of the family suggest that it is inappropriate to assume that individuals in the family unit act to maximise a single household utility function, as individuals within a household may hold different wants and needs and family life does not benefit all in the household equally (Ferber 2008). Ermisch (2008) suggests that individuals instead seek to maximise their own utility or welfare, and a form of intra-household bargaining takes place. Whereas Becker's model suggests that cooperative bargaining occurs as a family unit works towards the common goals of the household, more recent models suggest that bargaining in the household is non-cooperative in nature, with individual's personal interests motivating their behaviours in a family unit (Agarwal 1997).

The bargaining power of an individual, that is, their ability to negotiate within the family unit to make decisions on their own terms, depends upon their ability to thrive outside of marriage (Agarwal 1997). A strength of bargaining theory is the acknowledgement of both individual's assets (such as economic or income potential) and external factors (such as the legal rights and social norms), that may affect the bargaining power of an individual.

Considering the influence of wider social norms is important as the continued gender specialisation of roles in the home and the labour market, despite women's improved economic profiles over time, suggests that wider sociological and psychological factors may influence behaviours in the home. In most developed countries there are now more university-educated women than men (Beck 2011), and yet women continue to do more non-market work. In medicine, for example, women in dual doctor households continue to take on the majority of care-giving responsibilities in the home, despite their own labour market participation and similarities in human capital as a result of medical training (Sobecks, Justice et al. 1999).

Strober (1989) suggests that women's own values, attitudes and expectations influence their participation in market work, but more recently there has been an acknowledgement of how these values and expectations may compete against one another, particularly for women who attempt to balance responsibilities and personal motivations at home and at work. Therefore, whilst the concept of rationality is often used in economics to describe how individuals make decisions and weigh up alternatives based on a rational choice that allows them to maximise their individual utility, Poiesz (1998, p262) suggests that it may be "rational for a decision maker to be satisfied with a particular outcome that required less effort than the maximum outcome." Related to this notion, and as a result of women's joint roles in the home and labour market today, the term "satisficing" has been coined to describe situations that women may find themselves in, whereby they seek to balance work and home life by reaching only satisfactory levels of personal achievement in both (Chafetz and Hagan, 1996 cited in (Chafetz 1999)).

In medicine, there is research to suggest that 'satisficing' may occur both in relation to women's personal and professional lives. In the home, a pattern of 'deferred parenthood' has been described in medicine, with women restricting their personal aspirations of having a family to benefit their medical careers (Dumelow, Littlejohns et

al. 2000, Reed and Buddeberg-Fischer 2001, Elston 2009, Willett, Wellons et al. 2010, Goldacre, Davidson et al. 2012). These differences may be greatest in surgical specialties, where 69% of men compared to 41% of women have children by the age of 35 (Goldacre, Davidson et al. 2012). Meanwhile, in their professional lives, Abbott (2005, p258) suggests that women's greater responsibilities in the home lead to women generally choosing work roles in which their "real or potential conflict between home and work can be reduced." In the medical setting, numerous studies have investigated the effect of gender on career decisions. In a qualitative study, interviews revealed that work-life balance was important to both male and female medical students, however, female medical students were more aware of compromises that they may need to make in their professional lives in order to accommodate having a family, and this had an effect on the specialty choices made by women (Drinkwater, Tully et al. 2008). In an earlier study, 56.3% of female doctors reported being influenced by "domestic circumstances" and "hours and working conditions" when making career choices, compared to just over 30% of men (Davidson, Lambert et al. 1998). Interviews with female pre-registration house officers also revealed that 9 out of 15 were concerned about balancing home and work lives if they were to choose a surgical career path (Williams and Cantillon 2000). These preferences may explain the gender differences in proportion of men and women across specialties summarised in Chapter 2.

While this research has highlighted gender differences in doctors' decisions about starting a family and career choices, the day to day effect of managing these dual responsibilities has not been studied in detail amongst male and female doctors in the UK. These factors, and potential gender differences, will be explored later in this thesis using qualitative research methods in Chapters 5 and 6 and survey methods in Chapter 8.

3.2.2 Gender discrimination in the workplace

Another area of economics that has relevance to this thesis is gender discrimination. Competitive theory in economics suggests that differences in individuals' earnings and labour market participation depends upon work characteristics (e.g. hours worked, occupation, role) and the relative value or human capital that individuals have to offer (e.g. experience levels, qualifications) (Elliott 1990). Where differences are greater than would be expected to arise due to these factors, gender discrimination may exist.

Labour market discrimination occurs when individuals are distinguished between one another “using criteria that have little or no bearing on their performance in the labor market” (Elliott 1990, p383).

Although there are various forms of discrimination, such as the preferential treatment of certain groups of employees for promotion, labour market discrimination can be measured most easily by examining the presence of gender differences in pay.

Various authors have described gender differences in earnings across a range of occupations and countries; reporting that women earn less than men even after accounting for differences in hours worked (Bell and Ritchie 1998, Robinson 1998, Connolly and Gregory 2007, Office for National Statistics 2010a). This is often referred to as the ‘pay gap’ and in the UK this gender pay gap has been gradually reducing since the feminist movements, social changes and legislation that occurred from the 1960s onwards. The pay gap in the UK is now at its lowest level, nevertheless the median hourly earnings (excluding overtime) of women are currently 10.2% lower than those of men (Office for National Statistics 2010a).

3.2.2.1 Gender differences in labour market participation

In the labour market, historical differences in the work undertaken by men and women may be used to provide explanation for these gender differences in pay, however, any difference over and above that which would be expected due to actual differences in the productive capacity of individuals may indicate the existence of gender discrimination.

Historically, lower levels of education and training for market work amongst women have led to reduced human capital, resulting in women choosing occupations that do not require as much training, that allow more flexibility, and that are associated with lower earnings compared to men (Blau 1989). Mueser (1989) suggests that gender differences in work roles and earnings may therefore arise as a result of actual differences in skills, rather than gender discrimination. This can be observed in the upwards trends in women’s wages and the reducing pay gap that have occurred alongside women’s increased levels of education and skills. Goldin (1986) predicts factors such as the increasing value of education and educational attainment of women, as well as reduced emphasis on physical attributes, such as strength, can account for 85% of the narrowing gender pay gap between 1890 and 1970.

Women are also more likely to work part-time as this is more compatible with women's traditionally greater domestic responsibilities in the home (Abbott 2005, Connolly and Gregory 2007, Jacobsen 2007). Some economists suggest that even when men and women work equal hours in the labour market, women's greater responsibilities in the home may mean that they look for jobs that are less demanding and intense so that they can balance this with greater intensity of responsibilities in the home, and this may impact negatively on their earnings (Rosen 1989, Becker 1985 cited in (Blau 1989)).

The Office for National Statistics (2010a) suggest that the pay gap can largely be explained by the greater proportion of female employees working part-time, as the median hourly earnings of part-time workers are 36.2% lower than that of full-time workers. Alternately, Hakim (1996) suggests the pay gap may be explained by the vertical gender segregation that exists in the workplace. Sociologists use the term 'vertical' gender segregation to describe the tendency for women to occupy roles of less authority and power compared to men, whilst 'horizontal' segregation relates to the occupational fields that have traditionally been occupied by women, such as nursing (Hakim 1996, Abbott 2005, Giddens 2006). In teaching, for example, there may be vertical segregation as women tend to work as classroom teachers and more men work as head teachers, creating a pay gap in teaching if these roles are both considered under the same occupational classification (Hakim 1996). However, this theory seems partial, as the gender pay gap persists even when examining pay at the same level of employment and the same profession. For example the hourly earnings of female employees in the top decile of employment are 22.7% lower than men in the same decile (Office for National Statistics 2010a). The presence of a gender pay gap regardless of professional status is seen in professions such as law, where women earn 27% less than men (Connolly and Holdcroft 2009). This may, however, be a function of lawyers being paid on a fee-for-service basis, where women working fewer hours would result in lower incomes.

Even when men and women have the same levels of skills and education, Boserup (1989) suggests that pay differences may arise due to how men and women are socialised into different social roles. For example, women may be less likely to fight for their own interests and make demands in the workplace, a phenomenon found in medicine, where survey findings suggest that female doctors may be less successful at negotiating improved contracts or promotion (Connolly and Holdcroft 2009). Some authors suggest there is a 'glass ceiling' that many women face in employment,

whereby women struggle to reach the highest positions in the workplace, despite being equally qualified and experienced as their male peers (Hakim 1996, Jackson 2011). For example, only 5% of board directors of public companies are female and although 50% of teaching staff are women, only 30% of head teachers and deputy head teachers are female (Connolly and Gregory 2007).

3.2.2.2 Pay gap in medicine

Econometric studies of the gender pay gap in medicine have sought to measure the presence of pay discrimination in the medical workforce. In theory, the medical workforce presents a useful opportunity for measuring the true effect of gender discrimination on the gender pay gap, as men and women in similar roles and with similar levels of human capital may be compared. However, variations in the settings (e.g. salaried or 'fee for service' settings) and methods used in studies to account for covariates such as contracted hours, specialty and practice settings make it difficult to gauge whether there is a pay gap in medicine, and if so, if this is a result of actual discrimination against women or other characteristics. While a number of studies report lower earnings amongst female doctors compared to males, levels range from no difference to 17% (Bashaw and Heywood 2001, Connolly and Holdcroft 2009, Lo Sasso, Richards et al. 2011, Morris, Goudie et al. 2011, Theurl and Winner 2011).

Payment by 'fee for service' in settings such as the US may create different incentives and different patterns of work that cannot be compared directly to systems such as the UK, where doctors are paid on a salary basis. In the US, Baker (1996) conducted a survey of 6053 physicians and found that although there was a 41% difference in the earnings of young male and female doctors, per hour worked this difference reduced to 14% and after adjusting for other factors there was no pay gap. In fact, in some specialties (general practice and family practice) female doctors actually earned more than males (Baker 1996).

In the UK, researchers have adopted various approaches to analysing the pay gap in medicine. In a survey of 1162 doctors, Connolly and Holdcroft (2009) found that while confounding factors such as specialty, years of experience, career breaks and age explained approximately 60% of the gender pay gap for consultants and 40-50% for trainees in the UK, a true gender pay gap of 5.6% still existed for consultants and 4.1% for trainees after controlling for these factors (Connolly and Holdcroft 2009). Morris et al

(2011) found a similarly low pay gap for UK doctors. Using data from The Work-life Survey which was undertaken with GPs in England in 2008, they found that female GPs had far lower incomes compared to male GPs, but after adjusting for hours worked there was a small difference of 3.4% (Morris, Goudie et al. 2011). Whilst acknowledging the raw pay gap that exists in doctors' pay, Gravelle et al (2011) examined the presence of gender discrimination in English GP's pay by establishing whether, after accounting for all possible confounding variables, there was any remaining gender pay gap that could only be described as discrimination. Their economic modeling provided only weak evidence of gender discrimination in this setting (Gravelle, Hole et al. 2011).

3.2.3 Summary

Changes have occurred in the family and in the labour market over recent decades. Economic theories provide insights into how and why men and women's position in the home and the workplace may vary. These differences have implications for the working patterns and behaviours of men and women in the medical workforce and will be considered throughout this thesis as a means of reflecting on findings generated.

Although dramatic shifts have occurred over the past century, it seems that expectations about gender stereotyped roles remain ingrained in society and difficult to overcome, despite women's increasing human capital. A sociological perspective is now used to consider the impact of wider sociological factors, such as gendered roles, on the behaviours of societies and groups.

3.3 Sociological perspectives

The discipline of sociology seeks to find explanations for phenomena that occur in everyday social life, groups and societies (Giddens 2006) and there are multiple sociological theories that may explain the gender differences that exist in society. It was not until the pioneering work of Margaret Mead in 1935 that gender differences began to be explored outside of the traditional biological deterministic approach (Jackson and Scott 2002). In her anthropological work with three New Guinea societies in the 1950s, Mead found that sex roles varied across cultures, for example with both men and women taking on 'feminine' roles as well as 'masculine' roles (Jackson and Scott 2002). This sparked the beginning of several new fields of sociological thinking

that focused on exploring how wider social and cultural factors may explain differences in the behaviours of men and women. Ridgeway (2009) suggests that these social processes are multi-faceted, inter-related and act simultaneously to reinforce gender differences.

Multiple sociological theories have been used to explore gender differences. In this thesis, the focus will be on discussing theories of patriarchy, social roles and interactionism as they encapsulate how social forces may influence and reinforce gender differences in individuals' behaviours.

3.3.1 Patriarchy

The term patriarchy refers to the power held by 'fathers' (from the Latin 'patri'), or men in society. Feminist sociologists suggest that patriarchal forces that exist at a societal level place women at a disadvantage and promote the supremacy of men over women. For example, Walby (1986) argues that women are oppressed through their historical roles as domestic labourer and that patriarchal forces in the workplace, the state, and the household discriminate against women entering waged work. Meanwhile, Hartmann (1976) suggests that capitalism, or the pursuit of profit, and patriarchy may act as a vicious circle which increases men's domination of women in the labour market and job segregation. However, as discussed previously, there have been considerable changes to women's participation in the labour market over recent decades and a number of different mechanisms can be used to explain this greater equality.

Patriarchal forces in society are nevertheless important to consider as these wider factors may influence individual's behaviour and reinforce socially constructed gender expectations about the social roles of men and women. Davies (2003, p721) highlights this point:

> "Individuals' actions have to be understood within a wider societal setting where structures, symbols and discourses – all imbued with gender – are taken into account. There is a relentless and reflexive process of these other levels influencing individual action and individual action similarly constructing, maintaining and even altering these structures, symbols and discourses. The various levels are intertwined."

Even in today's society of greater female participation in the workplace, historical patriarchal forces may still inhibit women's progress. Several authors have commented on the patronage that exists in medicine and how it discriminates against women doctors (Currie 1993, Hafferty 1998, Davies 2003, Abbott 2005). These discriminatory forces have been linked to the historically low numbers of women in the profession: "medicine has been held up as a particularly extreme case of patriarchal exclusionary closure, whereby overt and covert discrimination has kept out all but a handful of women" (Elston 1993, p29). Taylor and colleagues (2009) describe barriers that women experience in medicine as either direct (e.g. sexual discrimination that favours men over women) or indirect (e.g. women may struggle in some specialities due to long and unpredictable shift patterns). Allen (2005, p569) describes both indirect and direct barriers that impeded women's access to medicine in the late 1980s:

> "…many trainees had to work 120 hours a week and move to different locations every few months. Women were asked the most outrageous questions in interviews, the old boy network and behind the scenes telephone calls were dominant factors in the selection process, and women who wanted to reduce their hours to spend time with their children were not regarded as proper doctors." Allen (2005, p569)

Indirect barriers may include the cultural and organisational structures that were built at a time when men dominated the workforce, which produce organisational structures that naturally favour men (Reed and Buddeberg-Fischer 2001). In a survey of health professionals and medical students working in the NHS, Miller and Clark (2008) found that organisational barriers may create a role conflict between work and family commitments. In addition, respondents reported barriers to career progression including male dominance and an 'old boy network' in medicine (Miller and Clark 2008). These findings were based on the responses of only 33 (8 female and 25 male) consultants in Scotland. Although, as the authors point out, this is representative of the gender composition of the consultant workforce in Scotland, their views may not be generalisable to other settings or populations of doctors. Nevertheless, these results are consistent with the findings of a large survey of medical students in the US which revealed both male and female students considered there to be an 'old boy' culture in medicine, although there was a much higher sense of this amongst female students (Sanfey, Saalwachter-Schulman et al. 2006).

Aside from the intended and endorsed curriculum taught in medical schools, Hafferty (1998) suggests there is a 'hidden curriculum' of cultural norms and customs in medical institutions. In a study of Swedish medical students' views of 'being a doctor,' Johansson and Hamberg (2007) discuss a hidden gender system that exists in medical school and exerts influences on students' views of their future and specialty choices. These may relate to wider socially constructed gender expectations and patriarchal ideologies, for example family responsibilities were seen as a woman's role and female respondents in this study expressed greater concerns about how they would balance work and family life in the future (Johansson and Hamberg 2007). Riska and Wegar (1993) support the suggestion that institutional factors, such as patriarchy, may influence the career choices of female doctors and act as a barrier to some fields of medicine.

A lack of female role models in medicine means that gender stereotypes have not been challenged and there are still expectations that women will choose certain specialties or work part-time so that they can care for a family (BMA 2009). In addition, women may be discouraged from applying to specialties that have low numbers of women - in a large US survey, 35% of female respondents were discouraged from entering surgical careers due to a lack of female role models (Sanfey, Saalwachter-Schulman et al. 2006). Despite increasing numbers of women in the medical workforce and measures to promote female participation in male dominated specialties (such as the Women In Surgical Training (WIST) scheme (Royal College of Surgeons 2002)), recent research supports the suggestion that wider social roles and expectations still influence the behaviours of medical doctors. For example, in a survey of doctors Connolly and Holdcroft (2009) report that women find it difficult to progress in their careers due to family commitments, and women's free text survey responses suggest that there may be an unsupportive and hostile culture in medicine which may impede their progress. In addition, a qualitative study by Babaria and colleagues (2009) found that female medical students defaulted to gender stereotyped behaviours (such as assisting nurses or being apologetic) when faced with new and challenging circumstances, such as starting a new specialty rotation.

However, in some fields of medicine that are becoming female dominated, such as obstetrics and gynaecology, it is possible that social roles may be changing and may in fact negatively affect male medical students in these fields (Nicholson 2002). The influence of potential social roles and gendered expectations on male and female

doctors' behaviours and experiences in the workplace are explored in Chapters 5 and 6 of this thesis. In addition, these chapters explore whether there have been any changes to the culture in medicine as a result of increasing numbers of women entering the profession.

3.3.2 Social roles

While sex role theories suggest that men and women may adopt different roles in society due to biological differences between the sexes, this assumption has largely been criticised due to lack of consideration for cultural and situational effects and for the most part have been replaced by social role theories which do consider these contextual variations (Chafetz 1999). According to social role theory, behaviours may be shaped by socially acceptable or stereotyped expectations of the types of behaviours that may be salient in a given scenario.

Socialisation theory suggests that gender expectations are formed and reinforced by socialisation that occurs from early childhood onwards as the child receives different signals through naming, clothing, toys, games etc (Chafetz 1999, Stanley 2002). Socialisation is the process through which "attitudes, motivations, and behaviours commonly considered appropriate to [individuals]" are learnt (Davidson and Gordon 1979, p9). For example, a recent analysis of data from the Millennium Cohort Study suggests that, even amongst children as young as 7 years of age, gender-typical career aspirations and motivations are apparent (Flouri and Moulton 2012). In socialisation theory it is stressed that it is not the sex of the individual per se that shapes behaviours, but the social roles that are built up over time according to different forces within society generally, such as the historical gender division of labour in the home and at work that has been described as part of the economic perspective in this chapter. Consideration of how these social roles are formed and differ according to gender is important as they may relate to gender differences in behaviour or experiences in the workplace.

Gendered role expectations may mean that women face conflict if their attitudes and behaviours do not fit within social or cultural stereotypes. Women may feel torn between the domestic role that has historically been assigned to them by society and their other roles in employment, whilst men may not experience similar conflict as traditionally men's role has been to prioritise employment commitments over domestic

commitments. Chafetz (1999, p15) suggests that in the labour market this may lead to inequality whereby “female-dominated occupations are structured to assume high rates of absenteeism and relatively low levels of commitment and are therefore under-valued and –rewarded.”

The literature suggests that in the workplace men are typically associated with more powerful ‘agentic’ work roles (assertive, directive and forceful behaviours) whilst women have traditionally been associated with more friendly or ‘communal’ roles (e.g. responsive and attentive to others, nurturing and kind) (Ridgeway and Smith-Lovin 1999, Johnson, Fasula et al. 2006). These cultural rules in society mean that men and women may be met with disapproval if their behaviours do not match social role expectations, for example Ridgeway (2009, p7) suggests that: “women are typically sanctioned for acting too domineering and men for being too yielding or emotionally weak.”

In the medical literature it is suggested that socialised roles in the workplace may influence the specialty choices of male and female doctors differently. The specialties often chosen by women have been described as relation- and emotion-orientated (Riska and Wegar 1993, Johansson 2007, p1) whilst male dominated specialties are described as “autonomy-orientated and technical specialities” (Johansson 2007, p1). A UK study of the personal attributes of male and female doctors revealed that women felt better equipped in ‘ability to listen’ and ‘caring and compassionate’ traits whilst men reported greater ‘leadership potential’ and ‘tolerance of ambiguity and uncertainty’ (Clack and Head 1999, p.101). These findings may relate to social expectations of gendered traits and may explain the male preponderance for careers in surgery and women’s tendency to specialise in fields such as paediatrics, as described in Chapter 2.

Gender stereotypes may also alter the perceived effectiveness of people in leadership positions, as Johnson and colleagues (2006) suggest that women’s lower perceived status may lead to de-legitimation in leadership roles, particularly in male-dominated workplaces where they suggest gender stereotypes may be more prominent. This is important as legitimacy, as judged by colleagues and subordinates, will effect compliance and cooperation in the workplace (Johnson, Fasula et al. 2006). This research was conducted as a simulated experiment and may therefore lack transferability to real life settings. Nevertheless, these gender differences may have

potential implications in the medical setting, which has traditionally been male-dominated and may affect how female leaders, such as consultants, are viewed by subordinates. Similar concerns have been voiced by the former chair of the Royal College of Physicians, Dame Carol Black, who suggested that the power of the medical profession may change over coming years as a result of 'feminisation' of the medical workforce (Laurance 2004). Research in the US supports the suggestion that male and female doctors may be treated differently in leadership roles. Cassell (1998), who studied female surgeons using qualitative observations and interviews, found that whilst dominant and aggressive male leaders commanded the respect of their subordinates, female leaders were not given the same support if they adopted a similar approach to leadership.

The male culture of medicine, which has arisen over centuries of men's predominance in this institutional setting, may shape the behaviours of female doctors entering the medical profession. Socialisation theory suggests that individuals learn and adapt to new social roles as society itself changes, or, when joining new social groups individuals learn the norms of that group and may base their own behaviours upon these (Davidson and Gordon 1979). Martin and colleagues (1988) support this and suggest that individuals go through processes of gender socialisation as well as professional socialisation, whereby they learn the values and attitudes of the professional group to which they are a member.

Evidence exists to support the assertion that in medicine the pressure to adapt to male group norms may cause conflict for women, who may be expected to behave in contradictory stereotyped 'feminine' roles due to their sex. Based on qualitative observational and interview work in the 1990s in a Swedish hospital, Davies (2003) describes the concepts of 'doing dominance' and 'doing deference' and suggests that whilst medicine has traditionally involved dominant behaviours or 'doing dominance', women's role has traditionally been one of deference. Female doctors may therefore feel torn between the feminine traits of their sex and the 'masculine' stereotype of being a doctor: they have to "straddle between the two finding themselves in some kind of no man's land" (Davies 2003, p730). At a similar time and in the US, Cassell (1998) also conducted qualitative observations and interviews, focusing on "The woman in a surgeon's body" – the title of her book. These findings support the suggestion that female doctors face two conflicting social role expectations and Cassell describes how

female doctors become ‘iron surgeons’ and may suppress feminine traits in order to survive in medicine (Cassell 1998). It is difficult to ascertain whether these are socially constructed gendered behaviours that are demonstrated in this setting or perhaps these women behave in masculine, aggressive and dominant ways outside of the medical setting also. Cassell’s work, however, can be criticised for being overly anecdotal in nature and not including any male participants that would have allowed direct comparisons across sexes to be drawn.

While these qualitative studies provide rich contextual information about how socially constructed gender expectations may influence the behaviours and experiences of female doctors, changes have occurred in medicine and society generally since these studies were undertaken in the 1990s. Women’s greater participation in medicine and in the labour market may affect gendered social roles and expectations about ‘male’ or ‘female’ behaviours, as well as the salience of gender in the medical setting. Riska (2001) posits that the greater presence of ambitious female role models over time has led to changes in gender expectations in medicine. The research undertaken in this thesis will explore gender differences in working style and communication style of male and female doctors, helping to identify whether socialised gender roles continue to be of relevance in the medical setting.

3.3.3 Interactionist approach

The influence of societal factors on the perceptions and behaviours of individuals in the medical workplace setting has been described using role theories. While role theories can be used as a potential theoretical explanation for how gender expectations are formed and shape individuals’ behaviour, these theories have been criticised for failing to acknowledge the changeable nature of gender (West and Zimmerman 1987) and fully recognising the effect of historical and political influences on individual behaviour and interactions (Stacey and Thorne 1985). Ridgeway (2009) stresses the importance of context and suggests that institutional settings in which interactions occur can be almost, if not equally, as important as the personal characteristics an individual uses to categorise themselves (such as gender):

> “They contain defined roles… embedded in institutional and organisational frameworks… often themselves infused with gendered cultural meanings… For individuals, it is these institutional identities and rules that are in the foreground of their

sense of who they are in a given context and how they should behave."

(Ridgeway 2009, p8)

Consideration of these contextual factors and the changeable nature of gender expectations are important and are central to the interactionist approach that is used in this thesis. The interactionist approach places importance on the setting and meanings that individuals attribute to phenomena in different settings. Based on the work of George Herbert Mead, Blumer first coined the term 'symbolic interactionism' in 1937 to refer to the process that individuals go through when interacting with other people (Blumer 1969). According to Blumer (1969, p2) there are three premises that are important for understanding and studying interactions:

1) Individuals behave according to meanings that they attribute to phenomena
2) These meanings arise from social interactions
3) Meanings are handled and modified as part of an interpretative process when encountering phenomena.

During interactions, individuals categorise others by their gender. This labelling acts as a form of heuristic, speeding up individual's thought processes during interactions. Ridgeway (2009) suggests that this process creates a shared knowledge during interactions so that individuals can relate and communicate with each other more easily. As part of this process, categorisation occurs almost immediately upon first meeting, whereby each individual categorises the other to identify 'who' the other person is so that potential actions and behaviours can be anticipated. The primary and simplest source of this categorisation is gender: "…thus, we frame and are framed by gender literally before we know it" (Ridgeway 2009, p4). The gendered expectations attached to these categorisations may lead to behaviours being either discredited or approved depending on whether they fit the 'appropriate' gender expectations of that sex (Chafetz 1999). This relates to wider historical, economic, political and social forces and perceived gender roles that are described elsewhere in this chapter, demonstrating how these factors are intertwined during the interactional process.

Individuals may enact 'gender,' perhaps as a means to seek approval and meet gendered expectations about how to act according to social expectations in different scenarios. This is a concept sometimes referred to by sociologists as 'doing gender.' West and Zimmerman's (1987) 'doing gender' theory built upon Goffman's idea of 'gender displays' which saw gender as portrayed during interactional acts and based

upon culturally defined gender expectations (Goffman, E, 1976 , cited in (West and Zimmerman 1987)). This theory stems from ethnomethodology, which is a type of interactionist theory concerned with the processes groups use during social actions. According to ethnomethodology, rather than gender being a fixed individual trait, it is considered to be a fluid process that can be enacted according to different contexts and normative assumptions about how to act appropriately in a given situation (West and Zimmerman 1987). Cassell (1998, p38) suggests that gender is "not possessed but *performed*" during interactions.

In the medical setting, this theoretical approach suggests that male and female doctors may 'perform' behaviours at work so that they meet socially constructed gender expectations and are not sanctioned for behaviours that are not stereotypical to their sex. For example, this theoretical perspective would suggest that the female medical students who were apologetic and assisted nurses in a study by Babaria and colleagues (2009), may have been acting in these stereotypically feminine ways because they were performing or 'doing gender' in order to seek co-operation from the nursing staff. In leadership roles, Johnson et al (2006) suggest that there is an element of enactment to the behaviour of female leaders as their behaviour can vary in different settings as they seem to 'match' their leadership style to their settings. Johnson et al (2006) suggest female leaders may adopt a masculine approach in a predominantly male setting and a feminine approach in a predominantly female setting. This may cause conflict for female doctors in medicine as medical settings have historically been made up of predominantly female nursing staff and predominantly male medical staff. In Chapters 5 and 6 of this thesis communication styles are explored in different settings, for example, do female consultants in a predominantly male setting (such as surgery) communicate differently with patients compared to female consultants in settings that have more female doctors (such as oncology)? Additionally, by observing the same consultants in different settings (e.g. with colleagues and with patients), this study will attempt to identify whether individual consultant's behaviours are enacted differently across varying contexts.

3.3.4 Summary

A number of sociological perspectives are useful to describe how social forces may act to create and reinforce gender differences in society. Systems of patriarchy and social roles may influence social expectations about how individuals should behave in certain

scenarios or settings according to their gender. Interactionism and 'doing gender' suggest the changeable nature of these behaviours as they may be shaped and enacted depending on these social expectations.

3.4 Psychological perspectives

While the fields of economics and sociology are used in this chapter to shed light on phenomena at a societal level that may affect groups of individuals, a psychological perspective is necessary to understand the practical effects of these factors on gender differences in individuals' behaviour. Economists deal with the rationality of decisions made by individuals under conditions of scarcity, psychologists take account of individual differences such as prior experience, individual needs and values that may help to explain why individuals with the same scarce resources make different decisions (Poiesz 1998).

> "The image of the economic man who operates logically and rationally in his own interest, must apparently be supplemented by an image of the individual who has feelings and emotions with respect to his or her work situation"
>
> (Veen and Krover 1998)

Psychology involves the study of human behaviour and more specifically, the field of work and organisational psychology is concerned with the study of human behaviour in work settings. This includes investigation of not only the actions of workers, but also other factors, such as attitudes and motives that may influence these behaviours (Drenth, Thierry et al. 1998). Psychology in the workplace may involve studying issues at an individual level, at a group level and at an organisational level (Warr 2002b). Drenth et al (1998) distinguish between these levels as 1) work psychology, which generally focuses on tasks at work and quality in relation to individual characteristics 2) personnel psychology, which is related to management and recruitment issues of groups and 3) organisational psychology, which is concerned with larger issues such as organisational culture. There are, however, blurred boundaries across these areas and although the majority of this thesis focuses on aspects of work psychology, there are elements of organisational psychology, such as the culture in medicine, that are also relevant.

Psychology can be used to explain gender differences that may occur in the workplace and may be useful for exploring how an individual's past experiences, beliefs and attitudes shape the behaviour that they exhibit in the work environment, for example how they communicate in groups or teams. These past experiences and perceptions may be interrelated with wider societal gender differences that can be explained by economic factors (e.g. the gender division of domestic labour) and sociological factors (e.g. social stereotypes), discussed in previous sections. A vast number of work and organisational psychology theories are used to explain behaviours in the workplace, but those with the most relevance to this thesis are 'work-life conflict', 'communication in teams' and 'communication with patients.'

3.4.1 Work-life conflict

Organisational psychologists have made four distinctions between the use of non-work time by individuals: 1) 'work-related time' e.g. commuting; 2) 'existence time' e.g. for sleep; 3) 'semi-leisure' e.g. committed activities such as childcare; and 4) 'leisure' which is "time spent entirely at one's own choice" (Parker and Smith, 1976. In: Thierry and Jansen, 1998, p93). Gender differences may arise in how men and women spend this non-work time as a result of historical gender division of 'semi-leisure' activities, such as housework or childcare duties in the home, as described above in the economics perspective of this chapter, which results in less pure leisure time for women in the labour market. These variations are important as they may contribute to differences in workload and this may lead to negative effects such as stress, which is discussed below. Aside from these potential negative consequences, research suggests that positive spill-over from family life to work is also possible (Wolfram and Gratton 2012). For example, female doctors may demonstrate greater empathy with their patients as a result of the skills they may acquire due to their stereotypical role as caregiver in the home.

3.4.1.1 Stress

Work psychologists have used terms from exercise physiology to understand the relationship between workload and negative effects such as stress. Using this terminology, they suggest that a balance is sought between 'external load' (made up of the factors such as task demands and work environment) and the 'functional load' (or maximum capacity of the individual to cope with these demands). If this balance is not

achieved this may lead to negative effects (Meijman and Mulder 1998). Women in the labour market may experience inherently more negative effects, such as stress, due to difficulties in balancing greater 'external loads.' Psychology literature on stress and workload suggests that women's greater 'off-the-job' workload may be associated with greater stress levels at work (Beerman and Nackreiner, 1995. In: Folkard and Hill, 2002). In the medical setting, female doctors report higher stress levels than male doctors (Caplan 1994, Cartwright, Lewis et al. 2002, Kluger, Townend et al. 2003), although it is not clear whether this is as a result of greater workload pressures or other factors.

The relationship between workload and stress may be moderated by individual's dispositional characteristics, such as coping style. An individual's locus of control – the extent to which individuals consider stressors to be changeable by themselves or outside of their control – is an example of an individual trait that may moderate the relationship between a situation and negative outcomes such as stress (Anderson 1977, Johnson and Sarason 1978). Results are, however, inconsistent across studies that have compared the effect of gender on locus of control (Muhonen and Torkelson 2004), and it is difficult to make generalisations in personality traits (such as locus of control) across genders. Men and women may, for example, differ systematically in their likelihood to report certain coping styles. This section focuses on exploring the effect of women's greater off-the-job workload as a moderator in stress responses.

Wider differences in the social roles expected of men and women, in the family and the home, may result in different motivators for men and women outside of work, which may in turn influence their motivations and behaviours at work. In medicine, for example, research in primary care has found that 'demands of the job' and 'patients' expectations' were most predictive of satisfaction for male GPs, whilst 'home interface' and 'social life' were most predictive of female GPs' satisfaction (Cooper, Rout et al. 1989).

According to Maslow (1987), a prominent motivation theorist, it is common for individuals to be motivated by multiple desires at once. Studies support this suggestion, which relates to the concept of 'satisficing' discussed earlier, which suggests that women may feel torn between their home and work lives and experience difficulty reaching satisfactory levels in either (Chafetz and Hagan, 1996 cited in (Chafetz 1999). In medicine, research has found that although male doctors would like to spend more

time with their family, female doctors report feelings of guilt in both aspects of their lives, both in their performance as mothers and doctors (Parsons, Duke et al. 2009). These findings are important as they may be related to doctor's experiences of stress and job performance (Gareis 2002, Hockey 2002).

The majority of research in the field of workload and stress research uses quantitative survey methods to examine gender differences in respondents' views of workload and stress using statistical testing. This does not allow researchers to generate in-depth understanding of this relationship and how individuals' perceptions, beliefs and attitudes towards workload and stress may vary, for example according to gender differences in the division of labour in the home. A qualitative approach is taken in Chapters 5 and 6, which, alongside other objectives, will explore perceptions and attitudes to dealing with workload and stressful situations at work, and perceptions of conflict between responsibilities in work and home lives. These qualitative themes are then explored further in a pilot questionnaire in Chapter 8.

3.4.1.2 Shift work

Aside from the effect of non-work stressors such as domestic workload, researchers suggest that male and female doctors may actually cope differently with the nature of medical work due to shift patterns. Shift work has been introduced in UK hospital practice as a means of maintaining service needs within the EWTD restrictions on doctors' working hours. Individuals find shift-working difficult as human beings have evolved to be active during daylight hours and sleep at night, creating an internal 'body clock' which controls circadian rhythms that are linked to physiological performance (Folkard and Hill 2002). High levels of workload and sleep deprivation can have a "widespread detrimental effect on performance – both speed and accuracy, as well as selective attention and most aspects of memory" (Hockey 2002, p38). They also lead to health problems for the individual, including 'subjective complaints' such as fatigue, 'nervous problems' such as depression, appetite and gastrointestinal problems and problems of the female reproductive system (Thierry and Jansen 1998).

Folkard and Hill (2002) suggest that differences in male and female body clocks and women's need for more hours of sleep compared to men, may result in variations in how male and female doctors cope with shift work. This may lead to greater negative effects of shift working, such as absenteeism or health problems, amongst female

workers (Oginska, Pokorski and Oginski, 1993 In: Folkard and Hill, 2002). In a systematic review of the literature investigating the effect of individual differences on tolerance to shift work, Saksvik and colleagues (2011) found that male workers tended to suffer from fewer problems associated with shift work, including sleep problems, fatigue, disability and other health problems.

It is possible that the requirement to work shifts in some fields of hospital medicine, such as accident and emergency, may discourage female doctors from specialising in these fields, and encourage them to work in areas such as general practice where shift working is less frequently required. Female doctors' career choices are described in Chapter 2, however it is unclear whether these differences are a result of gender variations in ability to cope with the negative effects of shift work, or women's greater responsibility for childcare in the home.

3.4.2 Communication in teams

The perceptions and attitudes of individuals influences how they interact with others in the work environment and these interactions may alter the effectiveness of working relationships (Matthewman and Foss 2009). Teams in organisations are important as they are made up of groups of individuals with a range of experiences and complementary skills, all working towards a shared purpose (Kallis 2009). This collaborative approach makes decision making and task performance more effective, but this will depend upon having good working relationships within a team or organisation. Communication (e.g. listening and questioning) and interpersonal skills (e.g. assertiveness and team-working) are central to forming these relationships (Matthewman and Foss 2009).

Communication is a complex process, affected by individuals' perceptions, mood and experience; as well as the context in which the interaction is taking place (Matthewman and Foss 2009). Psychologists view communication as the deciphering of coded messages between individuals, whereby a 'sender' gives coded messages to the 'receiver,' who must decode the messages and give feedback (de Cock, de Witte et al. 1998). Coded information will only be interpretable by 'receivers' who understand the coding and this relies on having shared knowledge and experiences with the 'sender' (de Cock, de Witte et al. 1998). It is therefore important for individuals in organisations

to share common perceptions of the meaning of these messages so that they can be understood effectively and communication errors can be avoided.

Group characteristics, such as group norms – the unwritten rules about how to behave in a group – may affect how information is coded and decoded by group members. These group characteristics may be embedded in cultures and wider social norms, and social exchange theory suggests that as individuals become members of groups they will conform to group norms in exchange for whatever advantage they perceive in belonging to the group (Kallis 2009). Conflict may arise due to diversity in groups (for example in terms of gender diversity) which may disrupt established norms and roles within a group (Kallis 2009). In medicine, increasing numbers of women may be disrupting the traditional group dynamic and unwritten rules about how (predominantly male) doctors and (predominantly female) nurses behave in these settings. This relates to the notions of 'doing dominance' and 'doing deference,' described as part of interactionist theory discussed earlier in this chapter.

Toxic behaviours in the workplace

Working styles may be described as 'toxic' if they have a detrimental effect on workplace behaviour (Matthewman and Foss 2009). Authors have reported that medical professionals are more likely to display narcissistic personality types (Banja 2005), as well as gender differences in personality traits such as narcissism (Watson and Biderman 1994), aggression (Hyde 1984, Eagly and Steffen 1986, Feingold 1994), assertiveness (Feingold 1994) and agreeableness (Guo, Wang et al. 1995, Budaev 1999). However, there are problems in conceptualising personality traits and reliance on self-reporting in studies. This is problematic because it is unclear whether differences are due to actual sex differences or gender differences in likelihood to report certain behaviours, perhaps as a result of concerns about the social acceptability of personality traits according to gender.

Matthewman and Foss (2009) suggest that display of 'toxic' behaviours in the workplace may cause problems for organisations and be linked to claims of harassment or bullying in organisations. In the medical setting, there is evidence from a range of studies that sexual harassment is reported more amongst female doctors compared to males (Redman, Saltman et al. 1994, Schneider and Phillips 1997, Carr, Ash et al. 2000, Witte, Stratton et al. 2006). In a large survey of male and female

academic physicians in the US, more than half of female faculty members reported having experienced sexual harassment, compared with 5% of male academic physicians (Carr, Ash et al. 2000). Gender differences in doctors' experiences of problems such as gender discrimination will be explored using qualitative methods in Chapters 5 and 6 and questionnaire methods in Chapter 8 of this thesis.

3.4.3 Communication with patients

Over recent decades researchers have shown increasing interest in the variations in communication styles that exist between male and female doctors (Hall, Irish et al. 1994); an area of research which has become all the more important and timely given the increasing proportion of women entering medicine. This evidence base is reviewed in Chapter 4 of this thesis using systematic review methods.

Weisman (1985) suggests that it is not clear whether gender differences in interactions with patients are due to actual sex differences, the gender socialisation of female doctors or variations in patient expectations according to gender. Theories of biological sex differences have been largely discredited as failing to acknowledge the changeability of communication styles in different settings and variations in communication style that can occur *within* genders. It seems likely, therefore, that male and female doctors' communication is shaped by their own attitudes, beliefs and prior experiences, as well as their patients' expectations. This relates to the sociological perspective, which is stressed by Kilminster et al (2007), who suggests that communication will be affected by gender expectations and stereotypes embedded within medical culture and society generally.

Potential gender differences in medical communication with patients are important as the communication that takes place during medical consultations may have implications for the quality of care patients receive. Indeed, data from the General Medical Council (GMC) (2010) suggests that these variations in consulting style may influence the patient's experience as there is a large difference in the percentage of enquires received by the GMC according to doctors' gender (24.8% of enquiries were regarding female doctors, compared to 75.2% for male doctors and despite near equal numbers of male and female doctors today).

As part of the qualitative study described in Chapters 5 and 6 of this thesis, an interactionist approach will be adopted to shed light on how communication with patients (and colleagues) may vary by gender, but also taking into consideration the effect of important contextual variables. This study, based in UK hospital settings, will also attempt to fill a current gap in the literature as the majority of studies published in the field of doctor-patient communication are from the US and primary care settings.

3.4.4 Summary

Conflict between home and work spheres may be greater for female doctors as a result of traditional stereotyped expectations that are placed on women's role in the home – leading them to feel torn between their roles in the workplace and in the home. These stereotyped expectations of typically male and female behaviours may also exert influences on the communication that is exhibited within teams, and with patients. These variations may have implications for doctors' day to day working lives, such as the amount of support and cooperation that male and female doctors receive from colleagues.

3.5 Conclusion

In this thesis, gender differences that may arise in the day to day working lives of hospital consultants are investigated, for example including potential differences in doctors' interactions with colleagues, communication with patients, and impact of responsibilities outside of work. Theoretical understanding has been provided in this chapter using key theories from the fields of economics, sociology and psychology. A multi-disciplinary approach is appropriate in this thesis as the fields and concepts within them are interlinked and may work together to create and reinforce gender differences in the working lives of doctors – from the historical and wider economic variations in the roles held by men and women in the home and the labour market, to the social forces such as patriarchy that may influence individuals' behaviours and interactions between individuals. Therefore, no single theoretical framework alone can be used in this thesis and each theory discussed here will give insight into the gender differences that will be explored throughout the rest of this thesis.

4

Systematic review of the effect of doctors' gender on medical communication

4.1 Background

4.1.1 The importance of good communication

The communication that takes place during medical consultations is integral to the care that patients receive and may relate to a number of patient outcomes. For example, communication is often seen as a marker for the quality of a medical consultation since it may be positively correlated to patient satisfaction, recall, compliance, understanding of information and health outcomes (Barnsley, Williams et al. 1999). Effective communication is also important for creating a good inter-personal relationship between doctor and patient; information exchange from patient to doctor and doctor to patient; and making treatment-related decisions (Ong, de Haes et al. 1995, Barnsley, Williams et al. 1999). Weisman and Teitelbaum (1985) outline three components of the medical consultation that may relate to the success of a doctor-patient relationship: communication of information (e.g. taking medical history); affective tone (e.g. empathy); and negotiative quality (e.g. patient participation in decision making).

Various studies, most of which were conducted in the 1980s, have explored the effect of communication style on patient satisfaction and results suggest there is a positive relationship between communication style and satisfaction. Buller and Buller (1987) undertook interviews with 134 patients following medical consultations using a modified

36 item Norton (1978) Communicator Style questionnaire to determine the nature of their physician's communication style and the patient's satisfaction with the consultation. Results revealed that affiliative communication styles, described as a more friendly and a partnership building approach, were associated with higher patient satisfaction, whilst dominant communication styles were negatively associated with patient satisfaction. Other studies have also suggested that communication styles that enhance partnership-building between doctors and patients are associated with higher patient reported satisfaction and greater recall (Hall, Roter et al. 1988d). Meanwhile, Hall and Roter (1988a) found that the more knowledgeable a doctor appears, the more satisfied patients may be. A study that rated the quality of psychosocial care given to hypertensive patients found that affective behaviour (such as verbal empathy) and patient-centredness (how much input the patient had during the consultation) were statistically significantly associated with positive ratings of quality of care, although these relationships were small (Bensing 1991). Patient-centred communication style has also been associated with greater compliance (Stewart 1984).

Ong et al (1995) raised concerns that the majority of research studies in the field of medical communication measure the effect of communication on short-term outcomes such as patient satisfaction and compliance, but fail to measure important long-term health outcomes such as symptom resolution or quality of life. In addition, there may be difficulties in conceptualising outcomes such as 'patient satisfaction' as patient ratings can often be highly subjective and personal (Ware, Snyder et al. 1983). As Ford et al (1997, p74) describe: "what is perceived as merely acceptable services by one person may be a "wow" experience to another and totally unacceptable to a third." Research that investigates more objective outcomes that have a measurable impact on patient's health may therefore be more beneficial to assessing the effects of medical communication. For example, in a literature review of evidence relating to shared clinical decision-making, Coulter (1997) suggests that patient participation in medical consultations may benefit general health and well-being. Stewart (1995) conducted a systematic review of the effect of physician communication on patient outcomes and found that quality of communication in history taking and participatory discussion of the management plan was related to better health outcomes, such as emotional health, symptom resolution and other physiological measures. This review was, however, restricted by a limited search strategy, English language restrictions and lack of quality assessment of included studies. It is also possible that publication bias may have

resulted in only studies with positive associations being included in the review. In another literature review, greater patient participation in medical consultations was related to improved patient outcomes and an improved therapeutic relationship between patients and doctors (Deber 1994). This review also stresses the importance of tailoring the communication approach to the patient, as different patients may hold different expectations and preferences about their degree of participation (Deber 1994).

Given this literature, which suggests that communication that takes place during medical consultations is a marker of quality in consultations and of importance to a variety of patient outcomes, it is pertinent to consider the effect of gender on medical communication. If male and female doctors do communicate differently with patients, this has potentially important implications for improving the quality of medical consultations, for example through communication skills training tailored to both groups of doctors. In addition, variations in doctors' communication may contribute to gender differences in the activity rates of male and female doctors that have been reported in Canada (Woodward and Hurley 1995), the US (Benedetti, 2004) and in the UK (Bloor, Freemantle et al. 2008).

4.1.2 Gender and communication

Outside of the medical consultation there is evidence across a range of settings, populations and research methodologies that communication styles vary by gender (Aries 1996). Leadership research has suggested that women in general may demonstrate more democratic communication style and may be more interpersonally orientated than males (Eagly 1990). Drawing on their extensive work in the field of communication and gender, Roter and Hall (1991, p62) suggest that women are generally seen to be "more empathic, more socially skilled, more equalizing of status differences, and more 'immediate' in their nonverbal behaviour", such as smiling and touch. Hall (1984) suggests that women engage in more socio-emotional communication in groups and are less task-orientated than men, although Hall also stresses that the relationship between gender and verbal behaviours is weaker than the relationship between gender and nonverbal behaviours (Hall 1984).

In the medical setting, the investigation of gender differences in doctors' medical communication has been the subject of much research, with studies exploring variations in terms of consultation length, communication content and communication

style. In an earlier meta-analytic review, Roter et al (2002) identified 26 publications which explored the effect of doctors' gender on communication during medical consultations. Findings suggest that female doctors may spend longer with patients, display more partnership building qualities, engage in more positive talk (e.g. encouragement) with patients and adopt a more psychosocial approach to medical communication (Roter, Hall et al. 2002).

In this chapter, an update and extension of this earlier review is provided. There are several drawbacks to the original review by Roter and colleagues, all of which have been addressed by the present systematic review. For example, the search strategy was poorly reported, a limited number of databases were searched and the search was limited to only English language studies. It is possible that limiting studies to those published in English may have introduced publication bias (Gregoire, Derderian et al. 1995, Egger, Zellweger-Zahner et al. 1997). In addition, there was no quality assessment reported in this study, which should be a high priority when reviewing and synthesising non-randomised studies as these types of studies may be subject to various sources of bias and are often poorly reported (Reeves 2009).

There are also concerns about the appropriateness of the methods used to synthesise the data in the review by Roter et al (2002). For example, a number of included studies provided data for more than one outcome variable that would be grouped into the same conceptual category. For example, one study measured 'friendliness of voice' and 'clinicians' interest,' both of which could fall into the 'partnership building' conceptual category (Hall, Irish et al. 1994). However, when this occurred the reviewers only included the outcome variable with the largest effect size in the meta-analysis, therefore potentially overestimating the effect of gender on the communication category (Roter, Hall et al. 2002). In addition to this, when actual data was not reported by studies, Roter et al (2002) assumed an effect size of 0 when computing the meta-analysis. This means that the estimates of effect may have been less accurate, for example the effect of gender may have been overestimated in the meta-analysis if studies with negative results were less likely to publish data.

The searches conducted in the Roter et al (2002) systematic review were undertaken in 2001, so it is possible that more studies have been published since this date. Furthermore, the effect of gender on medical communication may have altered since women have become more commonplace in the medical workforce. Since the

publication of this systematic review there have also been changes to medical curricula; for example in UK medical training there is now greater focus placed on providing wider skills training, such as communication skills (Department of Health 2007c). In the US, there has also been a growing emphasis on communication skills training over the last decade and since 2005 medical students' competency in clinical, interpersonal and communication skills has been tested through the United States Medical Licensing Examination (USMLE) Clinical Skills Examination (Rider, Hinrichs et al. 2006). These changes to medical communication training may impact on the observed gender differences in communication style and it is therefore important to explore the literature that has been published since these changes occurred.

4.2 Objectives

The purpose of this review is to update and extend the existing review by Roter et al (2002) described earlier, in order to further explore the effect of doctors' gender on medical communication and evaluate the quality of the available evidence.

4.3 Methods

4.3.1 Criteria for considering studies for inclusion in this review

4.3.1.1 Types of studies

There were no restrictions on study design. This is in line with the Cochrane collaboration recommendations that no limits to study design terms should be applied to search strategies for non-randomised studies (Reeves 2009). Non-randomised studies were included in this review as it is unlikely that randomised controlled trials exist in this field. Studies of psychiatric medical visits and psychotherapy treatment sessions were excluded because it is possible that these consultations would differ considerably and not be comparable to consultations with other patient groups. In addition, only studies that collected and presented interpretable primary data were included.

4.3.1.2 Types of participants

Qualified doctors, including doctors in training were included in this systematic review. Medical students were excluded from this review because they are still undergoing communication skills training and so may not be representative of physicians generally.

Studies were only included if they used actual patients, rather than standardised patients. Several studies in this field of research use standardised patients (or simulated patients) to act in the role of a patient so that interactions can be observed without involving real patients and so that variables can be controlled and manipulated. However, interactions with standardised patients may not be representative of everyday practice and normal patient encounters. These types of studies were included in the review by Roter et al (2002) but have been excluded in the present review as they may produce different findings to those studying real patients.

4.3.1.3 Types of outcome measures

Studies were only included if communication was measured independently rather than self-assessed, as self-assessed methods may lack validity and reliability. For example, physician reported length of visit is sometimes used as an outcome measure in studies in this field and was included in the review by Roter et al (2002). However physicians' reports may not be a reliable measure of length of visit, for example Gilchrist et al (2004) found that physicians overestimated length of visit compared to a direct observation method. Therefore, only studies that used neutral observers to rate the communication, for example using audiotape or videotape, were included. Studies were also only included if they tested for an association between doctors' gender and at least one interpretable communication variable.

4.3.2 Search methods for identification of studies

4.3.2.1 Electronic searches

Prior to starting the systematic review, a search of the Cochrane library was undertaken to avoid duplication of effort. No similar reviews were found. The following electronic databases were searched with no date or language restrictions:

- MEDLINE (Ovid SP) (1950 to September week 3 2010)
- PsychINFO (Ovid SP) (1967 to September week 4 2010)
- EMBASE (Ovid SP) (1980 to 2010 week 38)
- CINAHL (Ebsco) (1982 to September, 2010)
- Health Management Information Consortium (Ovid SP) (1983 to September 2010)
- Web of Science (ISI Web of Knowledge) (1900 to September 2010)
- ASSIA (CSA Illuminia) (1987 to September 2010)

Four groups of terms were included in the search strategy and combined using the boolean operator 'AND': terms for doctors (e.g. physician*), terms for patients (e.g. patient*), terms for communication (e.g. verbal adj communicat*) and terms for gender (e.g. gender). Free text terms were combined with MeSH terms to produce a comprehensive search strategy. These were generated through general knowledge about the literature surrounding this topic and by checking the indexing used on relevant key papers. Most MeSH terms were exploded (with all subheadings included), however there were some terms where this was not possible due to high yield (for example 'communication' produced too many erroneous hits, so was not exploded). To refine the search and reduce the number of ineligible hits, the boolean operator 'NOT' was used to restrict the searches to studies that did not include nurses or midwives as this review was focused on doctor-patient communication only. No study design filters were used. The search strategies for each database are presented in Appendix 4.1.

4.3.2.2 Searching other resources

Hand-searching and reference checking was also undertaken. Two key journals (Social Science and Medicine and Patient Education and Counselling) were hand searched for

the years 2009 and 2010 inclusive to identify any additional studies and to check the quality of indexing terms used in the databases. These journals were chosen because many of the papers in the surrounding literature have been published in these journals and these journals specialise in studies of communication and the effect of gender. SIGLE and relevant conference proceedings were also used to search the grey literature.

4.3.3 Data collection and analysis

4.3.3.1 Study selection

Initial screening of all retrieved study titles was conducted by one reviewer[1] to assess eligibility for inclusion according to the pre-specified inclusion criteria (Appendix 4.2). An overly inclusive approach was taken and the titles and abstracts of all potential articles were then reviewed independently by two reviewers[1] to decide papers for which full articles were to be retrieved. Using these full text articles, two reviewers then independently screened the studies for inclusion in the review. Disagreements were resolved through discussion, with arbitration with a third reviewer used when necessary. Cohen's Kappa was calculated to test inter-rater reliability. An audit trail of all reviewed, excluded and included studies was kept and a flowchart was used to demonstrate the study selection process. This flowchart follows recommendations of the PRISMA group, formerly the QUOROM group (Moher, Liberati et al. 2009) and is displayed in the Results section of this chapter.

4.3.3.2 Data extraction

Data extraction was undertaken for each study by two of three reviewers. [2] Disagreements were resolved through discussion. Data were extracted using a tool based on the Cochrane collaboration guidelines for data extraction in non-randomised studies (Reeves 2009) and refined so that it was specific to the topic area of this systematic review (Appendix 4.3).

[1] LJ applied inclusion criteria to the initial database results, to reduce the number of papers to screen and remove studies that were obviously unrelated to the systematic review area. Following this both LJ and KB applied the inclusion criteria to the remaining database records and then to the 224 full text articles that were retrieved. LJ completed the quality assessment and data extraction for the 33 included studies, and KB and YB then completed second quality assessment and data extraction on half of the included studies each.

4.3.3.3 Quality assessment

The quality assessment was conducted independently by two of three reviewers, as described for the data extraction stage. Any disagreements were resolved through discussion and arbitration with the third reviewer.

Quality assessment tool

Quality assessment of non-randomised studies is difficult as study methodologies vary considerably and while there are many tools that assess the quality of non-randomised studies (Deeks, Dinnes et al. 2003), it is difficult to find a quality assessment tool which is tailored to specific topics. Deeks et al (2003) reviewed 193 tools that could be used to assess the quality of non-randomised studies and identified 6 tools that were thought to be suitable for systematic reviews. Of these 6 tools, the 'Quality Assessment Tool For Quantitative Studies' (Thomas 1998) was chosen for use in this systematic review as it covers key aspects of quality and provides guidelines to ensure correct use and interpretation. In addition, the content and construct validity of the checklist has been established in a variety of study designs and the test-retest reliability has also been demonstrated (Thomas, Ciliska et al. 2004).

The 'Quality Assessment Tool For Quantitative Studies' is a checklist tool that can be used for either randomised controlled trials or non-randomised studies and covers various aspects of quality grouped into the following components: selection bias; study design; confounders; blinding; data collection methods; withdrawals and drop-outs. The tool poses specific questions relating to each component and then a rating of 'strong', 'moderate' or 'weak' is given for each component. Each study is also assigned a global rating of 'strong', 'moderate' or 'weak' for the overall study. 'Intervention integrity' and 'analyses' are also rated but not included in the global assessments.

This tool was adapted by removing redundant items so that it is more applicable to the types of studies that were included in this systematic review. Changes that were made were as follows and the adapted 'Quality Assessment Tool For Quantitative Studies' can be found at Appendix 4.4:

1) Question 2 from the 'selection bias' component was removed as this asks what percentage of the selected individuals agreed to participate, which is not applicable for the studies included in this review;

2) The potential confounding variables listed in ‘confounders’ component were adapted to provide greater relevance to the specific topic under review;

3) The terminology used in the ‘blinding’ component was altered by removing the term ‘intervention status’ and replacing this with ‘doctor’s gender’;

4) The ‘withdrawals and drop-outs’ component was removed as this is not applicable to the studies included in this systematic review since participants are recruited and then consultations are immediately observed;

5) The ‘intervention integrity’ questions were removed as no intervention as such was studied in the included studies;

6) The ‘analysis’ questions contained many items that were not applicable to the specific studies under review and did not include the analyses questions in the global assessments of study quality. These questions were therefore removed.

4.3.4 Data synthesis

There were a total of 193 outcome variables in the included studies. These were grouped into conceptual categories by LJ and this was discussed with the other reviewers before proceeding further. This was important in order to synthesise the data using smaller more manageable subheadings. The conceptual categories (visit length; information giving; question asking; partnership building and affective behaviour; and patient participation) were created based on those used by the previous review by Roter et al (2002) and based on existing theoretical understanding of the literature. These conceptual groupings and subgroups are illustrated in Box 4.1 below.

Box 4.1: Conceptual groupings of physician communication categories (adapted from Roter et al (2002))

VISIT LENGTH

- **Observed time**
- **Amount of talk or utterances**

COMMUNICATION CONTENT

- **Patient participation**
- **Information giving**
  - In general
  - Use of directives
  - Biomedical
  - Psychosocial
- **Question asking**
  - In general
  - Biomedical
  - Psychosocial
  - Style (open/closed)

COMMUNICATION STYLE

- **Partnership building**
  - Positive and negative talk
  - Lowered dominance
  - Social talk
  - Encouragement and support
  - Compliments
- **Affective behaviour**
  - Concern
  - Warmth
  - Empathy

4.3.4.1 Narrative synthesis

Narrative synthesis was used to summarise information within the conceptual outcome variables described above. The Cochrane Handbook for Systematic Reviews of Interventions chapter concerning non-randomised studies (Reeves 2009) stresses the importance of considering how potential confounders are addressed as non-randomised studies are more likely to be affected by confounding variables. Therefore, emphasis was placed on considering the quality of studies and whether or not potential confounders had been adjusted for in analysis.

4.3.4.2 Quantitative synthesis

In their earlier systematic review, Roter and colleagues found that the scales of outcome measurements for communication variables varied across studies, making direct comparisons across studies difficult (Roter, Hall et al. 2002). Based on study heterogeneity and these variations in outcome measurement, difficulties in grouping outcome measures into conceptual groupings, and frequent poor reporting of data in the included studies, this systematic review used primarily narrative synthesis, pooling only the data on the effect of doctor gender on consultation length using meta-analysis.

A random effects meta-analysis was conducted to estimate the pooled effect of doctor gender on visit length. The decision to undertake a random effects model was taken a priori since it was considered likely that the effect of gender would vary across studies due to the heterogeneous outcome measurement and study samples (in terms of both doctors and patients studied).

Studies included in this review presented data in a variety of formats, making it difficult to pool data. In addition to these difficulties, the majority of studies did not provide information about the variability of estimates within a study, for example by reporting standard deviations. The studies that did provide standard deviations were also problematic in that they often provided standard deviations for the variation between patient level observations rather than between doctor level observations. For example, in Roter et al (1991a) the degrees of freedom were 515, corresponding to 537 patients, but only 127 doctors participated in the study. This means that the study standard errors for comparisons of male and female doctors will be wrong; typically they will be underestimated because the unit of analysis is wrong, as studies used the patient as the unit of analyses and not the doctor.

To undertake the meta-analysis, the data presented in studies needed to be converted into standard errors using the best methods possible. The data presented in each study were highly varied and various calculations were required in order to reach the standard error. The following equation was used:

$$\text{Standard error} = \frac{\text{Mean Difference}}{\text{T Statistic}}$$

Where studies did not present a t statistic, other data presented were used to compute this. For example, several studies presented F statistics (Meeuwesen, Schaap et al.

1991, Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Hampson, McKay et al. 1996), which were converted back to t statistics using √F. Some studies (Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999, Bertakis, Franks et al. 2003) presented the sample size and p value, from which the t statistic could be calculated using Student's t test graphs (Campbell and Machin 1999, p194). Two studies did not provide data about the time of consultations for male and female doctors, so these studies could not be included in the meta-analysis (Anderson and Zimmerman 1993, Tai-Seale, McGuire et al. 2007). One study did not provide any data at all so could not be included in the meta-analysis or forest plot (Law and Britten 1995). Analyses were conducted in Stata® for Windows® version 9.0 (Stata Corporation, College Station, Texas, USA), using the metan command.

Interpretation

The meta-analysis should be interpreted with caution due to uncertainty around the standard errors, which may be unreliable as they are calculated from data presented in the original studies that are based on number of patients observed, rather than number of doctors observed. Analysing results at a patient level rather than doctor level without adjusting for the multi-level nature of the data could cause spurious results and may underestimate the standard errors (Altman and Bland 1997). Results should also be interpreted with caution because it is possible that the random effects model used will give more weight to smaller studies and less weight to larger studies (Borenstein, Hedges et al. 2009).

4.4 Results

4.4.1 Description of studies

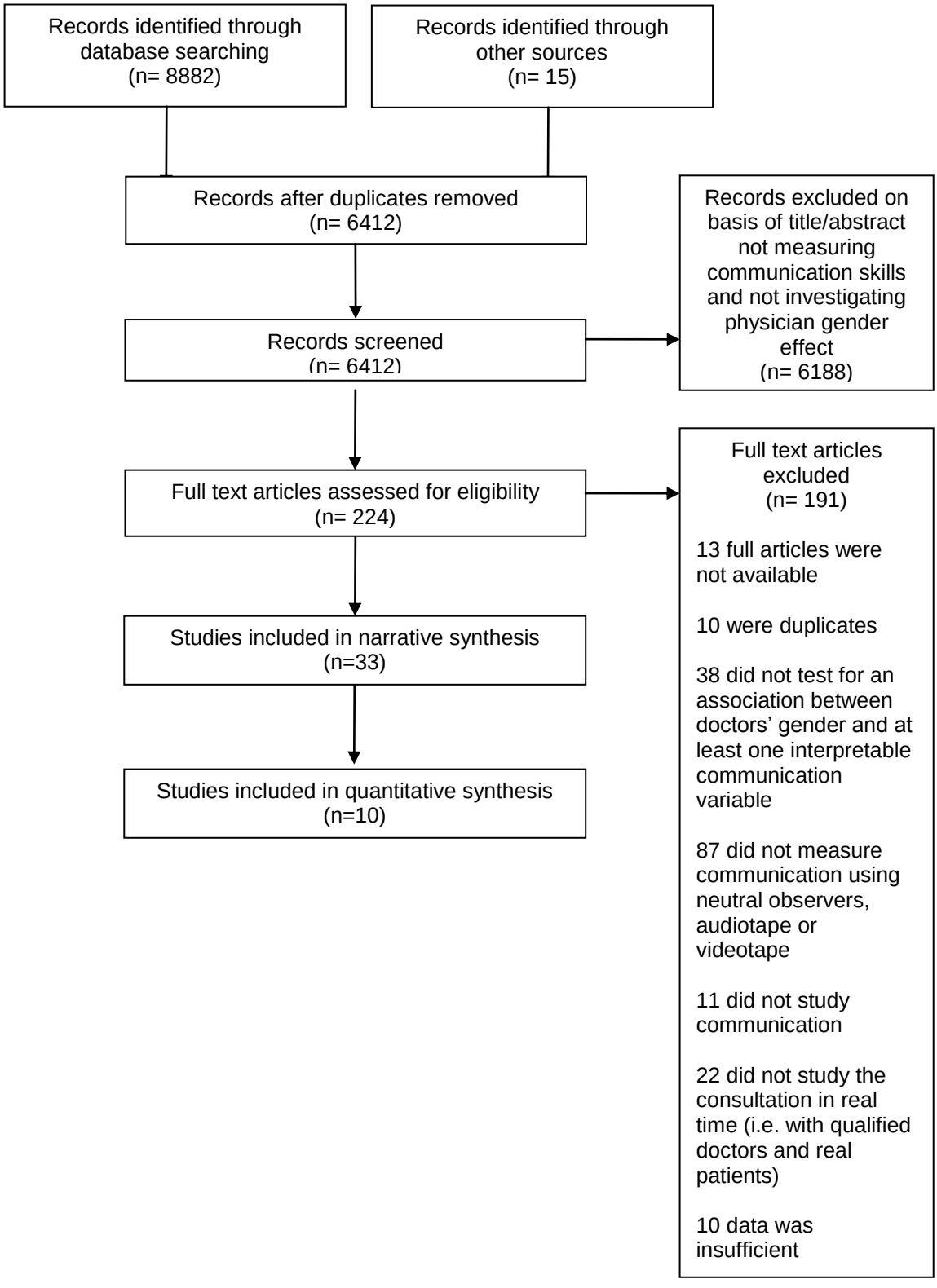
The study selection process is summarised in Figure 4.1. 8897 studies were retrieved from database searching and handsearching, of which 2485 were duplicates and a further 6188 were excluded on the basis of the title and abstract revealing that the studies were not relevant to the review. A total of 224 full text articles were retrieved and details of the reasons for exclusions at this stage can be found in the 'Preferred Reporting Items for Systematic reviews and Meta-Analyses' (PRIMSA) flowchart in Figure 4.1. Several studies were excluded at this stage because they did not study actual patients or doctors. There were 12 studies that were eligible according to the study selection criteria but later examination revealed that there were insufficient data presented in order to include these papers in this systematic review. The study authors

were contacted at this point to ask for further data, two of which replied and provided further data (van den Brink-Muinen, van Dulmen et al. 2002, Brown, Ueno et al. 2007), leaving 10 studies that were excluded on the basis of insufficient data/information. Due to the search strategy including studies that were non-English language, a total of 9 foreign language articles were retrieved (3 Spanish, 3 German, 2 Dutch and 1 Norwegian). Three colleagues were identified who were able to read and understand these articles in order to apply the inclusion criteria, although this process revealed that none were eligible for inclusion.

Following discussion amongst the reviewers, 33 studies were included in this systematic review. A full list of the included studies and the characteristics of included studies can be found in Appendix 4.5. Cohen's Kappa was calculated to test the inter-rater reliability of the study selection process and revealed high agreement between reviewers (0.81 ($p<0.001$)).

The majority of studies included in this systematic review were undertaken in the US (22 studies). Other countries included the UK (4 studies); the Netherlands (4 studies); and Canada (2 studies). One study looked at the effect of gender on communication across 6 different European countries (van den Brink-Muinen, van Dulmen et al. 2002). Most studies (20 studies) took place in primary care settings (also described as family practice); followed by hospital settings (6 studies). The majority of studies involved a variety of patient groups, with only a handful of studies concentrating on specific patient groups such as paediatrics, obstetrics and gynaecology and diabetes patients. Studies used a wide variety of tools to measure communication, ranging from specific patient-centredness tools to those that are designed to measure a variety of communication outcomes, such as the Roter Interaction Analysis System (RIAS) (Roter and Larson 2002). This was the most highly reported method of communication measurement and was used in 11 of the 32 studies. The number of doctors that participated in the included studies was positively skewed as more studies had lower numbers of participants (median: 27, IQR: 17-49.5).

Figure 4.1: PRISMA (Moher, Liberati et al. 2009) flowchart of study selection process



4.4.2 Quality Assessment

Overall, the evidence in this field was found to be of poor quality. Using the 'Quality Assessment Tool for Quantitative Studies' (Thomas 1998) that had been adapted as described in the methods, studies were considered *strong* if three or more of the sub-categories were strong and there were no weak ratings; *moderate* if less than four strong ratings and one weak rating; and *weak* if two or more sub-categories were rated as weak. All studies included in this review had two or more 'weak' ratings using the quality assessment tool which translated to a 'weak' *global* quality rating and demonstrates the generally low quality of studies. Table 4.1 provides the results of the quality assessment that was undertaken for each study.

In practice these ratings mean that it is possible that a number of studies may have been subject to various types of bias that may lead to flawed conclusions about the effect of gender on medical communication. For example, studies may have sampled only certain groups of patients or types of physicians and this may limit the generalisability of findings to wider settings. Furthermore, differences in patient and provider characteristics may also lead to inaccurate estimates of effect if these potential independent variables are not accounted for in the analysis or accommodated in an appropriate study design. This is particularly important given that studies have shown differences in medical consultations according to patient and provider variables; for example Carr et al (1998) found that general practice consultations with late middle-aged women were longer than any other patient group.

Due to the subjective nature of recording data about communication style, studies that attempt to quantify communication differences between male and female physicians should undertake coding of observations using existing tools that have been developed for this purpose and which demonstrate good internal validity, such as the RIAS tool (Roter and Larson 2002). Whilst a number of studies included in this review do report using an established tool, it is still possible that individual raters' beliefs and stereotypes about gender may have affected ratings as blinding was not undertaken in the studies included in this review. These issues and further information about each quality rating category are described in more detail below and Table 4.1 provides a breakdown of the quality assessment ratings for each study.

4.4.2.1 Problems undertaking the quality assessment

There were practical difficulties in undertaking the quality assessment, mainly due to poor reporting in the original studies which meant that the majority of quality criteria were classed as 'weak'. Papers provided little or no information, for example on study sampling, in a large number of cases.

Whilst the quality assessment tool was useful in providing a systematic approach to quality assessment across all studies, at times the tool proved difficult to implement because ratings of items were often subjective. It was therefore important for the reviewers to discuss their judgements and at times this led to arbitration with a third reviewer. For example, for item C2 the reviewers needed to decide what percentage of relevant confounders were accounted for in the study (80-100%; 60-79%; <60% or 'can't tell'). This was difficult to rate as it had not been clearly operationalised in the assessment tool, for example by stating the number of potential confounders that would correspond to 60-79% potential confounders being accounted for in a study.

4.4.2.2 Selection bias

As described above, a lack of reporting of important information in studies led to difficulties in quality assessment. For example, it was difficult to assess the likelihood of selection bias in the studies included in this review as studies did not tend to describe a sampling framework and several studies did not provide demographic characteristics of the study population making assessment of the generalisability of the study findings difficult. Therefore, the majority of studies did not satisfy the quality assessment criteria for potential selection bias.

Only one study (Carr-Hill, Jenkins-Clarke et al. 1998) was considered strong in terms of the generalisability of the sample and low likelihood of selection bias because this study sampled a variety of GP practices (in terms of size, list size, setting) and patients, so the study findings were expected to be representative of the general population. Seven studies were classed as moderate quality according to the modified Thomas (1998) quality assessment tool, as the reviewers considered that the study participants were at least somewhat likely to be representative of the target population (Meeuwesen, Schaap et al. 1991, Hall, Irish et al. 1994, Bylund and Makoul 2002, van den Brink-Muinen, van Dulmen et al. 2002, Zandbelt, Smets et al. 2006, Cox, Smith et al. 2007, Tai-Seale, McGuire et al. 2007).

4.4.2.3 Study Design

The study design item on the quality assessment checklist lacked sensitivity to potential variations in quality of non-randomised studies, which meant that all the studies included in this review were rated as ‘weak’ because they were not randomised controlled trials or quasi-experimental studies.

4.4.2.4 Confounding

In the majority of studies it was not possible to assess whether potential confounders had been accounted for and most failed to describe whether there were any important differences in the characteristics of consultations (e.g. patient age; patient gender; patient health status; doctor experience) with male and female doctors. There were five studies that were considered as ‘strong’ in this category and this was because they employed appropriate statistical techniques to account for 80-100% of potential confounders (Roter, Lipkin et al. 1991, Carr-Hill, Jenkins-Clarke et al. 1998, Roter, Geller et al. 1999, Sleath and Rubin 2002, Tai-Seale, McGuire et al. 2007). Four studies also used statistical methods, such as multi-level modelling, but did not adjust for as many potential confounders, so were ranked as ‘moderate’ according to this quality criterion (Bertakis, Helms et al. 1995, van den Brink-Muinen, van Dulmen et al. 2002, Bertakis, Franks et al. 2003, Cox, Smith et al. 2007). The majority of studies did not take account of the multi-level nature of the data and analysed data at a patient level rather than doctor level. Not only does this violate the statistical assumption that data values should be independent, but it also inflates the sample sizes which could lead to spurious results (Altman and Bland 1997).

4.4.2.5 Blinding

Blinding is difficult in observational studies, particularly as the majority of these studies used audio-recordings or tape-recordings, for which it would be difficult to blind the coder to the doctor’s gender. Two studies used transcriptions of consultations to code the data (Skelton and Hobbs 1999, Sleath and Rubin 2002), which would theoretically allow the coders to be blind to doctor’s gender, however these studies do not report whether this was undertaken and so these studies were also classed as weak according to this quality criteria.

4.4.2.6 Data collection methods

Compared to the other quality assessment criteria, studies tended to be more rigorous in terms of the methods of data collection, for example by utilising existing observational tools and assessing the inter-rater reliability of different coders. A number of studies employed both of these methods and were therefore rated as 'strong' (Fraenkel 1986, Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Bertakis, Helms et al. 1995, Irish and Hall 1995, Law and Britten 1995, Hampson, McKay et al. 1996, Wolfensberger 1997, Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999, van Dulmen and Bensing 2000, Bylund and Makoul 2002, van den Brink-Muinen, van Dulmen et al. 2002, Bertakis, Franks et al. 2003, Pahal and Li 2006, Brown, Ueno et al. 2007, Cox, Smith et al. 2007). Studies that reported only one of these methods to demonstrate reliability or validity were considered to be of 'moderate' quality according to Thomas' criteria (Thomas, Ciliska et al. 2004) and there were two such studies (Shapiro 1999, Tai-Seale, McGuire et al. 2007).

Table 4.1: Quality assessment of included studies (adapted from Sandhu et al (2009).

Author (Year)	Selection bias	Study design	Confounders	Blinding	Data collection methods
Ainsworth-Vaughn (1992)	Weak	Weak	Weak	Weak	Weak
Anderson and Zimmerman (1993)	Weak	Weak	Weak	Weak	Weak
Beaudoin et al (2001)	Weak	Weak	Weak	Weak	Weak
Bernzweig (1997)	Weak	Weak	Weak	Weak	Weak
Bertakis et al (1995)	Weak	Weak	Moderate	Weak	Strong
Bertakis et al (2003)	Weak	Weak	Moderate	Weak	Strong
Brown et al (2007)	Weak	Weak	Weak	Weak	Strong
Bylund and Makoul (2002)	Moderate	Weak	Weak	Weak	Strong
Carr-Hill (1998)	Strong	Weak	Strong	Weak	Weak
Cox et al (2007)	Moderate	Weak	Moderate	Weak	Strong
Fraenkel (1986)	Weak	Weak	Weak	Weak	Strong
Hall et al (1994)	Moderate	Weak	Weak	Weak	Strong
Hampson et al (1996)	Weak	Weak	Weak	Weak	Strong
Irish and Hall (1995)	Weak	Weak	Weak	Weak	Strong
Law and Britten (1995)	Weak	Weak	Weak	Weak	Strong
Lunn et al (1998)	Weak	Weak	Weak	Weak	Weak
Meeuwesen et al (1991)	Moderate	Weak	Weak	Weak	Strong
Pahal and Li (2006)	Weak	Weak	Weak	Weak	Strong
Roter et al (1991a)	Weak	Weak	Strong	Weak	Strong
Roter et al (1999)	Weak	Weak	Strong	Weak	Strong
Shapiro (1999)	Weak	Weak	Weak	Weak	Moderate
Skelton and Hobbs (1999)	Weak	Weak	Weak	Weak	Weak
Sleath and Rubin (2002)	Weak	Weak	Strong	Weak	Weak
Street at al (2003)	Weak	Weak	Weak	Weak	Weak
Street at al (2005)	Weak	Weak	Weak	Weak	Weak
Tai-Searle et al (2007)	Moderate	Weak	Strong	Weak	Moderate
Van Brink Muinen et al (1998)	Weak	Weak	Weak	Weak	Strong
Van Brink Muinen et al (2002)	Moderate	Weak	Moderate	Weak	Strong
Van Dulmen and Bensing (2000)	Weak	Weak	Weak	Weak	Strong
Wasserman et al (1984)	Weak	Weak	Weak	Weak	Weak
West (1984)	Weak	Weak	Weak	Weak	Weak
Wolfensberger (1997)	Weak	Weak	Weak	Weak	Strong
Zanbelt (2006)	Moderate	Weak	Weak	Weak	Weak

Key (adapted from Sandhu et al (2009)): *Selection bias:* Strong = selected individuals are representative of the target population. Moderate = selected individuals are at least somewhat likely to be representative of the target population. Weak = selected individuals are not likely to be representative of the target population or the selection is not described. *Study Design*: Strong = RCTs and CCTs; Moderate = cohort analytic study, a case control study, a cohort design or an interrupted time series; weak = any other method or do not state the method used. *Confounders:* Strong = controlled for at least 80% of relevant confounders; Moderate = controlled for 60 – 79% of relevant confounders; Weak = controlled for less than 60% of relevant confounders or confounders were not described *Blinding:* Strong = coders were blind to doctor's gender and participants were not aware of the research question; Moderate = coders were not aware of the doctor's gender or participants are not aware of the research question; Weak = coders were aware of the doctor's gender or participants were aware of the research question *Data collection methods:* Strong = the data collection tool was valid and reliable; Moderate = the data collection tool was valid but not reliable or reliability was not described; Weak = the data collection tool was not valid or reliable or this is not described.

4.4.3 Findings

Table 4.2 provides a synthesis of all study findings according to each communication category and the results for each individual study are presented in Appendix 4.6.

4.4.3.1 Consultation length

The relationship between physician gender and length of consultation was measured in 15 studies, the majority of which were conducted in the US and measured consultation times in primary care settings. Through narrative synthesis of the evidence, it is difficult to conclude whether male or female doctors may conduct longer medical consultations as there is evidence for an effect in both directions, although eight studies found no statistically significant gender differences in visit length. However, the statistical synthesis of the evidence, presented below, suggests that female doctors may spend over two minutes more time with patients compared to male physicians (p=0.01).

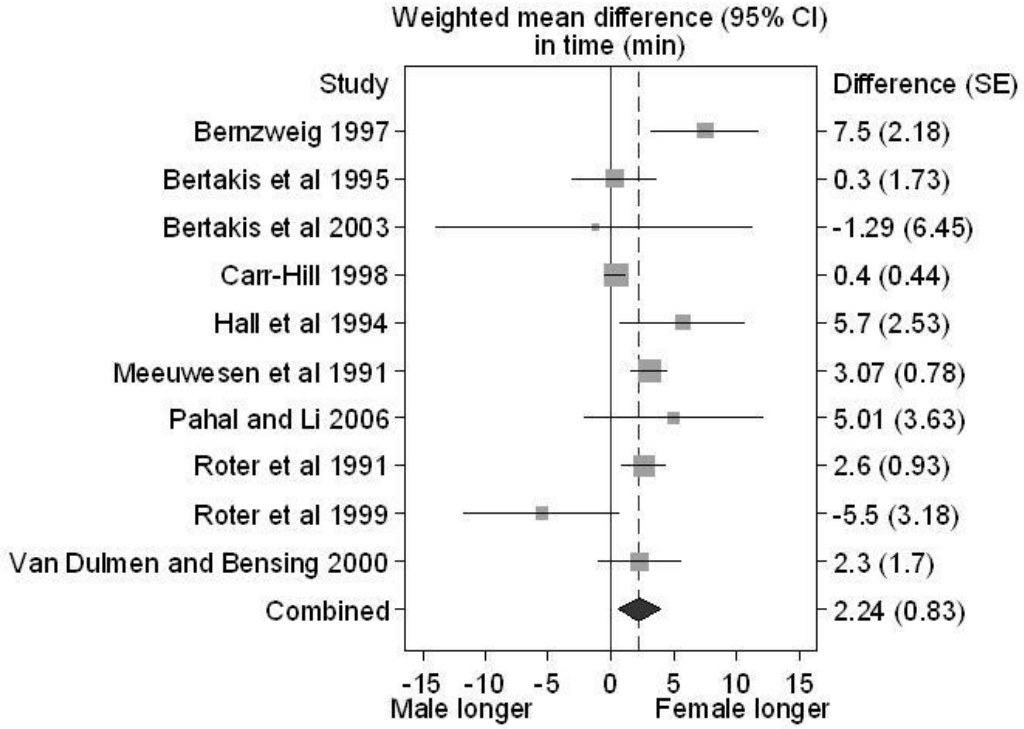
Statistical findings

As previously stated, length of visit was the only outcome variable where sufficient data was available to conduct a meta-analysis and where potential heterogeneity in outcome measurement was expected to be low due to the ability to objectivity measure time. Four studies were excluded because they did not present sufficient data (Anderson and Zimmerman 1993, Law and Britten 1995, Van den Brink Muinen, Bensing et al. 1998, Tai-Seale, McGuire et al. 2007) and one study was excluded because it only included observations with two doctors (Hampson, McKay et al. 1996). Therefore, a total of ten studies were included in a random effects meta-analysis to pool the data on visit length statistically (Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Bertakis, Helms et al. 1995, Bernzweig, Takayama et al. 1997, Carr-Hill, Jenkins-Clarke et al. 1998, Roter, Geller et al. 1999, van Dulmen and Bensing 2000, Bertakis, Franks et al. 2003, Pahal and Li 2006).

The random effects meta-analysis revealed a statistically significant difference in length of visit of male and female doctors. Across the ten included studies, female doctors spent over two minutes longer with patients compared to male doctors (coefficient = 2.24 (95% CI 0.62 to 3.86), p=0.01). The mean visit length overall was 21.94 (SD=10.23). The forest plot in Figure 4.2 provides a graphical representation of effect of gender on length of visit and highlights the variation across studies. These results should be interpreted with caution due to the restrictive nature of the data used to

compute the meta-analysis. These issues are described in full in the Methods section of this chapter. In addition, tests for heterogeneity revealed significant variation across studies (χ^2 = 28.67, df = 9, P<0.001, I^2 =68.6%). This demonstrates the high variability in study methods, practice settings, patient groups, and doctor characteristics such as years of experience.

Figure 4.2: Forest plot of visit length



Amount of talk

The length of medical visits may be closely related to the amount of talk or number of utterances made by doctors during consultations, however the evidence base is varied and it is not clear whether there are gender differences in the amount of doctor talk during consultations. This may suggest that the potential gender differences in length of visit, with female doctors having longer visits, may be related to something else. For example, it may be possible that the amount of patient talk may differ according to the gender of their doctor. The evidence base surrounding doctor gender differences in the amount of 'patient participation' is discussed below.

4.4.3.2 Communication content

Patient participation

The seven studies that measured this aspect of communication during medical visits were very heterogeneous. For example they took place in a variety of settings in both primary and secondary care and used a range of tools to measure communication. Again, the majority of these studies (5/7) were conducted in the US (West 1984, Roter, Geller et al. 1999, Street Jr, Krupat et al. 2003, Street Jr, Gordon et al. 2005, Tai-Seale, McGuire et al. 2007); with one in Canada (Pahal and Li 2006) and another in the Netherlands (Van den Brink Muinen, Bensing et al. 1998). It is difficult to draw firm conclusions about the effect of doctor's gender on patient participation as the evidence base is varied, however it seems likely that if there is a gender difference, it may be that patients participate more in consultations with female doctors. This is because there is little evidence to suggest that patients visiting male doctors participate more, as only one small study reported on this. In their study of 9 doctors, Pahal and colleagues (2006) found that patients of male doctors asked statistically significantly more open ended questions during consultations, compared to patients of female doctors.

Information giving

In total, fourteen of the included studies assessed this aspect of medical communication (Fraenkel 1986, Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Bertakis, Helms et al. 1995, Bernzweig, Takayama et al. 1997, Wolfensberger 1997, Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999, van den Brink-Muinen, van Dulmen et al. 2002, Bertakis, Franks et al. 2003, Pahal and Li 2006, Brown, Ueno et al. 2007, Cox, Smith et al. 2007). Studies report a range of different types of outcome measurement in this conceptual category, including the type of information given by doctors (general, biomedical and psychosocial) and the informational manner of doctors (directive (e.g. giving specific instructions to patients) or non-directive). The evidence surrounding gender differences in overall information giving and use of directives is varied, although it seems that male doctors may provide more biomedical information (Meeuwesen, Schaap et al. 1991, Brown, Ueno et al. 2007), although this did not apply to providing preventive biomedical information, which appears to be provided more frequently by women (Bertakis, Helms et al. 1995, Bertakis, Franks et al. 2003), and female doctors may also be more likely to provide

psychosocial information (Roter, Lipkin et al. 1991, Bertakis, Franks et al. 2003, Brown, Ueno et al. 2007). A summary of these findings can be found in Table 4.2.

Question asking

There were 13 studies that investigated the effect of doctor's gender on the question asking that takes place during medical consultations (Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Irish and Hall 1995, Law and Britten 1995, Hampson, McKay et al. 1996, Wolfensberger 1997, Van den Brink Muinen, Bensing et al. 1998, van Dulmen and Bensing 2000, Sleath and Rubin 2002, van den Brink-Muinen, van Dulmen et al. 2002, Bertakis, Franks et al. 2003, Brown, Ueno et al. 2007, Cox, Smith et al. 2007). A large proportion of these studies were conducted in primary care settings in the US and most studies used the RIAS tool to measure the number of question asking utterances that occurred during consultations. Although all of the studies were rated as weak on the global rating for the quality assessment tool, studies varied in terms of other quality makers such as sample size, which ranged from 2 to 190 participants.

As with the studies that have investigated information giving during medical consultations, a heterogeneous range of outcomes were investigated in these studies, ranging from general assessment of differences in question asking, to specific types of question asking (biomedical/psychosocial) and the nature of questions (open/closed). There is a lack of consensus surrounding the evidence for a gender effect in terms of general question asking; biomedical question asking and the use of open and closed questions by male and female doctors. From the current evidence base it is possible that female doctors engage in asking more psychosocial questions during consultations compared to male doctors, as two studies found this statistically significant difference (Hall, Irish et al. 1994, Brown, Ueno et al. 2007), no studies found the opposite effect and only one study found that there were no gender differences in doctor-patient discussions about depression or anxiety (Sleath and Rubin 2002). However, as previously, these studies may be subject to bias due to flaws in their methodology so it is difficult to make firm conclusions.

4.4.3.3 Communication style

Partnership building and affective behaviour

Twenty three of the included studies measured outcomes within this conceptual communication category, although there is some diversity in the specific outcomes that were measured (Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Ainsworth-Vaughn 1992, Hall, Irish et al. 1994, Law and Britten 1995, Hampson, McKay et al. 1996, Bernzweig, Takayama et al. 1997, Wolfensberger 1997, Lunn, Williams et al. 1998, Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999, Shapiro 1999, van Dulmen and Bensing 2000, Bylund and Makoul 2002, Sleath and Rubin 2002, van den Brink-Muinen, van Dulmen et al. 2002, Bertakis, Franks et al. 2003, Street Jr, Krupat et al. 2003, Street Jr, Gordon et al. 2005, Zandbelt, Smets et al. 2006, Brown, Ueno et al. 2007, Cox, Smith et al. 2007, Watt, Nettleton et al. 2008).

There are studies from a range of settings, countries and patient groups that have investigated potential gender differences in the partnership building style of medical doctors. This conceptual category relates to communication behaviours that normally seek to improve the doctor-patient relationship. For example, level of dominance in the consultation; positive or negative talk; social talk and amount of encouragement given to patients. In addition to this, several studies have measured affective behaviours such as concern or empathy, which will be considered alongside general partnership building behaviours here. The evidence base suggests that there is a gender effect in this aspect of medical communication, with female doctors generally showing more partnership building behaviours and exhibiting more affective communication styles, such as concern, warmth and empathy. For example, female doctors may make more positive statements (Roter, Lipkin et al. 1991, Hampson, McKay et al. 1996) and display more empathy during consultations (Wasserman, Inui et al. 1984, Bylund and Makoul 2002, van den Brink-Muinen, van Dulmen et al. 2002). A more detailed description of all the study findings relating to this communication category is presented in Table 4.2.

Table 4.2: Narrative synthesis of study findings

	Male doctors more	**No difference**	**Female doctors more**
Visit length	Two studies: (Hampson, McKay et al. 1996, Roter, Geller et al. 1999).	Eight studies: (Anderson and Zimmerman 1993, Bertakis, Helms et al. 1995, Law and Britten 1995, Carr-Hill, Jenkins-Clarke et al. 1998, Van den Brink Muinen, Bensing et al. 1998, Bertakis, Franks et al. 2003, Pahal and Li 2006, Tai-Seale, McGuire et al. 2007).	Five studies: (Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Bernzweig, Takayama et al. 1997, 1998, van Dulmen and Bensing 2000). Carr-Hill et al (1998) found an interaction with patient gender, with longer consultations between female doctors and female patients.
Amount of talk	Three studies: (Roter, Geller et al. 1999, Skelton and Hobbs 1999, Pahal and Li 2006).	Four studies: (Lunn, Williams et al. 1998, Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999, Tai-Seale, McGuire et al. 2007).	Three studies: (Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Hampson, McKay et al. 1996)
Patient participation		Three studies:(Street Jr, Krupat et al. 2003, Street Jr, Gordon et al. 2005, Tai-Seale, McGuire et al. 2007).	Three studies: (West 1984, Van den Brink Muinen, Bensing et al. 1998, Roter, Geller et al. 1999).
Information giving	*General information* One study: (Cox, Smith et al. 2007) *Use of directives* One study: (Meeuwesen, Schaap et al. 1991) *Biomedical information* Two studies: (Brown, Ueno et al. 2007) and in particular (Meeuwesen, Schaap et al. 1991) found greater use of interpretation and advice.	*General information* Three studies: (Fraenkel 1986, Wolfensberger 1997, van den Brink-Muinen, van Dulmen et al. 2002) *Use of directives* Three studies: (Roter, Lipkin et al. 1991, Bernzweig, Takayama et al. 1997, Van den Brink Muinen, Bensing et al. 1998). *Biomedical information* Two studies: (Roter, Geller et al. 1999, Pahal and Li 2006). *Psychosocial information* One study: (Sleath and Rubin 2002).	*General information* One study: (Van den Brink Muinen, Bensing et al. 1998) *Biomedical information* Three studies: (Roter, Lipkin et al. 1991, Bertakis, Helms et al. 1995, Bertakis, Franks et al. 2003). *Psychosocial information* Three studies: (Roter, Lipkin et al. 1991, Brown, Ueno et al. 2007), in particular Bertakis et al (2003) found more discussion of preventative services.
Question asking	*In general* One study: Hampson et al (1996). *Biomedical questions* Three studies: (Bertakis, Helms et al. 1995, van Dulmen and Bensing 2000, Bertakis, Franks et al. 2003).	*In general* Three studies: (Van den Brink Muinen, Bensing et al. 1998, van den Brink-Muinen, van Dulmen et al. 2002, Cox, Smith et al. 2007). *Biomedical questions* Two studies: (Wolfensberger 1997,	*In general* One study: (Irish and Hall 1995) *Biomedical questions* One study: (Hall, Irish et al. 1994). *Psychosocial questions* Two studies: (Hall, Irish et al. 1994, Brown, Ueno et

	Open and closed questions One study: (Pahal and Li 2006)	Brown, Ueno et al. 2007). *Open and closed questions* Two studies: one of which found no difference in open or closed questions (Sleath and Rubin 2002), and one which found no difference in open questions (Roter, Lipkin et al. 1991).	al. 2007) *Open and closed questions* Two studies: one of which found more use of closed questions (Roter, Lipkin et al. 1991) and one reported more use of open questions (Law and Britten 1995).
Partnership building	Two studies: One reported more concern and checks of patient's understanding (Roter, Geller et al. 1999) and one found calmer and friendlier use of voice (Hall, Irish et al. 1994).	Seven studies in total, three of which found no difference in styles, such as expressions of concern (Street Jr, Krupat et al. 2003, Brown, Ueno et al. 2007, Cox, Smith et al. 2007). Street and colleagues (2005) found more supportive talk amongst female doctors but no gender differences in the other aspects of partnership building such as encouraging patient involvement. Three studies reported no difference in the amount of social talk (Roter, Lipkin et al. 1991, Roter, Geller et al. 1999, Bertakis, Franks et al. 2003).	11 studies in total. Six of found more facilitating and rapport building behaviours such as encouragement or attentive silences (Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Bernzweig, Takayama et al. 1997, Wolfensberger 1997, Shapiro 1999, Zandbelt, Smets et al. 2006) Two found more use of positive statements (Roter, Lipkin et al. 1991, Hampson, McKay et al. 1996) Three reported lowered dominance and submissiveness (Meeuwesen, Schaap et al. 1991, Ainsworth-Vaughn 1992, Hall, Irish et al. 1994) One study found more supportive talk (Street Jr, Gordon et al. 2005) and one found a more patient-centered approach (Law and Britten 1995)
Affective behaviour		Four studies: two of which found no difference in use of concern, warmth and kindness in voice (Van den Brink Muinen, Bensing et al. 1998, van Dulmen and Bensing 2000); one which found no difference in the amount of emotional responsiveness or counselling (Roter, Lipkin et al. 1991); one found no difference empathy or reassurance (Roter, Geller et al. 1999).	Seven studies: three of which found more socio-emotional behaviours (Meeuwesen, Schaap et al. 1991, Lunn, Williams et al. 1998, Roter, Geller et al. 1999); one which found more counselling for anxiety and depression (Sleath and Rubin 2002); and three which found more empathy and concern (Wasserman, Inui et al. 1984, Bylund and Makoul 2002, van den Brink-Muinen, van Dulmen et al. 2002)

4.5 Discussion

4.5.1 Findings

This review provides a useful update and improvement to an existing meta-analytic review (Roter, Hall et al. 2002). Using slightly stricter inclusion criteria, but a more extensive search strategy, this systematic review yielded an additional 21 studies that were not included in the previous review, 9 of which were in existence when the searches for this previous review were conducted and 12 which have been published since.

The current body of evidence surrounding the effect of physician gender on medical communication is varied and it is difficult to draw conclusions about the majority of communication variables measured in studies due to the heterogeneity of studies, limited quality of much of the available evidence and equivocal results. It is possible that many other factors may predict variation in the communication that takes place during medical consultations, such as medical specialty, patient health status or patient gender.

Nevertheless, a number of studies suggest that there are gender differences in the partnership building characteristics of medical consultations, with female doctors engaging in more rapport building behaviours. The current evidence also seems to suggest that female doctors may spend longer with their patients, with visits lasting over two minutes longer compared to male doctors. These findings and their implications will be discussed below in more detail.

4.5.1.1 Partnership building style

'Partnership building style' encompasses behaviours such as encouragement, reassurance, lowered dominance and positive talk, and the literature reviewed here suggests that female doctors may engage in more of these communication behaviours compared to male doctors. The evidence base also suggests that female physicians exhibit more affective behaviours such as concern, empathy and sympathy. These findings are consistent with an earlier meta-analytic review which suggested that medical consultations with female doctors could broadly be described as more patient-

centered (Roter, Hall et al. 2002). This also reflects research outside the field of medicine: Tannen (1990) uses the terms ‘report talk’ and ‘rapport talk’ to differentiate between the types of communication made by men and women; men are more focused on establishing status and independence and women in general communicate as a means to establish rapport.

These gender differences may be important as research suggests that communication during medical consultations could be related to patient outcomes such as compliance, satisfaction and health outcomes. Researchers have found associations between patient-centered communication style and improved outcomes such as adherence and patient enablement (Taylor 2009a) as well as greater ‘efficacy of care,’ for example through fewer referrals and fewer diagnostic tests in patients reporting greater patient centered care (Stewart, Brown et al. 2000). A systematic review by Stewart (1995) suggests that shared decision making, amongst other communication styles, may affect health outcomes such as emotional health, symptom resolution and other physiological measures. In cancer patients greater participation and decision making has also been associated with better physiological outcomes and improved quality of life (Arora 2003). Therefore, it is possible that female doctors may achieve better outcomes through a more partnership building communication style and greater patient centeredness. However, this assumption ignores other possible factors that may impact on health outcomes. Street et al (2009) for example, stress that research in this field fails to consider the effect of interactions with other health professionals, caregivers, family and friends on health outcomes. In addition, research that assesses the relationship between communication and health outcomes rarely acknowledges wider physiological or social determinants that may affect the health outcomes under study (Street, Makoul et al. 2009).

4.5.1.2 Visit length

Similar to previous findings by Roter and colleagues (2002), this review found mixed evidence about the effect of gender on length of visit. However, results tend to suggest that female doctors spend longer with patients and this was supported by the results of the meta-analysis which suggests that women may spend over two minutes longer with patients per consultation (p=0.01). However, these results should be interpreted with caution because of the heterogeneity of the studies included in this estimate and the poor quality of studies as rated using Thomas’ quality assessment tool (Thomas 1998).

Nevertheless, it is prudent to consider the potential impact a small difference in time per patient may have on a clinician's overall working day. For example, if male and female doctors spend the same number of hours at work, this would translate into female doctors seeing fewer patients, a finding which has been shown in UK hospital settings (Bloor, Freemantle et al. 2008) and with Canadian physicians (Woodward and Hurley 1995).

Studies report conflicting findings relating to the information giving or question asking style of male and female doctors. There was no clear relationship in terms of the amount of information generally, amount of psychosocial information or amount of biomedical information given by male and female doctors. Similarly, there was a lack of consensus about the general question asking, psychosocial question asking, biomedical question asking or the open/closed nature of male and female doctor's question asking during the medical consultation. This is consistent with Roter et al (2002), who suggest that there may not be gender differences in the "task-specific" communication behaviours such as biomedical information giving.

4.5.2 Quality of the evidence

The findings of this review must be interpreted with caution, as studies were generally small; there was often poor reporting of methods; studies used flawed methods (for example few studies adjusted adequately for potential confounders); and there was a lack of blinding in most studies. The heterogeneous nature of the included studies also makes it difficult to compare across studies as they were based in different countries, with different patient groups, different healthcare providers and used a variety of outcome measures to assess communication.

4.5.2.1 Confounding

Using the ecological model of communication in the medical encounter, Street (2002) stresses that whilst individual differences, such as gender are important, they need to be examined alongside other variables that may have an effect on communication, such as context. This model suggests that organisational, political, cultural and economic factors may all effect the communication that takes place during the medical consultation, and should be considered alongside individual factors in any analysis (Street 2002). Aries (1996) also stresses the importance of considering situational

context when researching the effect of gender on behaviours, since individuals may display different characteristics depending on their setting; who they are interacting with; and the expectations that both parties hold. This relates to interactionist theory and 'doing gender' which is described in Chapter 3 of this thesis and suggests that communication traits associated with male or female genders may be enacted and changeable (West and Zimmerman 1987, West and Zimmerman 1991). For example a female doctor who is empathetic towards one patient may not act in the same way with all her patients or in different settings.

Physician age may be a potentially important confounding characteristic when studying medical communication since the average age of male doctors included in studies is likely to be higher than female doctors due to women's relatively recent movement into medicine. This may cause cohort effects, for example, if different medical training programmes were available to different cohorts of medical graduates, male and female doctors may have different experiences and attitudes towards communication. Despite calls for studies to take account of physician experience and cohort effects dating back to the 1980s (Weisman 1985), few studies adjusted for this possible confounder, or others such as patient health status. Aries (1996, p209) urges caution when interpreting such studies and suggests that "studies comparing men and women without proper controls for confounding variables augment the conception that men and women speak and interact differently because they are essentially different."

A recent review has also found that different gender dyads (male doctor/male patient; male doctor/female patient; female doctor/female patient; female doctor/male patient) may have different effects on doctor-patient communication during medical consultations (Sandhu, Adams et al. 2009). Female to female consultations, for example, were longer and more patient-centered (Sandhu, Adams et al. 2009). Rather than using a narrow scope and restricting the inclusion criteria of this review to include only studies of gender dyads, here the emphasis was on including all studies that measured the effect of doctor's gender, with reporting on the appropriateness of methods used to control for confounders such as patient gender.

Interactionism may be used to help explain these differences in gender dyads as it suggests that the doctor may be able to adapt his or her communication style to the situation or person with whom they are communicating. Cognitive-affective factors, such as gender stereotypes or impressions of a patient may affect how the doctor

interacts with their patient (Street 2002), and this ability to adapt may explain the differences in communication that have been observed in different gender dyads.

Studies that fail to consider these potential confounding variables risk making a attribution error, whereby an observed difference is attributed to an individual characteristic (e.g. gender) rather than the situational context (Aries 1996). The Cochrane Collaboration also comments on the problem of confounding in meta-analysis and suggests that this may either alter the estimate of effect (a systematic bias) or it may increase the variability of the observed effects, which will increase the heterogeneity among studies (Reeves 2009). It is possible that these influences may have affected the meta-analysis findings for visit length and it is therefore important to interpret these findings with caution. Future research should consider the effect of these potential confounders and make adjustment for these in analyses.

4.5.2.2 Measurement and blinding

Whilst efforts have been made by many of the included studies to standardise the measurement of communication, these methods are subjective and the observers' judgement may not necessarily correspond to the patients' judgements (Street, Makoul et al. 2009). Researchers should attempt to standardise the measurement of communication using established tools such as the Roter Interaction Analysis System (Roter and Larson 2002) and should test for inter-rater reliability of coding.

The observational nature of these studies and use of researchers' subjective ratings of communication style may be influenced by the observers' own personal beliefs, expectations and characteristics (Aries 1996). However, the majority of studies included in this review did not blind the observers to the doctor's gender or the research question. Future research in this field could attempt to blind ratings through use of anonymised transcripts. If this is not possible and audiotapes or videotapes are used, the researchers should take a reflexive approach to interpretation and consider what effect their own preconceptions may have on the data collected.

4.5.3 Strengths and weaknesses

This review involved a thorough and systematic search of the literature and evaluation of the quality of the evidence found. Unlike a previous review (Roter, Hall et al. 2002), language and date restrictions were not imposed and multiple reviewers were involved

in the study selection process, quality appraisal and data extraction. Grey literature was searched in addition to seven electronic databases, resulting in nearly 9000 search results. Although the likelihood of publication bias could not be assessed statistically, a large number of studies were included that found no difference on communication variables.

The majority of research in this field has been conducted in the US where access, cost and provision of healthcare are affected by individual patients' insurance coverage or ability to pay. It is possible that the role and expectations of patients and doctors may differ to those found in the UK, where healthcare is free at the point of delivery. There may also be different restrictions placed on consultation time across different international healthcare systems. In addition, the majority of the included studies were undertaken in primary care settings. The primary care setting may differ from secondary care in nature, for example one study that took place in a hospital setting did not replicate the findings from primary care – male obstetricians engaged in more partnership talk, expressed more concern for their patients than female obstetricians and spent longer with their patients (Roter, Geller et al. 1999). More research is needed to investigate the effect of gender on communication during medical consultations in other countries and in hospital settings. Chapters 5 and 6 of this thesis describe a research study which seeks to address this gap in the literature by exploring the effect of gender on the working lives of hospital consultants in the UK, and more specifically the communication that takes place between them and their patients and colleagues.

Most studies included in this review used quantitative observation coding tools to assign numerical meanings to the rich communication data taken from audio and video recordings. This method seems counter-intuitive and may risk losing potentially valuable information that does not fall into the predetermined categories on a coding tool. For example, this systematic review synthesised evidence from 192 different communication variables, demonstrating the vast variability in communication outcomes that can be measured. Qualitative research methods may be more appropriate to study gender differences in medical communication as they allow for more in depth data collection and interpretation to take place. For this reason, these methods are used in the study described in Chapters 5 and 6.

4.6 Conclusion

The current body of evidence surrounding the effect of physician gender on medical communication is varied and it is difficult to draw firm conclusions due to the conflicting findings and the poor quality and heterogeneity of available studies, making meta-analysis inappropriate in the majority of areas. Nevertheless, there appears to be some evidence to suggest that female doctors adopt a more partnership building and affective style when interacting with patients during medical consultations and female doctors may spend longer with their patients compared to male doctors. These variations may have important implications for the quality and quantity of medical consultations undertaken by male and female doctors, pertinent given the increasing numbers of women in medicine over recent years. These implications are considered in more detail in the final discussion chapter of this thesis.

Despite the large amount of research in this field, there is a need for more evidence investigating the effect of physician gender on medical communication due to the heterogeneous and poor quality of the existing evidence base. Further research is needed using larger samples of doctors, clear sampling frameworks, blinding where possible and appropriate statistical techniques to adjust for clustering effects and confounders. In addition, future research should avoid measuring communication in primary care settings alone and instead consider the effect of doctor's gender in wider settings, including hospital medicine.

5

Qualitative study to explore the working lives of hospital consultants: Methodology and methods

5.1 Aims and objectives

The quantitative approach adopted in previous chapters has identified gender differences in the working patterns and preferences and communication style of male and female doctors but there is a lack of research exploring contextual differences in the working practices and lives of male and female doctors particularly in UK hospital medicine. For example, while gender differences in doctors' medical communication were explored using systematic review methods in Chapter 4 of this thesis, evidence is based on predominantly US and primary care literature. Given the differences that have been highlighted in this thesis so far and in existing literature, as well as the increasing numbers of women working in the UK medical workforce, it is pertinent to explore the host of other factors that may affect the working lives of male and female doctors differently. Owing to the lack of research comparing gender differences in hospital settings that was described in the previous chapter, and data which suggests potentially large gender differences in the activity rates of hospital consultants in England (Bloor, Freemantle et al. 2008), this study focused on exploring the working lives of hospital consultants in the UK.

In this chapter, qualitative methodology and methods used to explore the experiences and working lives of hospital consultants working in the UK NHS are described. Following this, in Chapter 6 the findings from this research are discussed. The study objectives are:

1) To identify whether there are gender differences in consultants' interactions with their colleagues and patients.

2) To explore general working patterns of hospital consultants, such as their use of time in a working day.

3) To investigate the perceived stress levels of consultants and techniques used to cope with stress and competing demands at work.

4) To establish how consultants perceive their responsibilities outside work and whether they consider these responsibilities to impact on their working lives.

5) To identify whether hospital consultants themselves perceive there to be any differences between their working lives and that of their colleagues, with particular focus on potential gender differences.

6) To explore consultants' perceptions about the culture in medicine and changes over time.

5.2 Methodology

The terms 'methodology' and 'methods' refer to different elements of research study design that require consideration when planning and undertaking research. 'Methodology' relates to the conceptual and philosophical assumptions that are applied to the methods used to undertake a research study. As Payne and Payne (2006, p150) differentiate, "methodology deals with the characteristics of the methods, the principles on which methods operate, and the standards governing their selection and application" whereas 'methods' refers to the actual techniques that are used to collect information in a research study. In this section the methodology and aspects of quality that were pertinent to this research study are considered. A description of the methods used to undertake this research study is then presented.

5.2.1 The qualitative approach

Exploring variations in hospital consultants' working lives is a complex and multi-dimensional topic of investigation as both attitudinal and behavioural aspects can influence how an individual approaches their work. As such, a qualitative approach was taken which allows in depth insight to be gained into potential variations in hospital consultants' work. Silverman (2000, p8) suggests that "the methods used by qualitative researchers exemplify a common belief that they can provide a "deeper" understanding of social phenomena than would be obtained from purely quantitative data."

5.2.2 Philosophical considerations

Rather than being guided by a specific set of philosophical assumptions, which Barbour (2001) suggests are sometimes used as 'technical fixes' in qualitative research, this study adopted an exploratory qualitative methodology and pragmatic approach. This focused on exploring broad questions about how and why hospital consultants' working lives may differ, using the most appropriate methods for this purpose. This exploratory approach was routed in a theoretical framework that was based upon the concepts and theories from economics, sociology and psychology that are described in Chapter 3 and may be useful for explaining gender differences in individuals' behaviour. Research design, data collection and analysis were guided by this theoretical understanding. A reflexive approach was taken to data collection and analysis and emphasis was placed on using an inductive approach during data analysis, so that emerging theories were primarily based on the data, rather than some prior hypothesis.

5.2.3 Quality in qualitative research

Whilst there is recognition that aspects of quality need to be considered in the design and implementation of qualitative research, as in quantitative research, there is ongoing debate about whether or not different criteria should be used across these two research paradigms. The concepts 'reliability' and 'validity' have traditionally been considered as indicators of quality in quantitative research, however, as Mays and Pope (2006) describe, some authors suggest that qualitative research occupies a distinct paradigm and generates knowledge that is not comparable to quantitative research and therefore requires assessment via different quality criteria. For example, Guba and Lincoln (1981) suggest the notion of 'trustworthiness' should be used in

place of traditional terms of ‘validity’ and ‘reliability’ in order to assess rigour in qualitative research. Meanwhile, Morse and colleagues (2002) suggest that the existence of multiple criteria for establishing quality is confusing for the reader as well as researchers designing studies. They suggest that the emphasis should remain on establishing reliability and validity in qualitative research, so that it can be compared in the same vein as quantitative research quality (Morse, Barrett et al. 2002). Mays and Pope (2006) suggest that reliability may have little relevance due to the nature of qualitative inquiry, which may not be replicable due to the unique nature of the research scenarios. The concept of validity, advocated by Mays and Pope (2006), may be achieved through techniques including triangulation, reflexivity and transparency.

5.2.3.1 Triangulation

Triangulation is a useful tool which enables researchers to compare information across a range of methods, data sources or analyses, thus strengthening the research findings and increasing insight into the phenomena under study. There are various forms of triangulation, including theory triangulation (using two or more competing theories in a study); data triangulation (using multiple data sources); methodological triangulation (using different methods such as observational and interview methods); investigator triangulation (using two or more researchers); and analysis triangulation (using multiple approaches to analysing the same data) (Hansen 2006). Various triangulation methods were used in this project, including data triangulation, methodological triangulation and investigator triangulation.

Rather than seeking to validate or cross-check findings, Hansen (2006) advocates the use of data and methodological triangulation as a means of developing richer and more complex picture of the phenomena under study. Understanding the working lives of hospital consultants is a complex task and because of this no single method can explore the potential variations that exist in sufficient detail. The use of triangulation across multiple methods and participants strengthens the findings of the research study and provides a deeper and more complex understanding of the potential variations in consultants’ working lives. Layers of information and greater contextual understanding can be developed using this approach, giving a more complete insight as each method may only give “a partial view of the whole picture” (Barbour 2001, p1117). Furthermore, this technique strengthens the validity of the research findings if similar results are found across more than one method.

Two investigators collected data for this study as this enabled investigator triangulation. Although data collection was primarily conducted by LJ, during the pilot study two participants were observed by LJ and KB simultaneously in order to facilitate triangulation and refine methods of recording. Following this, KB assisted by collecting data for two additional participants. Steps were taken to improve the inter-rater reliability of data collection and this is discussed under the 'methods' section below.

5.2.3.2 Reflexivity in the research process

A key element of good qualitative research is reflexivity (Hammersley 1992). The word 'reflexive' means to 'bend back on oneself,' although as Finlay and Gough suggest, reflexive research is more than just reflection, which occurs after the event, it is about continuous self-awareness of the ways that researchers may impact on the research process (Finlay and Gough 2003). This requires a sensitivity to the effect of a researcher's presence upon a research setting and data collection, as well as the effect of *a priori* assumptions on data analysis (Murphy, Dingwall et al. 1998). A reflexive approach was therefore adopted to place findings into the wider social, cultural and political contexts and considerations were made to take account of how the researcher may have influenced the research process.

This was particularly important during the observational periods, when it was possible that the presence of the researcher could have affected events. Silverman (2010) suggests that in addition to data collected about what can be seen and heard, observers should also consider how they are behaving in a given situation and how they are treated by those under observation. To aid the reflexive process, researchers made notes alongside their observational field notes about how they were treated during the observational periods. These included the following points:

- Was the researcher's presence questioned?
- How much interaction did the researcher have with staff and patients (e.g. greeting patients)?
- Did the researcher feel as if they were intruding?

During observations the researcher kept a reasonable distance from the participant, so that they could continue with their daily duties uninterrupted but close enough to hear interactions that took place. At times the researcher spoke with the participant to seek

clarification about something that they had observed, but this was infrequent and limited to periods when it would not distract the consultant, for example when walking around the hospital sites. Self-awareness during periods of interactions between the participants and their patients was also important and distance was maintained during these times. This is discussed in more detail under ‘observations’ in the methods section of this chapter.

The participants that took part in this research study appeared very at ease with the presence of the researchers (LJ and KB) during observations. This may have been as a result of the long-standing tradition in medicine whereby medical students and trainees observe the work of consultants as part of the teaching process. For example, LJ and KB often felt they were treated as a medical student or junior doctor, with many participants explaining a patient’s case history in the same way that they would with a trainee. This meant that the researchers felt able to ‘blend in’ to the background and observe interactions that appeared very natural between the participants and their colleagues or patients.

It may also be important to consider the effect of the researchers’ gender on the data collection and analysis process as both observers were women. It is possible that the researchers’ gender may have encouraged the female participants to be more open about their experiences during conversations that took place during observational sessions and in the final interview. For example, they may have been more willing to discuss problems that they had experienced in their work/life balance; compared with talking to a male researcher. These potential influences will be considered in more detail in the findings and discussion chapter that follows.

Another important consideration when adopting a reflexive approach is the extent to which field notes may be “contaminated by your assumptions at the time of recording” (Silverman 2010 p.212). For example, LJ had developed knowledge of potential gender variations, such as differences in activity rates of male and female consultants, as a result of the literature review that was conducted early in this thesis and literature which formed part of the rationale for this study. The researcher was aware of the potential impact this knowledge may have on the research process, and although it was not possible to remove all personal interpretations and assumptions, LJ tried to remain as neutral as possible during the research process. For example, Lewis (2003) advocates adopting a position of ‘empathic neutrality,’ whereby observers endeavor to make any

assumptions or value judgments transparent during data collection and reporting. This was achieved in this study by noting any feelings and judgements alongside other field notes at the side of each page in the field notebooks. As far as possible, this enabled the researchers' feelings to be separated from any factual data collected and facilitated later analysis.

5.2.3.3 Transparency

Transparency is integral to good quality and credible qualitative research, as Mays and Pope (2006, p88) urge, readers must be able to "judge the evidence upon which conclusions are drawn, taking account of the way that the evidence was gathered and analysed." In order to achieve this, the processes through which this research was undertaken are described clearly and fully in the 'methods' section of this chapter. In addition to in depth description of the methods used in this study, interview quotations and observation fieldnotes are used in Chapter 6 to demonstrate how the findings and conclusions drawn are supported by the data.

5.2.3.4 Respondent validation

Methodologists disagree about the relevance and usefulness of respondent validation as a marker for quality in qualitative research (Mays and Pope 2006, Silverman 2010). For example, as Morse and colleagues (2002, p16) stress, once data is "synthesised, decontextualised and abstracted from (and across) individual participants", each participant may no longer even recognise their own experiences and relevance to the study findings. Furthermore, the researcher and participant may approach the research findings from differing viewpoints, of which neither may necessarily be correct or incorrect. Therefore, respondent validation was not undertaken in this study.

5.3 Methods

This qualitative study employed three stages of data collection in order to develop an in-depth understanding of various aspects of consultants' working lives and to build a complex picture of the gender differences that may exist. Stage 1 involved initial interviews with participants to gain greater understanding of the characteristics of the sample. This stage was often the first point of face to face contact with the participants and therefore this stage also offered an opportunity to generate rapport before

undertaking the observation sessions. In stage 2, observations were used in order to study consultant's daily working lives and working patterns in their natural setting (n=252 hours). Observations allow rich contextual information to be gathered and may provide different information to that collected via interview methods alone. Through the observational work an insight was gained into the consultants' working patterns and their interactions with colleagues and patients. Following observations, in stage 3 in-depth interviews were undertaken that sought to explore the findings from the observations in greater detail and to investigate participant's approach to work, the impact of responsibilities outside work on their working lives, perceptions about their working team and about potential gender differences in their working style and that of their colleagues. Interviews are a useful research method as they allow the researcher to investigate complex issues in depth with the participant and to explore the individual's perspective (Lewis 2003). Furthermore, authors advocate the use of both interview and observational methods in qualitative research as often what people say they do and what they do in practice may differ (Hansen 2006, Corbin and Strauss 2008).

5.3.1 Inclusion/Exclusion criteria

Participants were eligible for inclusion in this study if they were consultants working in either of the acute NHS (hospital) trusts in England that were identified for the study.

5.3.2 Sampling strategy

Rather than following a statistical sampling logic which attempts to generalise research findings to whole populations, this study used theoretical sampling which instead seeks to generalise findings to theoretical propositions (Silverman 2010).

> "Theoretical sampling means selecting groups or categories to study on the basis of their relevance to your research questions, your theoretical position… and most importantly the explanation or account which you are developing."
>
> Mason, J (1996, p93-4) cited in (Silverman 2010).

When using a theoretical sampling approach it is important to select carefully participants that they either support (literal replication) or refute a given theory for theoretically anticipatable reasons (Yin 2009). Theoretical sampling frameworks also

help to reduce the likelihood of consent bias occurring since participants are recruited based on theoretical propositions.

The theoretical framework underpinning the sampling of participants is therefore important. Based on literature reviewed in Chapter 3, several variables were identified as being important to study the variations in hospital consultants' working lives. It was not feasible to include all of these variables in the sampling framework as this would have resulted in an unmanageable sample size for the resources and time scale that was available for this project. Three key variables were therefore considered in the sampling framework: gender, specialty and organisation. Gender is an important characteristic in this study since we principally sought to investigate gender variations in hospital consultants' working lives. Specialty and organisation were also chosen because these variables would capture information about contextual characteristics that may interact with gender and cause variations in working styles and patterns. The sampling framework used is shown in Table 5.1. The variables that could not be included in the sampling framework (e.g. years of experience) were considered during data analysis and were also considered as part of the questionnaire study described in Chapter 8.

Table 5.1: Sampling framework

	Trust A		**Trust B**	
	Medicine	Surgery	Medicine	Surgery
Male	2	2	1	1
Female	2	2	1	1

Observational and interview data were collected for twelve participants in this study. A figure of twelve participants was decided based upon a balance of gaining large amounts of rich observational data (a total of 252 hours) and recruiting multiple participants within each subgroup in order to allow theoretical and literal replications to be made in the analysis. Kvale (2007) also advocates designing sample sizes in qualitative research that maintain a balance between collecting too much data that is unmanageable to analyse, and collecting enough data so that a sufficient level of depth can be gained and meaningful conclusions drawn. Based on these requirements Kvale

(2007) recommends qualitative studies should consider recruiting between 5 and 25 participants depending on the nature of the study.

Owing to practical issues and time restrictions, fewer participants were recruited from hospital trust B than hospital trust A in this study; however efforts were made to demonstrate replication across organisations before taking the decision to end recruitment in this second site. An additional participant (FMedB13) took part in the study towards the end of data collection because this consultant expressed an interest in taking part when discussing the study with her colleague that was also taking part. An interview was carried out for this participant but no observations were undertaken as these had already been completed for 12 participants.

5.3.2.1 Recruiting participants

Medical Directors in both Trusts were approached to suggest the names of potential participants for the study. These consultants were contacted via email to explain the nature of the study and ask if they would be willing to take part. Further participants were identified when undertaking observational sessions through introductions to participants' colleagues. Subsequent contact was made via email with these potential participants, provided that they met the characteristics as described in the sampling framework above. Emails were sent to potential participants to provide a brief explanation of the study and the opportunity to read the Participant Information Leaflet (Appendix 5.1). The Participant Information Leaflet explained the purpose and processes of the study, who had commissioned the research and ensured the potential participant was able to make a fully informed decision about taking part.

If participants were interested in participating in the study, a convenient time was arranged to obtain consent and conduct the first interview. Written informed consent was obtained for all participants. The consent form (Appendix 5.6) provided further information about how the data was to be used and stored, reminded participants of their right to withdraw and assured participants that data would be kept confidential and anonymous. Verbal consent was obtained from participants on an on-going basis during observations and interviews. At the end of the data collection process each participant was asked if they would like to be informed of the results of the study, and if so their preferred contact method.

Three potential participants were contacted about taking part in the study but declined to consent (one female consultant because she did not have time to take part due to staffing problems in her specialty; one male consultant because he also felt he did not have time to take part in the study; and one male consultant because he disagreed with the qualitative nature of the study methods). Discussion of the potential selection bias in this study is considered in the following chapter.

5.3.2.2 Participant characteristics

Based on the sampling framework described earlier, participants were recruited with a range of characteristics, with variability in terms of organisational structure, size and location of hospital, medical specialty and gender.

Participants were recruited from two acute NHS hospital Trusts in the north of England. There were two primary sites, both of which were teaching hospitals, although they were purposefully chosen as they differed in size and patient demographic. Hospital trust A was a medium sized Foundation Trust serving a predominantly affluent population, whilst hospital trust B was a large teaching hospital NHS Trust serving a predominantly socially disadvantaged population. In addition to the primary hospital sites at each hospital trust, observations were also undertaken at other hospitals within the hospital trusts and rural community hospital centres where participants held specialist clinics. Further description of these hospital trusts has been avoided here in order to preserve anonymity.

Specialties included general medicine; general surgery; oncology; ophthalmology; and palliative care, although participants' subspecialties are not provided here in order to preserve participant anonymity. In each specialty one male and one female participant was included in order to allow gender comparisons to be made across similar specialties. The majority of participants worked full-time (Programmed Activities (PAs) ranged from 10-12), and three participants (all female) worked part-time (PAs ranged from 8 to 8.5). Many participants had dependent children, and of the 5 that did not, 4 of these were male. Participants represented a range of ages (mean 42 years, range 37-51 years) and years of experience (median 6 years at consultant level, range 1-17 years). The characteristics for each participant are given in Table 5.2, along with the codes that were used to identify and refer to participants in the findings chapter that follows.

Table 5.2: Participant characteristics.

Participant identifier	Gender	Age group	Dependent children	Specialty	Trust	Contract	Consultant experience (yrs)
FMedA1	Female	36-40	Yes	Medicine	A	Full	6-10
MSurgA2	Male	51-55	No	Surgery	A	Full	15-20
MMedA3	Male	46-50	Yes	Medicine	A	Full	6-10
FMedA4	Female	41-45	Yes	Medicine	A	Full	6-10
MMedA5	Male	41-45	No	Medicine	A	Full	11-15
FSurgA6	Female	36-40	No	Surgery	A	Full	6-10
FSurgA7	Female	41-45	Yes	Surgery	A	Part	6-10
MSurgA8	Male	36-40	No	Surgery	A	Full	1-5
FSurgB9	Female	41-45	Yes	Surgery	B	Full	1-5
MSurgB10	Male	41-45	No	Surgery	B	Full	6-10
FMedB11	Female	36-40	Yes	Medicine	B	Part	1-5
MMedB12	Male	36-40	Yes	Medicine	B	Full	1-5
FMedB13*	Female	36-40	Yes	Medicine	B	Part	1-5

* An interview was undertaken with this participant and no observations as they were recruited after observational data for the study had been collected.

5.3.3 Ethical considerations

NHS ethical approval is required for any research study that is conducted in the NHS and Research Governance approval is required for any NHS site where study data collection takes place. As this study was part of a PhD thesis in the Department of Health Sciences, a submission was also made to the University of York Health Sciences Research Governance Committee.

University of York Health Sciences Research Governance Committee approval was granted in June 2010. NHS Research Ethics Committee approval was granted by the Derby Research Ethics Committee in September 2010 (10/H0401/76). This can be found in Appendix 5.7. Subsequently, applications were made for Research Governance approval at two hospital sites in which the study was to be conducted. Access was granted for these two sites in November 2010. From first submission to final approval, this ethical and research governance approval process took a total of 6 months. A further hospital site was identified during the data collection process, for which Research Governance approval was sought in May 2011 and granted in June 2011. The main ethical considerations during this study are outlined below.

5.3.3.1 Obtaining consent when encountering additional people during observations

During the observational part of this study, it was possible that a range of people would be encountered, including staff and patients. Since this study was only concerned with observing hospital consultants and no information about patients or other staff members was recorded, no formal written consent was obtained from any party other than the consultant that was being observed. Verbal consent was however obtained from patients during observations.

Posters were placed in prominent locations on wards and in clinics to raise awareness about the study amongst staff and patients. The consultant that was being observed introduced the researcher and a clear name badge was worn by the researcher at all times. Shadowing consultants is a well-established procedure in the NHS, for example it is common for medical students and junior doctors to shadow hospital consultants during ward rounds. Therefore, we did not expect that the presence of the researcher would have any effect on patients and other staff members. However, if patients did not wish the researcher to be present they left the room immediately. This only occurred on one occasion during observations for this study.

5.3.3.2 Confidentiality issues

All potentially identifiable information (such as name or organisation) was removed from any output from this study in order to protect the identity of participants. This included this thesis; interview transcripts; observational field notes and any related publications.

5.3.3.3 Threats to patient safety

Before starting the study, the possibility of encountering information that may represent a threat to patient safety during the data collection was considered. Participants were informed through the Participant Information Leaflet (Appendix 5.1) that such disclosures would be reported via routine incident reporting procedures.

5.3.3.4 Data protection and record keeping

Once consented, participants were given a unique anonymous ID code. This code was placed on the participant's transcript, observation notes and on any other data relating to that participant. The consent form (Appendix 5.6) was the only document containing identifiable information and linking the participant to the anonymous ID code. This was kept in a locked cabinet at the University, separate to other data generated in the study. Participants were only identifiable by their ID code. Any information which could be used to identify individuals was not included in transcripts or observation notes. All electronic data was stored on password protected computers. All paper-based data and back-up copies of electronic data was stored in locked cabinets at the University. Only members of the research team had access to the data. Participants were notified through the participant information leaflet and verbally prior to each interview that direct quotations may be published. Data will be retained for 5 years to allow for completion of the PhD and dissemination of the results.

5.3.4 Data collection

5.3.4.1 Pilot study

A pilot study was conducted in order to test procedures prior to starting data collection. Pilot observations were undertaken by both researchers (LJ and KB) that were involved in the data collection in the main study. These researchers undertook observations simultaneously so that notes could be compared. This took place over three days, observing two consultants (one female physician and one male surgeon).

Participants represented good variability in terms of work role and working style, which provided a valuable breadth of experience for the researchers. In addition, these pilot observations allowed the researchers to prepare for new and potentially daunting experiences, such as observing in operating theatres, so that they were better prepared for the full study.

During the pilot observations it became clear that a balance had to be struck between noting every intricacy of an interaction and making more conceptually important general observations. The importance of this is stressed by Miles and Huberman (1984, p69):

> "Fieldwork is so fascinating and coding is usually so energy-absorbing, that you get preoccupied and overwhelmed with the flood of particulars – the poignant quote, the appealing personality of a key informant. You forget to think, to make deeper and more general sense of what is happening, to begin to explain it in a conceptually coherent way." (Miles and Huberman 1984, p69)

Through the pilot study, it was possible to practise making field notes and the researchers gained experience of looking for deeper meaning in interactions and experiences observed. This balance between making extensive notes and drawing out conceptually important themes enabled greater concentration for long periods of time, as observations in the full study often took place over the course of a participant's full working day.

The pilot was also important for ensuring inter-observer reliability in recording of observational data collected by the two researchers. During breaks between observation sessions and at the end of all pilot observations the researchers compared notes to ensure similarity in the quality of recording and in their interpretations of events. Through this process a common approach to note making was established, with the aid of an observation framework (described later), which acted as a prompt during future observations. For example, the researchers found that in interactions with patients, one researcher noted the timings of consultations and the other researcher did not, so this was improved upon for future observations.

The data collected during these pilot observations was consistent with the rest of the study data and of sufficient quality to be included alongside the rest of the study data in the analysis, so further observation sessions were undertaken to make the time spent with each participant comparable.

5.3.4.2 Initial interviews

Following the piloting stage, recruitment into the main study commenced. Following initial email correspondence with potential participants and the provision of the Participant Information Leaflet, an initial meeting was arranged to discuss the study in more detail and obtain consent. For consenting participants, this meeting also enabled brief questionnaires to be completed which provided demographic information and information about their current post and medical career (Appendix 5.2). Following this, a brief interview was conducted to obtain information about the participant's work

schedule and working team so that the timings of observational sessions could be arranged and so the researcher was prepared for what would be involved and who could be encountered during the observation periods. These interviews were structured using a topic guide (Appendix 5.3) and lasted approximately 20 minutes.

5.3.4.3 Observations

Observational research has its origins in anthropological research and ethnographic studies which traditionally took place over long time scales during which the researcher immersed themselves in the culture being studied and undertook participant observation (Hansen 2006). Observations can take the form of participant observation or non-participant observation, depending on the setting, nature of the research study and characteristics of the observer (Hansen 2006). Non-participant observation was used here so that the researcher remained as neutral as possible to the situations being observed and as neither researcher was medically qualified.

The observational stage of this study aimed to generate greater understanding of how hospital consultants working lives vary by studying them in their natural workplace setting. For example, information about consultants' activities and interactions were recorded. This approach allowed knowledge to be generated from an outside perspective, which can be useful as often non-participant perspectives may provide new insight into phenomena that those being observed may not be aware. Hansen (2006, p76) also suggests that "where interviewing and focus groups can tell us what people have to say, observation and participant observation help us to see what actually happens." Furthermore, observational research also provides contextual information that can support other data collection methods such as interviews and if used towards the beginning of a research project, may provide useful familiarisation with the research setting (Hansen 2006).

Observation framework

The use of field notes in observational research can be problematic as they are limited to the interpretations of data made at the time of observation and it is very difficult for the observer to attempt to capture everything without the aid of audio or visual recordings. Silverman (2010) suggests two solutions to this problem:

1) Follow a framework of guidelines when making field notes

2) Maintain awareness of the theoretical orientation of the study

Since it was not feasible to undertake recordings of the observation sessions, steps were taken in order to preserve as much information as possible through rigorous collection of observational field notes. During the pilot study an observation framework was developed (Appendix 5.5) for this purpose. This was followed closely during observations to act as a prompt for the observers' field notes, and to ensure accurate and in-depth recording of observations that would facilitate analysis and provide deeper understanding.

The observation framework consisted of a number of theoretically informed categories. Whilst general activities were noted, the focus of the observation framework was on interactions that took place between the consultants and their colleagues or patients. The Roter Interaction Analysis Scale has been used extensively to code doctor-patient communication during medical consultations and the key components of this scale ('gathering data;' 'educating and counselling;' 'building a relationship' and 'activating and partnership building') were used to formulate prompts for the observation framework (Roter and Larson 2002). These prompts included: information seeking; information giving; partnership building and patient-centredness and socio-emotional behaviour. The duration of interactions and non-verbal communication were also considered and included in the observation framework.

Small, unobtrusive notepads were used to record field notes, with stickers containing the key categories from the observation framework placed on the front page to act as a prompt during observation sessions. As recommended by Spradley (1979), four sets of field notes were recorded during the data collection phase in order to improve reliability. These included: short notes that were made during observations; expanded notes made immediately after each observation session; a fieldwork journal where problems and ideas were recorded during and after observations as they arose; and more detailed provisional interpretations were recorded between each observation session as a running record of early analyses.

Observation timings and locations

The timings of observation periods were chosen to capture maximum breadth of activities conducted across a working week and to obtain an accurate picture of a full

working day. It was important that these observations captured as much as possible from the working day and not just the consultants' clinical work. In order to achieve this, observations took place over 2.5 full days (approximately 5 PAs) per participant, starting from when the consultant arrived for work and ending when the consultant left for the day. These regularly involved observations that lasted over 10 hours from start to finish, so the observation framework was of great importance to maintaining focus during this long time period. In total 252 hours of observations were made and were undertaken over the course of one year from November 2010 to October 2011. The researchers observed each participant in a variety of aspects of their work, which involved various hospital locations including hospital corridors, meeting rooms, operating theatre, outpatient clinics, secretarial offices, staff rooms, teaching rooms and wards.

Potential impact of researcher on patient consultations

Due to the nature of this study, observations often involved consultations with patients, both on the wards and in clinic rooms. During these periods there was often little distance between the researcher, the participant, their patients and family members. This did not feel intrusive during the observations and it was possible to make notes during these consultations without patients or participants being affected by this. This is perhaps because of the long tradition of medical student training that follows much the same format.

During observations patients were informed that a researcher was present and observing the consultant. All but one of the patients gave consent for this. There were occasions when participants judged it was not appropriate to observe consultations with patients, for example with one patient a consultant asked the researcher not to observe discussions about end of life care with a terminally ill patient and their family. This was rare and only happened on two occasions, at other times the researcher was present during these types of interactions and at these times it did not seem appropriate to take notes, so these were made in detail after the event had occurred.

The researchers did not interact with patients during the observations, except to occasionally and informally thank them for allowing them to observe. On two occasions patients on the ward asked the researcher for assistance (e.g. for help getting to the toilet) if there was no other help available. In these scenarios the researcher went to

find a nurse or doctor to assist the patient. The involvement of patients in this research study was inevitable due to the nature of the observations that took place, and careful consideration was taken as to how consent would be taken from patients (as well as consultants' colleagues) during the observational sessions.

5.3.4.4 Main interview

A main interview, lasting approximately 1 hour, took place with each participant at a convenient time following observational sessions. This interview allowed the findings from the observational sessions to be explored in greater detail and to investigate the participants' opinions and attitudes about their working lives and perceived gender differences concerning male and female consultants working in the NHS. The majority of the interview focused on investigating the participants' thoughts about their own approach to work and working life, and included questions about other responsibilities outside of work and their working team. Towards the end of the interview, the topic of gender differences was introduced and participants were asked to discuss their thoughts on potential similarities or differences in their working style and that of their colleagues, and whether they thought the culture in medicine had changed at all over time.

Interview process

Before commencing, the purpose of the interview and topics to be covered during the interview were explained to participants. Interviews were audio-recorded, although emphasis was placed on listening to and concentrating on the participants' responses so that a conversational style was generated, interviews flowed naturally and participants felt comfortable. Participants were reminded that direct quotations may be published but any identifiable information would be removed and kept confidential. At the end of the interview each participant was thanked for their time and given the opportunity to ask any questions. Participants were given a contact name (LJ) should they wish to discuss any issue further following the interview.

As with all data collection stages of this research study, interviews were operationalised in order to ensure transparency, reliability and construct validity through the use of interview topic guides (Appendix 5.4). This structured approach also

provided consistency throughout data collection, particularly as two researchers (LJ and KB) were involved in this.

The same topic guides were used for each participant and these included broad issues that would be explored during the interviews. A mixture of content mapping questions (to raise issues) and content mining questions (to explore issues further) were used during the interviews (Legard, Keegan et al. 2003). The structure of main interviews was partly informed by the data collected during the observation periods and information from these sessions was used to stimulate conversation and tailor the line of inquiry to the individual. Possible interview questions were included in the topic guide as a prompt for researchers in case they stumbled during the flow of the interview. Specific opening questions were also used and were carefully chosen to address any potentially sensitive issues in a neutral, non-threatening manner and to avoid creating discomfort in participants (Arthur and Nazroo 2003). Yin discusses the issue of raising difficult questions and suggests that researchers should be careful about how they phrase things that could be viewed as sensitive: “the verbal line of inquiry [should be] different to the mental line of inquiry” (Yin 2009 p.87).

The following areas of inquiry were included: managing workload, approach to work, other responsibilities, team, and perceived gender differences. The interview primarily focused on discussing the individual’s own working life, before focusing on perceived gender differences towards the end of the interview. In order to draw the interview to a close, participants were asked a more general question about their impressions about the future challenges facing the medical profession in the UK.

Prior to commencing data collection, this topic guide was piloted amongst the research team and with colleagues that are medical doctors in order to practise the procedures and test the appropriateness of topics and questions. As recommended by Arthur and Nazroo (2003), the topic guide was also ‘fine-tuned’ by listening back to the audio-recordings of the first two interviews with participants.

5.3.5 Data analysis

An inductive and flexible approach was adopted to data analysis in this study so that theories could be modified as new themes and data emerged to shed light on the exploration of gender differences in the working lives of hospital consultants. Lewis

(2003 p.49) advocates this approach and stresses that the researcher should "remain open to emergent concepts and themes" and should not "go into data collection burdened with preconceived theories and ideas." Nevertheless, the analysis was theoretically underpinned by the researcher's existing knowledge derived from a literature review about the historical, economic, social and individual characteristics that may impact on consultants' working lives (described in Chapter 3).

Whilst the approach to data analysis was inductive in nature, explanations of the data were built up using a methodical approach that followed the stages outlined in Ritchie and Spencer's (1994) framework analysis approach. This approach is increasingly used by health services researchers as it can be applied readily to health policy and funders research aims by allowing theory to be developed in a structured and transparent way, as Lacey and Luff (2001) describe:

> "The framework approach was explicitly developed in the context of applied policy research… The benefit of 'framework' analysis is that it provides systematic and visible stages to the analysis process, so that funders and others can be clear about the stages by which the results have been obtained from the data. Also, although the general approach in 'framework' analysis is inductive, this form of analysis allows for the inclusion of a priori as well as emergent concepts for example in coding."

In framework analysis the analytic hierarchy of data analysis is important and allows the researcher to move from raw data to wider explanatory accounts through a series of conceptual groupings and meanings that are assigned to the data (Spencer, Ritchie et al. 2003). This approach is non-linear in nature, whereby theoretical positions are altered in light of new evidence. The five key stages of framework analysis and their implementation in this research study are described below following explanation of how the data was managed.

5.3.5.1 Managing the data

Audio-recordings of interviews were transcribed verbatim. The data analysis was assisted using a computer package, Atlas ti® version 5.0 (Scientific Software Development, Berlin, Germany). This allowed the data to be managed and enabled the coding of large amounts of observational field notes and interview transcripts. However, this was largely used as a facilitative tool and did not replace the

researcher's own analytical thinking and familiarisation with the data (Spencer, Ritchie et al. 2003, Yin 2009).

5.3.5.2 Familiarisation

Familiarisation with the data involves immersion in the data and is essential to gain greater understanding of the nature and diversity of data collected prior to starting data analysis. This is also particularly important in the present study as more than one researcher collected data, so the researcher that conducted the analyses (LJ) needed to become familiar with all of the material (Ritchie and Spencer 1994). Although the analysis was conducted by LJ, the data collected by KB was discussed in full prior to setting out on the framework analysis steps in order to check that LJ fully understood KB's notes and interpretation of events.

During the familiarisation stage, the researcher read and reread the interview transcripts and observational notes. When necessary the researcher also listened back to audio-recordings. During this process notes and key points were made alongside the transcripts by hand and following this the formal analysis was conducted using Atlas ti® version 5.0 (Scientific Software Development, Berlin, Germany).

5.3.5.3 Identifying the thematic framework

Through noting down key concepts and recurrent themes during the familiarisation stage, a thematic framework for the analysis began to be developed that allowed the data to be sorted (Ritchie and Spencer 1994). The thematic framework in this study was also informed by the research aims and prior knowledge that had been developed when reading around the theoretical perspectives related to gender differences and relevant literature from the medical setting. During this stage of analysis LJ also consulted KB to discuss her impressions of the data and themes as they emerged.

5.3.5.4 Indexing the data

The interview and observational data were then indexed, or coded, according to the themes and subthemes identified in the thematic framework. The codes were generated through a cyclical process whereby sections of data were coded and later returned to in order to ensure continuity of coding throughout the observational and interview data for all participants. This was important as new codes emerged in later

sets of data and so earlier sets of data that had already been analysed were reanalysed to check that coding was consistent across participants and as new theories or themes emerged.

Handwritten notes were made whilst coding data using Atlas ti® as this maintained theoretical awareness and allowed the researcher to keep a record of emerging hypotheses about the data, for example ideas about how codes related to each other or to a certain participant characteristic.

Appendix 5.8 provides screenshots of the coding that was used in the Atlas ti® software and these demonstrate the large number of codes that were generated during this stage (84) and the high volume of quotations that the researcher was working with during this analysis (2897). For example, this appendix shows that for the code 'colleagues – relationship with colleagues' there were 132 quotations assigned to this code.

5.3.5.5 Charting

Once all the data had been coded, the quotations assigned to each code in Atlas ti® were explored in more detail using mind maps to build up a greater theoretical understanding of each code. This also developed clearer insight into potential definitions of each code and how they related to each other. At this stage the software package was also used to create 'supercodes' which refer to overarching themes that allow the researcher to logically sort the data. 'Families' of participants were also created at this stage in Atlas ti® in order to group together similar categories of participants (such as males/females, physicians/surgeons, Trust A/B; and participants with/without children).

Following this stage, and in order to help manage the large quantity of data, reports were generated in Atlas ti® to explore the total number of quotations that were assigned to a code for a different subgroups of participants (males/females; medical/surgical; Trust A/B; and participants with/without children). Although offering a simple overview of the data and enabling the researcher to see the wider picture of potential trends in the data, these counts did not replace in-depth qualitative analysis of the data. Appendix 5.9 provides an example of a table that was generated for this purpose to compare quotation counts for males and females across the initial coding framework that was used.

Using the overarching themes or ‘supercodes’ that were identified, matrices (or charts) of codes were then generated in order to map themes across different ‘families’ of participants. Ritchie et al (2003) advocate this approach as it facilitates data analysis using a systematic method and allows the researcher to move between different levels of interpretation, whilst maintaining focus on the ‘raw’ and contextual data. Each overarching theme was entered into a separate matrix, where subthemes represented rows and participants were charted in columns against these subthemes (see Table 5.3 below which displays an example matrix that was used to chart the ‘patient contact’ subthemes for female consultants).

Table 5.3: Example matrix.

	FMedA1	FMedA2	FSurgC1	FSurgA1	FSurgB1	FMedB1	FMedB2
Patients expectations							
Gender: patient contact							
Patients’ additional discussion							

5.3.5.6 Mapping and interpretation

As recommended by Snape and Spencer (2003), the analysis placed emphasis on uncovering the meanings of phenomena, rather than attributing causal inferences or simply describing the data. These meanings were explored through this final stage of mapping and interpretation that is described by Ritchie and Spencer (1994).

Using charts and count data as described above, links were made between sets of phenomena and subgroups of participants and these potential trends could be viewed more easily using the charts. This is a useful method for building patterns from the data and attempting to draw wider explanations (Ritchie, Spencer et al. 2003). During this stage of the analysis the original research objectives were used alongside themes as they emerged from the data as a guide for drawing interpretations and theoretical explanations from the data (Pope, Ziebland et al. 2006).

During the interpretation stage of the data analysis negative or deviant cases were explored that could provide any alternative explanations to the data. As recommended by Silverman (2010), when deviant cases were found that did not fit an existing

explanation or theory, these theories were altered in light of this new evidence in order to strengthen the validity of the findings. As Corbin and Strauss (2008) point out, this method may improve the 'richness' of the study findings and allows for greater exploration of the study concepts.

Data were analysed both within-cases and between-cases in order to allow comparisons to be drawn on a variety of levels (Ritchie and Spencer 1994). A chain of evidence was presented using examples of specific cases, such as quotations and observation fieldnotes, to provide evidence for the conclusions that were reached and improve the reliability of the findings.

5.4 Summary of methodology and methods

In this chapter, the methodological approach and techniques used in this study to explore the working lives of hospital consultants and potential gender differences in their day to day work has been described. This is a complex task, potentially involving the study of a variety of phenomena, for which qualitative research methods are ideal as they enable the researcher to gain sufficient depth and contextual understanding. Specifically, observations were used in this study in order to explore the interactions that take place between consultants, their colleagues and patients; as well as their use of time. Interviews were useful for exploring participants' approach to work or their working style; feelings about pressure at work; interactions with colleagues; and their responsibilities outside of work. Details of the methods used in this study and steps taken to improve research quality, such as triangulation and reflexivity, have been detailed in this chapter. The following chapter will present the findings of this research study and discuss of how these findings relate to the wider literature and theories about gender differences in medicine.

6

Qualitative study to explore the working lives of hospital consultants: Findings and discussion

6.1 Introduction

In this chapter, the findings from the qualitative study described in Chapter 5 are presented and discussed. These findings are based upon the observations and interviews that were undertaken with 13 participants and encapsulate over 265 hours of data collection activities. The data collection and analysis steps are described in the previous chapter alongside information about the characteristics of participants.

This study sought to explore the working lives of hospital consultants in a UK setting by investigating the presence of potential gender differences in their working behaviours; interactions at work; responsibilities outside of work; and individuals' perceptions of gender differences in medicine. In this chapter, study findings are described and placed within the context of the broader literature and theories from the fields of economics, sociology and psychology, described in Chapter 3. In particular, interactionist theory is used to explain these study findings as it suggests that social expectations and normative assumptions about behaviours that are acceptable in different scenarios may shape individuals' interactions. For example, "a woman may be a physician and acknowledged as such in the situation, but she can still be held accountable for being womanly in her conduct as a physician" (Chafetz 1999, p250). The literature described in Chapter 2 and 3 suggest that social expectations are rooted in the historical,

economic and social roles of men and women in society, as well as in medicine. The multi-disciplinary nature of this thesis is important for understanding the various factors that exert influences on gendered expectations and potential differences these may generate in individuals' behaviours.

While this study concentrates on seeking to explore gender differences in various aspects of the consultants' working lives, analysis of the observational and interview data also reveals pertinent factors that related to all of the consultants included in this study, regardless of gender. These findings are presented under 'common findings' following discussion of gender difference findings. Furthermore, as advocated by Corbin and Strauss (2008), analyses attempted to identify rival explanations in order to explore other possible reasons for the findings reported in this chapter, other than gender differences. For example, the characteristics that were considered to be important when planning the sampling strategy for this study (hospital trust and specialty), as well as potential cohort differences, were considered as potential rival explanations for variations in hospital consultants' working lives. These factors are considered throughout this chapter together with the gender difference findings in order to add depth to the discussion, thus providing a full and coherent explanation of the findings.

Following description of the study findings and discussion of how these sit within the context of broader literature, reflections are made on the methods used in this study. Implications for policy and practice are considered in Chapter 9.

6.2 Gender difference findings

Various factors appeared to impact on the working lives of hospital consultants in this study and these can be categorised broadly into two overarching themes that were identified through the process of data analysis described in the previous chapter. These themes were labelled as 'internal' and 'external' factors that may affect consultants' working lives. The key difference between these factors relates to the amount of 'controllability' individuals may have over these aspects of their working lives. For example, the internal factors *displays of dominant behaviours in interactions* and *holism and psychosocial communication in consultations* relate to individual consultant's behaviours, which are inherently changeable by the individual. External factors relate to aspects of the consultant's working day that they may have less control

over, such as the expectations of colleagues or patients. While these overarching themes are useful for categorising and presenting the findings here, these internal and external factors appear to be interrelated and may reinforce one another.

6.2.1 Internal factors

The internal factors encompassed aspects of the consultants' behaviour, such as their communication style, which are considered here to be internal to, or controllable by, the individual. Drawing on observational and interview data, there were differences in the *displays of dominant behaviours in interactions* and *holism and psychosocial communication in consultations* and this appeared to be related to the doctors' gender.

6.2.1.1 Displays of dominant behaviours in interactions

The terms 'doing dominance' and 'doing deference' have been used by sociologists to describe traditional differences in men and women's behaviours (Davies 2003). Dominant behaviours include assertive, directive and forceful behaviours whilst deferential behaviours are more yielding, communal and compliant in nature. Davies (2003) suggests that while dominant traits have stereotypically been associated with masculinity and medicine, women's behaviours have traditionally been more deferential in nature as a result of social roles that have been ingrained in society for centuries.

Drawing upon observational data from this study, it seems that a certain level of dominance is required for all doctors as they are authority figures both as doctors (to patients) and as senior medical physicians (to medical and nursing colleagues). For example they need to be assertive when delegating tasks to junior doctors and nursing staff, or inspiring confidence in their patients when making treatment decisions. The *degree* of dominance, however, varied across participants in this study, and there appeared to be gender differences in the level of dominance that was adopted in interactions with patients and colleagues. For example, women tended to adopt a more deferential, affable approach when communicating with patients (as shown in the following observation fieldnote excerpt) and were more yielding and accepting of problems with colleagues.

> When saying goodbye to her patients she is very warm and friendly, often saying *"it was nice to see you"* and at times giving patients a goodbye hug. With one patient the consultant says *"I've missed you"* and the patient says the same in response.
>
> (FMedB11: observation fieldnotes. Italicised text indicates participant's words)

This lower dominance in interactions led to the female consultants being less likely to raise concerns with nursing staff when they arose, and less inclined to redirect patients' psychosocial conversation back to their line of medical enquiry.

Meanwhile, with the male consultants there were times during observations when their style could be described as direct, abrupt and didactic and this occurred in a variety of scenarios. These behaviours may relate to the finding that male consultants demonstrated greater ability to quicken the pace of consultations when needed and maintain the flow of their consultations by redirecting patients away from social conversations. For example, consultant MMedA3 often approached patients and colleagues in a direct manner during observations and sometimes cut patients' conversation short when this deviated away from his biomedical questioning. Another example of a male consultant that could be described as dominant was consultant MMedA5. Well known amongst his team for being dominant and strong in his opinions, this male consultant was regularly observed asserting his opinions strongly and dogmatically when discussing patients' treatment decisions with colleagues. On one occasion a (female) junior doctor became tearful when being questioned about something in a direct and abrupt manner:

> The consultant becomes frustrated because a junior doctor has not provided all of the available information about a patient [during a ward handover]. He is assertive but abrupt when asking her to make sure that she does this fully in future… The [young, female] junior doctor begins to cry and then the consultant tries to calm her but she leaves in order to compose herself. (MMedA5: observation fieldnotes)

At times the consultants' large workloads and pressurised situations led to expressions of frustration and annoyance when problems arose or there were unexpected delays in their working day. Examples of such problems included colleagues' failure to order tests; delays discharging patients and excessive noise in the operating theatre. While these occasions occurred for both men and women, men were more likely to display signs of frustration and voice their annoyance with their colleagues. These displays of

dominance may relate to gender differences in consultants' judgements about the social acceptability of certain behaviours.

Contrasting approaches to reacting to problems were observed in an operating theatre when a male and female surgeon (FSurgB9 and MSurgB10) were operating together on a complicated surgical case. During a pressurised part of the operation, a scrub nurse started to complain about the operation taking too long and her need to leave on time. Already perhaps feeling a sense of pressure due to the complex operation, the male consultant became frustrated with the scrub nurse and heatedly demanded quiet in the operating theatre. Throughout this dialogue the female consultant was silent. Whether or not the female consultant would have intervened in this scenario had the male consultant not have been there to do so is unclear, although following this observation session the female consultant suggested to the researcher that her approach to these scenarios is different to her male colleague:

> [The consultant] comments that she tries not to let stressful operations *"get to her"* because she feels this would be a downhill spiral as it affects the scrub nurse and other staff – "*then they start to drop things."* She comments that there is sometimes more tension between the male consultant and the scrub nurse because his style is different – he is less friendly and relaxed [with theatre staff].
>
> (FSurgB9: observation fieldnotes. Italicised text indicates participant's words)

It seems that although the female consultant felt the same sense of pressure in the operating theatre, she held back and remained calm during the operation as she felt that this would negatively affect the team and be counter-productive in the long term.

Social acceptability: "I put brakes on myself"

Gender variations in the level of dominance are considered here using an interactionist approach, which suggests that individuals' likelihood to *display* these behaviours will depend upon perceptions about how to behave in different settings. The interactionist approach suggests that individuals' behaviour will vary in different contexts depending on the normative assumptions individuals hold about behaviours that are salient or acceptable in a given scenario. Based on this assumption, West and Zimmerman (1987) coined the term 'doing gender' to refer to how gendered behaviours may be enacted depending upon these social expectations about how to behave in different

contexts. In the medical setting, it is possible that female doctors may feel torn between acting in nurturing, caring ways that have traditionally been associated with women's role as carer, and acting in a dominant and powerful manner that has traditionally been associated with medical doctors. Davies (2003) suggests that this may lead to conflict for female doctors as they feel torn between the two expectations. These alternate expectations of female doctors' behaviours, according to what it means to be a woman and what it means to be a doctor, may explain why female doctors in this study enacted different behaviours in different scenarios.

In a qualitative research study in the US that observed female surgeons in the workplace, Cassell's (1998) found that female consultants portrayed typically female traits (such as lowered dominance) with nursing staff and patients, and more masculine behaviours (such as directive behaviours) with fellow doctors. Cassell's findings supports the idea of 'doing gender' as she suggests that gender is "not possessed but *performed*" during interactions (Cassell 1998, p38). Therefore, individuals may 'do' dominance and 'do' deference depending on their perceptions about how to act in different settings. This also appears to transfer to the UK setting of hospital consultants observed in this study, as female consultants (FMedA1 and FMedB11) behaved in ways that could be described as dominant in interactions with their medical colleagues, as they displayed a level of assertiveness and formality, while their interactions were more friendly, approachable and deferential in nature with patients. Varying levels of dominance were also observed with consultant FSurgA6 depending on context. In interactions with nursing staff she was friendly and jovial when no junior doctors were present, but when accompanied by junior doctors the consultant became more formal and dominant in her approach. This finding, in line with interactionist theory, suggests that gender is enacted depending on settings and socially constructed stereotypes of gendered behaviours.

Analysis of deviant cases supports the suggestion that gender differences in displays of dominance may be associated with socially constructed behaviours. Whilst male consultants were broadly considered to be more dominant compared to female consultants in this study, on the occasions when female consultants displayed dominant traits, these tended to be adopted by female surgeons rather than physicians, suggesting potential differences across specialties as well as gender. For example, FSurgA7, a female surgeon, was strong and assertive when drawing consultations to a close and sometimes stood up to usher the patient out of the clinic room when she had

finished the consultation and the patient was starting to wander off topic. This variation across medical and surgical specialties reiterates the interpretation that gender differences in displays of dominance may be more complicated than just considering pure 'sex' differences, and instead may be socially constructed. The greater displays of dominance amongst female surgeons compared to physicians in this study may be explained by differences in expectations about how to behave accordingly in these differing contexts – or what it means to be a surgeon or a physician. Despite significant gains in numbers of female doctors over recent decades, surgery remains a male-dominated specialty; meanwhile medicine is gradually becoming more feminised. It is possible the acceptability (or perceived acceptability) of masculine or feminine behaviours may differ in surgery as a result of this low representation of female doctors. Findings from the field of leadership research support this suggestion. Johnson et al (2006) suggest that female leaders may adopt a masculine approach in a masculine setting (e.g. in surgery) and a feminine approach in a feminine setting (in medicine).

The *enactment* of different behaviours by men and women in this study is supported by reports from female consultants about the awareness they felt of how their behaviours may be judged by others. Women described feeling that the direct and dominant behaviours adopted by their male consultant colleagues would not be tolerated by nursing staff if they, as women, were to behave similarly:

> [The consultant] comments that if she acted like the male consultant did [dominant and demanding] then the staff would say that she was a "bitch" as they wouldn't tolerate the same kind of attitude. (FMedB9: observation fieldnotes)

The literature supports the suggestion that dominant behaviours may not be socially accepted in women (Cassell 1998, Chafetz 1999, p250, Ridgeway 2009). Cassell (1998), for example, has reported similar findings amongst female surgeons in the US, whereby domineering and aggressive behaviours were not tolerated in female surgeons, but appeared to be accepted in male surgeons. Therefore, it may not be that female doctors are intrinsically less dominant than males, but rather that they *display* different levels of this in order to conform to these expectations.

Social exchange theory adds to understanding of the enactment of these typically female behaviours by female doctors as it suggests that individuals conform to the social norms that are expected in different groups, so that they can benefit from being

part of that group (Kallis 2009). In this study, it seems that women's lowered dominance relates to this desire to conform to gendered expectations and fear that they would be sanctioned by colleagues, particularly by nursing staff, for behaving in a dominant manner. For example, consultant FMedA4 was particularly conscious of controlling her temper and not confronting nursing staff about problems (discussed later in this chapter under *'external factors'*). She expressed concern about how this may negatively impact on her working relationships:

> "I put brakes on myself, I'm always aware that if I lose my temper it's just going to affect me for the rest of the day so I just try very hard not to, I just try extra hard to calm myself down… even yesterday [when a nurse was being uncooperative] I was fairly calm, although I was really frustrated and sort of, I try not to affect my relationship [with the nurses], it doesn't really help, just getting wound up, and so I didn't lose my temper, and so, it's, it's good." (FMedA4: interview)

In contrast to some of the female consultants' perception that domineering behaviours would be tolerated by nursing staff when enacted by male doctors, observations with a male surgeon in this study revealed that direct and abrupt behaviours were in fact not tolerated by nursing staff. While the nurses did not confront the consultant about these behaviours, ill-feelings about his approach seem to have affected the nurses' behaviours. Specifically, uncooperative and unprofessional behaviours were observed from these nurses on occasions with this consultant. In theatre observations, for example, scrub nurses were seen rolling their eyes when asked to do things by the consultant, making complaints about an operation overrunning and writing notes to each other on the sterile surfaces with an unsterilised pen. In clinic observations, the nursing team arrived 15 minutes late, creating a delay for the consultant and patients that were waiting for the clinic to start. This suggests that female consultants' concerns about the effects of their behaviours on working relationships may be well founded, although lack of tolerance of these behaviours may not be specific to female doctors. Kendrick (1995) stresses that conflict between doctors and nurses is perhaps inevitable since they work so closely together. Over 40 years ago, Leonard Stein wrote "The doctor-nurse game" which suggested that the doctor-nurse relationships are carefully implemented and potentially volatile, requiring "the nimbleness of a high wire acrobat" in order to avoid disagreement (Stein 1967, p699). Stein (1967) saw the nurses' role in this 'game' as one of deference, although observational findings described here suggest that this relationship may still be potentially volatile. Further, it is possible that

the professionalisation of the nursing workforce may have altered these traditional role expectations and behaviours of deference amongst nurses, potentially making them less accepting of doctors' behaviours.

6.2.1.2 Holism and psychosocial communication in consultations

In UK medical practice a holistic approach is advocated (General Medical Council 2009, British Medical Association 2011), whereby a bio-psychosocial approach is adopted which considers all aspects of the patient's medical, psychological and social needs to be important in their care. Here the term 'holistic' is used to refer to the consultants' likelihood to use psychosocial communication during consultations with patients. In this study, consultations with women could be broadly described as more psychosocial and holistic in nature compared to men.

Use of affective communication

Female consultants behaved in a more nurturing style when communicating with patients, including greater displays of empathy and sympathy through their voice and body language. These gender differences in behaviours appeared to be particularly apparent when discussing upsetting news with patients as these naturally tended to be scenarios that demanded more affective communication. Both male and female consultants were observed in these scenarios, and although male consultants conveyed sympathy for patients in their use of language, there tended to be a greater focus on biomedical information giving. Meanwhile, female consultants conveyed greater warmth through their voice and body language in these scenarios, and appeared to use touch more frequently. These differing approaches are represented in the following observation fieldnotes which describe a female and male consultant discussing bad news with a patient and their family.

> The patient asks how long she has left [to live] and the consultant strokes and holds the patient's hand as she becomes upset. She is softly spoken and quiet, giving the patient time to digest the information. She seems upset and touched by the patient's sadness.
>
> (FMedB11: observation fieldnotes)

> The patient's wife is crying at times… The consultant shows some empathy in his voice but does not use any verbal expressions of empathy. There is no contact (e.g. touch). He is mainly just presenting the facts and answering any questions that the family has.

> He does this delicately and slowly so that they understand, but he is not emotional about it, the focus is on the biomedical information.
>
> (MMedA5: observation fieldnotes)

Greater expressions of affective communication by female doctors in this study support the results of the systematic review that was undertaken as part of this thesis. The findings from this review suggest that female doctors may use more partnership building behaviours and affective talk, such as expressions of empathy compared to male doctors.

Social role theory is used by sociologists to explain the presence of gender differences in behavioural style, such as the use of affective communication. This theory suggests that individuals become socialised into certain behaviours or roles according to long-standing stereotypes associated with their gender. Whilst men may be associated with more dominant, directive and forceful behaviours, women are typically expected to be friendly, passive and nurturing (Ridgeway and Smith-Lovin 1999, Johnson, Fasula et al. 2006). Therefore, it is possible that female consultants in this study displayed these stereotypically feminine traits as a result of traditional roles that have been attributed to women and are ingrained in society. According to Gutek and Cohen (1987), there will be 'sex-role spill-over' in the workplace, with traditional gender roles more ingrained owing to their early development, and exerting more influence over interactions compared to work roles, which are learnt later in life.

As a result of these historical roles, men and women may be equipped differently to deal with common situations that demand a psychosocial approach or affective style. Indeed, this suggestion is supported by a study of UK medical graduates, which found that female doctors felt better equipped in these psychosocial skills, such as displaying a 'caring and compassionate nature' compared to males (Clack and Head 1999, p.101). Therefore, while both men and women in this study expressed an awareness of the importance of psychosocial communication to patient care (as a result of current emphasis on this in medical training (General Medical Council 2009)), it is possible that male consultants may feel less comfortable discussing these aspects with patients. This may, in turn, affect their willingness to engage in psychosocial communication with patients. For example, men were less inclined to ask patients if they had any questions they would like to ask during consultations and were more likely to interrupt or avoid psychosocial communication. These variations are considered below.

Engaging in psychosocial communication: "The last thing you want to ask the patient is how they are"

Female consultants were more likely to ask patients if they had any questions they would like to raise at the end of the consultation. This occurred routinely with all of female consultants that were observed and was rarer amongst male consultants. This opportunity was often taken by patients to raise medical concerns, problems that were not directly relevant to the consultant's specialty or to discuss psychological aspects, such as how they were coping with their illness. Female consultants' greater likelihood to ask patients if they had any questions may have also resulted in more patient-initiated social conversations as they had more opportunity to raise such topics.

Female consultants' greater likelihood to encourage psychosocial communication may relate to a sense of discomfort that was reported by some male participants when discussing these aspects with patients. One male consultant, for example, commented on his dislike of asking psychosocial questions, particularly those of a personal nature, as he expressed concern that his patients would feel uncomfortable discussing these aspects of their health and that this approach may lead to excessive patient conversation, which he referred to as opening up the "flood gates" (MSurgB10: observation fieldnotes).

Male consultants' discomfort in engaging in psychosocial conversation with patients was also echoed in an interview with a female consultant who discussed the differing approach taken by her and her male colleague, and the potential impact this may have on the number of patients that she sees in clinic:

> "There is a difference in how I approach patients; I am much more holistic… I pick up more on the emotional cues… I'm not saying that [my colleague] doesn't recognise the emotional cues, I'm saying that maybe he feels uncomfortable responding to them, and I think that's the difference, so for example, given that he is sick today, the clinic's going to be overbooked with very upset people and one of our nurses said to me *'you know today you're going to have to do this clinic a bit more like [the male consultant] and less like you,'* you know with all the sort of gaps and sorting out the tissues and that sort of thing. He does get through a few more patients in clinic than me, because I spend more time with them." (FSurgB9: interview)

The male consultants that appeared to show discomfort or lack of engagement in psychosocial communication with patients tended to be older compared to the female consultants in this sample. The use of psychosocial communication by a consultant in the oldest age group in this sample (MSurgA2), revealed an awareness of the growing recognition for a holistic approach, but a lack of engagement with patients in these psychosocial aspects of the consultations as these were generally limited to asking closed social questions. Similar findings were observed with other older male consultants.

These potential cohort differences may relate to the change in emphasis towards patient-centred care, as this has grown in momentum over recent decades (Pruitt and Epping-Jordan 2005) and since these older male doctors completed their medical training. Patient-centred care seeks to value the patients' medical, psychological and social needs and encourages patient engagement in decision making about their healthcare (British Medical Association 2011). According to psychological theory, individuals' attitudes are shaped by their own beliefs and prior experiences, which in turn affect their behaviours, such as communication style. Therefore, it is possible that these older male consultants may feel less equipped to discuss psychosocial aspects of the patients' health as a result of different medical training.

Nevertheless, differences in medical education may not fully explain the variations observed in this study, as gender differences in psychosocial communication were apparent for men and women from the same cohort of medical education. Similar findings are reported in a study by Clack and Head (1999), described earlier, which also reports gender differences in psychosocial skills regardless of cohort as all participants in their study were newly qualified UK medical graduates. It is possible that women's greater comfort raising psychosocial topics of conversation with patients may relate to the traditional socialised roles of men and women and their perceptions about the appropriateness of certain behaviours.

During observations it seemed that a sense of time pressure may have influenced the consultants' approach to psychosocial communication. There seems to be a balance between engaging in patient's conversations about these psychological or social issues and maintaining efficiency. In an interview, consultant FMedA1 suggested that male doctors may be more capable of keeping psychosocial conversations to a minimum, by

steering patients back onto their line of enquiry, but she feels torn between allowing patients time to raise concerns and using her time effectively:

> "Who's to say what's the best way… one of the patients in clinic was telling me something that he, was completely off the subject, and I had to sit for about ten or fifteen minutes and talk to him about it and at the end when he stopped crying he said 'thank you very much doctor, I feel much better' and left. Probably didn't do much about his [condition], but hopefully he felt a bit better, but is that the most effective use of my time? I don't know." (FMedA1: interview)

In an interview, a male consultant commented on the fulfilment he feels through talking to his patients and expressed the importance of spending time with patients so that they understand their disease and are able to raise concerns. However, he explained that sometimes this is the only aspect of the consultation that can be altered in order to improve productivity in a busy clinic:

> "The only thing that can make a consultation go quicker is if you just don't talk… You know, there's the sort of joke as a trainee that if you're trying to work in a busy clinic, the last thing you want to ask the patient is how they are."
>
> (MSurgA8: interview)

The importance of this balance between allowing patients time to talk and maintaining efficiency was evident to the researcher when undertaking observations, as wide variations in consultants' approach to allowing patient-initiated psychosocial communication were evident. Male consultants' greater effectiveness at closing conversations or redirecting patients' conversation seemed to relate to their greater dominance in the consultation (described earlier) as well as their greater willingness to interrupt patients' psychosocial communication in order to return to biomedical topics or end the consultation. This willingness to interrupt patients' psychosocial conversation or quicken the pace of consultations also appeared to be greater for male consultants when there was greater time pressure, for example when they were running behind schedule in a clinic – a trend that did not seem as apparent when observing female participants. Gender differences in length of clinic consultations observed in this qualitative study are explored in the following chapter. Additionally, Chapter 7 explores whether characteristics such as consultants' use of psychosocial communication and patients' engagement in additional topics of conversation are associated with the length of clinic consultations in this qualitative study.

At times male consultants' unwillingness to engage in psychosocial communication with patients was disconcerting to the researcher that was undertaking observations, as there were occasions, particularly with older male consultant surgeons, when the researcher felt that difficult or upsetting conversations with patients were not given appropriate amounts of time. While this appeared to relate to the high workload that the consultants were under and a lack of time, this seemed to occur to the detriment of patient-centredness. For example, on a brief ward round at the end of one consultant's day the following observation fieldnotes were made:

> A patient expressed concern about his illness (a form of cancer) and when the consultant mentioned that treatment would involve chemotherapy the patient seemed startled. The consultant gives only slight reassurance (*"of all the things to get this is the least worrying"*) and does not discuss in any more detail.
>
> (MSurgA2: observation fieldnotes. Italicised text indicates participant's words)

Here the consultant may not have been aware of this patient's level of understanding about his diagnosis as it appeared to the researcher observing this scenario that the patient was not aware that he had been diagnosed with a form of cancer and may have only made this connection when the consultant mentioned chemotherapy treatment. Yet due to the hurried nature of the ward round, the consultant did not stay to discuss this in more detail with the patient. This finding mirrors a concern raised by a female consultant oncologist, who suggested that some colleagues may not spend sufficient time delivering bad news, or may deliver it ineffectively to patients, resulting in her needing to spend more time with patients to provide information or challenge incorrect beliefs about their illness. This relates to the holistic approach that female consultants appeared to take in this study and greater willingness to spend time with patients to discuss their feelings and beliefs about their illness. Other research supports this suggestion; for example in a telephone survey, Cooper-Patrick et al (1999) found that patients reported more participatory visits with female doctors and Roter and Hall (1991) suggest that female doctors may spend longer in consultations with patients because they adopt a more patient-centred approach.

Nevertheless, it seems that all doctors need to strike a balance between enabling patient-initiated psychosocial communication and maintaining efficiency in their working day. The following quotation from observation fieldnotes with a female consultant in a

medical specialty demonstrates this dilemma and the potential delays that can be caused by allowing patients to talk freely and uninterrupted:

> The patient has some banter with the consultant about [her clinic list running late] and asks whether she was chatting on the phone to her boyfriend… The patient raises concern about itching: *"it probably isn't your department, but"* …The patient continues to ask questions about unrelated illnesses: *the other thing, there are 3 things really, but again this won't be your department"* …The patient initiates social chitchat about his shop and his birthday that is coming up (approx 5 minutes). Also asks the consultant about the new car parking arrangements. Asks the consultant *"which part of the world are you from?"* and then tries to chat about cricket scores.
>
> (FMedA4: observation fieldnotes. Italicised text indicates patient's words)

In this excerpt the patient appears to feel comfortable raising concerns about illnesses that he understands are not relevant to the consultant's specialty, makes several attempts at social conversation and the consultant struggles to draw the consultation to a close. These additional conversations doubled the consultation time with this patient and, although the consultant tried not to engage in social conversation by using brief responses and only asking closed questions about his illness, it seems that she was not very effective at drawing this consultation to a close. These differences may relate to gender differences in length of consultations that were reported in Chapter 4 of this thesis and Chapter 7 will explore whether there were indeed any differences in length of clinic consultations with consultants in these qualitative observations and whether these differences may be related to characteristics of the consultation.

It is difficult to unpick whether patients' greater social conversation arises as a result of the consultants' approach (such as lowered dominance or emphasis on a holistic approach) or patients' perceptions of the doctors (such as greater approachability). The greater likelihood for patients to initiate psychosocial conversation and ask questions about illnesses that are not relevant to the consultant's specialty may relate to the perceptions that patients hold about male and female doctors. In the observation described above, for example, the patient demonstrated comfort in instigating social topics of conversation with the consultant and it is interesting to consider whether the patient would have made a similar comment about chatting on the phone to a boyfriend/girlfriend if he had been consulting a male consultant. This issue relates to

patient's perceptions of male and female doctors, which will be discussed in more detail in the *'external factors'* section of this chapter.

6.2.2 External factors

Inter-related with many of the *'internal factors'* presented in this chapter, are the external influences on their work, such as *feelings of pressure and difficulty achieving work-life balance*; *family commitments and work-family conflict;* experiences of a *gendered culture in medicine*; and *patients' and colleagues' behaviours* that may influence their working lives.

6.2.2.1 Feelings of pressure and difficulty achieving work-life balance

The working lives of the hospital consultants that took part in this study appeared to be extremely pressurised and hectic due to competing demands on their time and high workload. There was a sense of a lack of time in the consultants' working days and in interviews the consultants commented on the approaches they used in order to help them cope, such as working longer hours, working through lunch breaks, or doing administrative work at home in the evenings. Exceptions to this occurred with two consultants working in a specialist unit at hospital Trust B, whose observations did not appear to have the same sense of time pressure as other participants. These consultants' clinic lists were not always fully booked with patients and this seemed to lead to less efficient use of the consultants' time if they had to wait for patients between appointments. While the consultants tried to fill this time with indirect patient care responsibilities, such as administrative tasks, the lack of pressure was in contrast to the other specialties observed. However, it is not clear whether these differences arose due to the nature of the patients seen in this specialty needing more time per appointment, or because of some other reason, such as greater streamlining of processes and delegation of tasks to nurse-led clinics at this specialist centre.

Nevertheless, the pressures of a medical career created difficulties for all consultants that took part in this study and many commented on how they felt they struggled to achieve a sense of work-life balance. This was apparent regardless of gender or having dependent children, as the following interview quotations from two participants without any dependent children highlight:

> "I don't enjoy any clubs, because what's the point, cos I'd never get to them… so everything I can do, I can do at a time that suits me… cos you just physically don't have time."
>
> (FSurgA6: interview)

> "I've turned down invitations to sporting events because they were just too short notice, some people say, 'just take a sicky,' but you just can't do that when you've got 12 patients booked on your clinic. You know, at a week's notice to have those patients get a letter to say we've cancelled your clinic we're going to rearrange it, yes you can do it, but for a day at the golf course, it's just not worth it, I just wouldn't be happy to do it."
>
> (MSurgA8:interview)

While it seems that both men and women in this study held desires for greater work-life balance, greater expressions of feelings of stress and discussions of coping were revealed by female consultants. This replicates findings from other studies in medicine, which have found higher reports of stress amongst female doctors compared with male doctors (Caplan 1994, Cartwright, Lewis et al. 2002, Kluger, Townend et al. 2003). Furthermore, in a systematic review that included 183 studies, Purvanova and Muros (2010) found greater levels of 'emotional exhaustion' (described as feeling emotionally and physically depleted at work) amongst female workers across a range of occupations and countries. However, it is not clear whether or not these differences in expressions of stress arise as a result of 1) women being more vocal in expressing these feelings; 2) differences in approaches to coping with stressful situations; or 3) variations in the number of stressors faced by men and women (for example greater responsibility for childcare); or perhaps a combination of these factors.

In considering the first explanation, men may be less inclined to discuss feelings of stress compared to women, as a result of stereotyped expectations of the behaviours associated with men and women. As discussed earlier in this chapter, social role theory suggests that these expectations may stem from traditional gender roles which dictate the behaviours that are appropriate to men and women. Interactionist theory, such as Goffman's theory of gender displays, would suggest that these gender differences in expressions of stress and coping stem from individuals' desire to meet these socially constructed gender expectations, rather than stemming from biological differences between the sexes (Goffman, E, 1976 , cited in (West and Zimmerman 1987)).

The second explanation for greater discussions about stress and coping relates to the suggestion that women may be more inclined to share these feelings with others as a

means of coping. Ptacek et al (1994) suggest that gender differences in coping strategies may exist, with women seeking support and adopting emotion-oriented styles and men using problem-focused approaches.

However, whether these greater expressions of stress were a result of differences in coping techniques of men and women, or variations in numbers of stressors is not clear. In their laboratory-based study, Ptacek and colleagues (1994) were able to control the stressors that participants experienced, enabling them to suggest that gender differences in coping styles may exist regardless of stressors. In the present study, variations in coping styles could not be tested using this laboratory approach as there were different potential stressors across each participant in the study. The focus of exploring these variations in expressions of stress and coping was therefore placed on the third possible explanation for gender differences: variations may arise as a result of actual differences in the levels of stressors experienced by female consultants in their working lives compared to male consultants. These expressions of feelings of stress were evident during observations and interviews with all female consultants, regardless of specialty, although the majority of these discussions related to pressure from family responsibilities.

6.2.2.2 Family commitments and work-family conflict

Through interviews, gender differences emerged in terms of the sense of pressure participants felt from responsibilities outside of work, particularly with respect to family commitments. Women reported greater feelings of stress about these responsibilities and, in addition, appeared to take more responsibility for childcare compared with males. This is in line with traditional gender differences in the division of domestic labour discussed in the economics perspective of Chapter 3.

According to Becker's 'family economics' and also human capital theory, the historic gender division of domestic labour is rational as women have traditionally held fewer skills in the workplace due to their relatively recent movement into the labour market and greater specialisation in the home (Becker 1981, Rosen 1989). However, when considering the gender differences found in this study, this does not explain why these female hospital consultants, holding high levels of human capital as a result of years of medical experience and training, discussed a greater sense of responsibilities in the home compared with the male consultants with children. A social-constructivist

approach seems more applicable as it suggests that these greater feelings of responsibility amongst female doctors may relate to the long-standing gender stereotypes about the roles of men and women in the home.

Termed the 'second shift' by sociologists, these female consultants' greater responsibility for domestic or childcare duties in the home supports findings from elsewhere in the medical literature (Davidson, Lambert et al. 1998, Sobecks, Justice et al. 1999, Gjerberg 2003b). The gender comparisons in this study, however, are based on the reports of only two male consultants with children (one with young children and one with grown up children), as the other male consultants did not have children. Nevertheless, both male consultants with children (MMedB12 and MSurgA2) described the support they received from stay-at-home wives who took full responsibility for childcare, which differed from the female consultants' spousal support in this study.

Expressions of stress relating to family responsibilities appeared to arise with female consultants as a result of work-family conflict, which researchers in this field acknowledge may be bi-directional in nature, consisting of either work-to-family conflict or family-to-work conflict (Wolfram and Gratton 2012). Using findings from this study as an example, work-to-family conflict encompasses the feelings of emotional pressure female consultants expressed in missing out on important aspects of their child's lives because of their work commitments; whereas family-to-work conflict refers to the pressures that women described in needing to leave work on time in order to collect their children from school.

Work-to-family conflict

Female consultants tended to express work-to-family conflict in terms of the emotional pressures they felt in trying to balance their work and family lives. There was a sense amongst the female consultants that they were missing out on their children's childhood due to the long working hours and unpredictability of their working lives. Through interviews with the female consultants, it seemed that in addition to the physical pressure of needing to be available for childcare (e.g. school collection), seemingly minor things such as knowing the other mums in the school playground or talking to teachers after school created an emotional pressure. Consultant FMedA4 describes these feelings as contributing to her decision to move onto a part-time contract, in order to reduce work-to-family conflict:

> "It's not home life affecting work life, it's the other way around. I'm rarely, I'm never home before seven, so, I don't see my children very much, and this is why I'm going part-time so on some days I can see them. I haven't seen them for two days… so I left before they woke up and I got home after they went to bed… I haven't been able to see my kids, to pick up my kids [from school], for a whole two and a half years and it's really upsetting when I go to the parties and they say 'who are you' and all the mums know each other and they have their coffee mornings and so that's upsetting."
>
> (FMedA4: interview)

Family-to-work conflict

In terms of family-to-work conflict, female consultants with children described the pressure that they felt to leave work on time to collect their children from school or pressure to ensure childcare arrangements were in place should their child be sick and need time off school. Indeed, some female consultants tended to arrive later for work compared to their male colleagues as they were responsible for dropping off children at school before starting work. A female consultant, working four days per week described the time pressure she felt in needing to be available to collect her children, which is in contrast to the quotation from a male consultant whose stay-at-home wife provided support:

> "The added pressure of knowing there's some days when I must finish on time, whereas, pre-children I could finish whenever I wanted and it didn't matter whether I went home at 8 o'clock, there are, at least two nights per week when I *have* to leave by half past five, and that, is a pressure like I have never known, that you *have* to leave."
>
> (FMedA1: interview)

> "[My wife's] not working, so she's at home full-time, and that's useful for me, hence this is why I don't feel that I'm under a lot of pressure from that side, while some of my other colleagues are under a lot of pressure, who have young kids, about who's going to pick them up from school, who's going to feed them their tea… So overall, I don't feel that I'm stressed out with this job at all, from a social point of view."
>
> (MMedB12: interview)

Schedule fit: "I'm a crap doctor and a crap mother, you see I can't do either job properly"

The finding that more women reported feelings of stress in relation to responsibilities in the home may relate to the degree of 'schedule fit' they felt able to obtain in their lives.

Barnett et al (1999) describe 'schedule fit' as the degree to which one's own needs or family needs match one's work schedule and suggest this may act as a mediator in the relationship between working arrangements and stress. A female doctor may experience poor schedule fit if her working hours do not enable her to collect her children from school and this is important to her or her family. Gareis (2002) also posits that this 'schedule fit,' or the individuals' subjective preferences for home and work balance, rather than objective factors such as working hours will predict stress levels. During interviews, the importance of schedule fit was apparent with both male and female consultants. One male consultant (MSurgA8) described his desire for greater work-life balance:

> "In a way it would be nice to have a valid distraction which allowed me not to put work at such a high a priority as it does, because then it gives you a bit more balance. If the only option is that I do something for myself or I do something for work, I would generally choose to do something for work." (MSurgA8: interview)

However, there appeared to be greater likelihood for poor schedule fit amongst female consultants as a result of their greater responsibility for childcare. Through interviews it seemed that much of the pressure described by female consultants originated from feeling torn between the traditional expectations of 'being a good mother' and desires to 'be a good doctor' – attributes that some participants felt could not co-exist. These feelings are summarised by consultant FMedA4:

> "I'm a crap doctor and a crap mother, you see I can't do either job properly, I used to be a good doctor and when I was off for a year I was a brilliant mother and now I'm a crap mum and a crap doctor" (FMedA4: interview)

These findings reflect those from a survey by Parsons et al (2009), which suggest that female doctors may hold feelings of guilt about their performance as mothers and doctors. The term 'satisficing' has been used in the literature to describe this phenomenon, whereby women may struggle to reach satisfactory levels in both their home and work lives (Chafetz and Hagan, 1996 cited in (Chafetz 1999)).

Wolfram and Gratton (2012) describe the potential positive spill-over between work and family lives. For example, it is possible that female doctors may actually benefit from their greater responsibilities in the home because they generate greater skills associated with this role. While this positive spill-over was not touched upon by any

female consultants in this study, it is possible that female consultants' greater psychosocial approach to communicating with patients described earlier in this chapter may relate to this positive spill-over.

Strategies for enabling balance

Gender differences in reports of stress and competing responsibilities are important as they may affect work behaviours, such as working hours. This was evident for some women, who sometimes arrived later for work or felt a sense of pressure to leave work on time in order to collect their children from school or childcare. Two strategies appeared to be used in order to reduce the impact of this on their working lives and enable greater balance between their personal and professional lives. These included the use of support networks and part-time working.

Support networks appeared to be of paramount importance to the female doctors in this study as they enabled them to juggle home responsibilities, without impacting on their working lives. These networks included the consultants' husbands, friends, family, nannies, and after school clubs. This was important to the women as it eased the burden and anxiety that they felt if their child was sick or needed collecting from school on days that they were running late. Consultant FSurgB9 placed great importance on reliable childcare, for example, in an interview she stated that she felt strongly that in order to be taken seriously as a surgeon it was important for her to have childcare support arranged so that her work could take priority. In order to reduce these pressures, this consultant described how she employed a nanny to work full-time, despite having children at school age:

> "We are still paying the nanny's full salary, even though she is only doing before and after school care, because we feel that if we drop her hours down, we'll have nobody to look after the kids in the school holidays or if they're poorly, she'll go off and get a job somewhere else, and we'll be absolutely stuffed. So [the nanny], I don't know what she's up to at the moment, she's either gone to the gym or gone to see her boyfriend, or something, and we're still paying her, but we know that we've got that utter reliability and flexibility from her."
>
> (FSurgB9: interview)

For some female consultants it seemed that the only available solution for balancing their work and family priorities, and therefore achieving 'schedule fit' was to work part-time. This may explain why 49% of female GPs (Elston 2009) and 24% of female

hospital doctors work part-time (NHS Information Centre 2012b), compared to only 12% of male GPs (Elston 2009) and 13% of male hospital doctors (NHS Information Centre 2012b). In an interview a female surgeon commented on how working part-time had reduced the emotional pressures she felt:

> "By having a half day, I know that at least I'm going to pick them up from school twice a week, and so I will be able to speak to their teachers if there are any concerns and I will be able to do a little something with them, help them with their homework or what have you." (FSurgA7: interview)

Another female consultant (FMedA4) described how she had tried to share childcare responsibilities with her husband, also a consultant, but this had caused tension as she was not able to commit sufficient time to this due to the unpredictable nature of her hours and long travel time from work to home. As a result, the consultant had negotiated with her hospital department to move onto a part-time contract as she felt this would ease the pressure she was under.

Aside from the usefulness of support networks and part-time working to achieve 'schedule fit,' both male and female consultants thought that work-life balance was an important consideration for doctors when making specialty choices. These comments are discussed further under *gendered culture and barriers in medicine.* However, it is interesting that when asked in interviews about whether or not there were any gender differences in medicine, male participants tended to only refer to differences in terms of the specialty choices taken by male and female doctors. Whether or not male doctors' lack of reporting of other differences, such as discrimination, reflects real gender differences in their opinions or a greater likelihood to provide socially desirable opinions about the presence of (or lack of) other differences is unclear. For example, they commented on objective or measurable differences between men and women, such as female doctors' propensity to specialise in areas that enabled greater 'schedule fit' or balance between their home and work lives, such as general practice. In contrast, female consultants were more vocal about discussing less socially desirable differences or barriers they felt existed in medicine, such as gender discrimination.

6.2.2.3 Gendered culture and barriers in medicine

Barriers experienced in medicine, associated with the historically gendered nature of medical work, have been categorised as either indirect (e.g. work or organisational

structures) or direct (e.g. sexual discrimination) by Taylor and colleagues (2009). Both male and female consultants described aspects of a gendered culture that they felt existed in medicine, such as gendered specialty choices (an indirect barrier), but male consultants did not comment on potentially negative (direct) barriers such as gender discrimination. These findings reflect surveys of medical students that have reported female doctors still perceive there to be barriers to their careers in medicine (Sanfey, Saalwachter-Schulman et al. 2006, Miller and Clark 2008).

Indirect barriers

Indirect barriers include cultural and organisational structures, such as length of working hours. Reed and Buddeberg-Fischer (2001) suggest that these structures may naturally favour men as they originate from a time when medicine was a male-dominated occupation. Both male and female consultants in this study described how the culture and characteristics of certain specialties may impact on doctors' career choices and these may affect male and female doctors differently. For example, consultant FMedA4 commented on how she had strongly considered the characteristics of different specialties before making career choices as she did not want her career decision to affect her aspirations of having a family. This relates to the desire for 'schedule fit' and supports research which suggests that female doctors may seek to achieve balance in their responsibilities at work and home when making career choices (Davidson, Lambert et al. 1998, Williams and Cantillon 2000, Drinkwater, Tully et al. 2008).

Aside from the specialty characteristics, such as working hours, that may appeal to men and women differently, the organisational structures in hospitals are not always compatible with female workers' needs, despite growing numbers of women in medicine. For example, in an interview a female consultant recounted the problems she experienced in the past decade, when trying to arrange maternity leave for her first child. A lack of appropriate management preparation and planning for such a situation placed great pressure and feelings of guilt onto this consultant, to the extent that she had questioned having a second child:

> "When I became pregnant there was *utter* shock and surprise and the organisation of my maternity leave was haphazard and *incredibly* stressful… I spent the whole time worrying about who was going to look after my patients, how my colleagues were gonna

> cope with the fact that I'd gone off, and in fact that was said to me when I went pregnant, they went 'well, what about your colleagues' …which is a little bit distressing, because you do feel guilty about it anyway, that you have the audacity to go off and have a child, so that was quite difficult and I don't think that's got any better to be honest, … you know, I even considered not having the second child, purely because of work reasons." (FMedA1: interview)

Although the organisation of hospital care has changed through the greater availability of part-time working which encourages female workers, both male and female consultants described problems inherent in these part-time contracts. Women described a sense that they were undertaking a full-time workload in part-time hours:

> "I'm gonna be working harder [when I move onto a part-time contract] and paid less for doing more if you see what I mean, because I've done part-time before… I was actually getting paid two thirds of my salary to do pretty much eighty percent, eighty-five percent. So it's not as good a deal, but I was thinking at least I'm getting two days to spend with my family." (FMedA4: interview)

Meanwhile, a male consultant described the potential negative effect predominantly female part-time workers had on his working day:

> "When [part-time female consultants] are away, who is taking their post up? It's the males who are taking up their job. So we are taking up extra work, their work, which we're not getting paid for." (MMedB12: interview)

Direct barriers

Aside from organisational characteristics that may create barriers for women in medicine, this study also revealed reports of a 'masculine culture' and gender discrimination in some specialties. The patriarchal culture in medicine has been well documented elsewhere (Currie 1993, Elston 1993, Hafferty 1998, Davies 2003, Abbott 2005), and in this study it was most notable for participants from surgical specialties or when describing experiences of training in surgical specialties. While no male doctors discussed gender discrimination, this was a topic brought up during interviews and observations with the female consultants, some of whom had experienced this first hand. For example, during an observation session consultant FMedA4 described her experience of discrimination when working on a surgical rotation during her medical training:

> The consultant comments that as a junior doctor she was the best in her year in the surgical specialties and won various prizes but suggests that because she was a woman she was not taken seriously. She comments on male juniors who were favoured for training and teaching opportunities… meanwhile she was given menial tasks such as coffee runs and admin duties. (FMedA4: observation fieldnotes)

These comments demonstrate a sense of gender discrimination in surgery at the time this consultant was training, when only 4% of surgical consultants were women (NHS Information Centre 2011c). Although these numbers have grown rapidly and there are now more than twice as many female consultant surgeons today (10%) (NHS Information Centre 2011c), women are still extremely underrepresented in surgical specialties and interview comments from a female consultant surgeon suggest that gender discrimination remains a problem today in male dominated settings, such as specialist surgical conferences:

> "[This surgical subspecialty] is still a boys' club… there's a woman who was the first woman to get subspecialty training… she's married but she doesn't have children, and she used to go to the meetings and they'd say to her 'aren't you pregnant yet love?'"
>
> (FSurgB9: interview)

Recent authors have suggested that a lack of female role models in male-dominated specialties such as surgery may contribute to the indirect and direct barriers that female doctors face in medicine (Sanfey, Saalwachter-Schulman et al. 2006, BMA 2009). Steps to improve women's participation in these fields include the Women in Surgical Training (WIST) scheme (Royal College of Surgeons 2002), which was rebranded in 2007 to Women in Surgery (WinS) and seeks to "encourage, enable and inspire women to fulfil their surgical ambitions" (Royal College of Surgeons 2009). Through a greater presence of women in surgery, schemes such as this may challenge the 'hidden curriculum' in medicine – a term used by Hafferty (1998) to refer to the cultural customs and social norms that are learnt by medical students and may continue to exert influences on their behaviours throughout their working lives. Aside from their influence on doctors themselves, the customs and norms in society as a whole, as well as in medicine, may also influence the perceptions that *patients* and *colleagues* hold about male and female hospital consultants. These perceptions and the potential influence they may have had on consultants' interactions observed in this study are considered in the following section.

6.2.2.4 Patients' and colleagues' behaviours

During observations there appeared to be gender differences in the consultants' interactions with patients and colleagues and these variations may result from variations in the perceptions held about male and female consultants. Perceptions are a type of heuristic, which simplify and speed up the process by which individuals make sense of their world (Balu 2009). The field of psychology suggests that individuals make subjective judgements about other people and situations based on their existing beliefs and past experiences, and that these perceptions may influence individuals' behaviours. These differing perceptions may relate to perceptions about the economic differences between men and women (e.g. amount of human capital), as well as sociological factors, such as the social role expectations that have traditionally been associated with men and women.

'Additional' patient conversation

The greater likelihood for patients to instigate 'additional' talk about other conditions; social conversation; or psychosocial talk with female consultants is highlighted earlier in this chapter, where it is suggested that these scenarios may be more frequent as a result of *internal* factors relating to female consultants' lower displays of dominance and greater use of psychosocial communication style in patient consultations. There also appeared to be a sense that *external* factors may have influenced the greater likelihood for 'additional' patient conversation with female consultants. More specifically, it seemed that the patient's perceptions may have differed, potentially viewing female consultants as more approachable as they demonstrated greater comfort in raising emotional concerns and making social conversation with female consultants. For example, consultant FMedB11's patients appeared to be very comfortable with her, partly due to long-standing relationships they had built up with this consultant over the period of their illness, as they sometimes embraced the consultant when they left the consulting room and were on first name terms with her, at times abbreviating her first name in a friendly and familiar way. These behaviours were not observed with male consultants who had similar long-standing relationships with patients. Consultant FMedA1 also described the greater sense of approachability that patients may feel with female consultants and suggests that this is a positive thing:

> "I know that my patients will tell me a lot of background information, in my clinic this week I've had at least three or four patients crying, telling me things that happened ten or twenty years ago in their personal life, that actually have got nothing to do with what they have come to see me about… whereas consultants were previously seen as these, as I say these people that came in and did their ward rounds and swept off again, unapproachable people, [female consultants are] much more of a presence on the ward, and hopefully much more approachable." (FMedA1: Interview)

The approachability of female consultants observed in this study, and described by this consultant here, may relate to patients' perception of female doctors being more 'caring' and open to discussing psychosocial aspects of their health. These perceptions may arise as a result of stereotypes about the behaviours that women are likely to engage in. For example, women are considered as more communal in nature – referring to the stereotypical friendly, caring, affectionate and emotional expressive traits that have been associated with women; whereas males are considered to hold agentic qualities – including dominance, forcefulness, competence and aggression (Eagly 1987). These stereotypes and social roles appear to affect not only the *internal* factors such as the lowered dominance that was displayed by female consultants in this study, but also *external* factors such as the greater perceived approachability of female consultants compared to males. While these internal and external factors address slightly different concepts, they are complex and appear to reinforce one another.

Comparison of patient initiated additional talk across medical and surgical specialties was undertaken to explore whether these gender differences were evident primarily in medical specialties or transcended across surgical specialties as well. Analysis revealed that there were indeed gender differences in psychosocial communication from patients within surgical specialties. For example, during observations with consultants FSurgB9 and MSurgB10 there were gender differences in the likelihood for patients to break down in tears, despite these consultants working in the same subspecialty and these observations being very similar in nature (same patient group, conditions and prognoses discussed). More patients became upset with consultant FSurgB9, despite a similar approach to presenting bad news to patients, and this led to longer consultations with this female consultant compared to her male colleague, as she spent more time consoling the patient. This also relates to the greater use of affective communication that is described under *internal factors* in this chapter.

Confusion over the consultants' identity

At times during observations there was confusion over the consultants' identity. This occurred when interacting with patients and colleagues but was only evident with female consultants. For example, female doctors were sometimes assumed to be nurses or to hold more junior medical positions compared with males. Similar experiences have been reported by female medical trainees in the US (Witte, Stratton et al. 2006). This confusion may arise as a result of historical gender stereotypes about 'who' a doctor is, as women's movement into practising medicine has been a relatively recent occurrence. This was most common amongst older generations, for whom these stereotypes may be strongest and more ingrained.

During observations with consultant FMedA4 it was common for older patients on ward rounds to address the male junior doctor that was assisting, rather than the consultant as there appeared to be confusion over the seniority of the consultant. On another occasion with a female surgeon (FSurgA6), a patient was surprised that she would be operating on him as it appeared that he hadn't realised that she had sufficient experience in order to do this. These confusions over the female consultants' identity did not appear to vary according to patient gender. There were no occasions during observations when patients appeared confused about male consultants' seniority, although in interviews both male and female participants acknowledged that these gender stereotypes existed, particularly amongst older generations:

> "I suppose the older generation of patients often still have an expectation that doctors are men, and usually older, so you do every now and then I get mistaken as a nurse and people don't necessarily think that you're going to be a doctor."
>
> (FMedB13: interview)

> "It's not just in medicine. It's, you know, a patient the other day got brought in by the ambulance crew, and was telling us how the nurse in the ambulance had given her some medicine, and I will tell you it'll be because the paramedic will have been female, so she would have just put her in as a nurse." (MMedA3: interview)

These assumptions appeared to influence female consultants' work at times when nursing colleagues provided untimely or inadequate support, particularly when working with nurses with whom they were unfamiliar. For example, consultant FMedA4

described how she was often mistaken for being a junior doctor and nursing colleagues did not complete tasks she had delegated because they were unaware of her seniority:

> "If they don't [know me] then they naturally assume that [the male junior doctor] is the, the leader. It happened on call the other night: the registrars asked me to come and see this patient, it was midnight and I wanted to see him and go home quickly, and the nurse wanted to do something and I said excuse me can you just wait, and she wouldn't and I said actually *don't* do it, to say I'm saying not to do it, and she stomped off and I'm thinking where's she gone? And then the curtains opened and the registrar and her appeared, they looked a bit puzzled, shut it and went and I didn't think much of it, and the registrar told me the next morning that she had thought that I was the SHO, who had overridden his decision, so she's actually gone to get him to get him to come and tell me off! (Laughs)… I thought that was amusing, but somebody else may not. It happens all the time." (FMedA4: interview)

Cooperation from colleagues

While lack of nursing cooperation on some occasions seemed to arise out of confusion over the female consultants' identities, there were also a number of occasions when this did not appear to be the cause of untimely or inadequate support. There were differences in the frequency and nature of interruptions that male and female consultants received during their working days. For example, in observations consultant FMedA1 was sometimes interrupted when consulting patients and on one occasion during a ward round a (male) nurse asked the consultant to see a patient whose usual (male) consultant (also on the ward) was presumed to be too busy. It seemed that the female consultant's approachable nature meant that this nurse was more comfortable asking her to do this than the male consultant. In contrast, when approaching a male consultant (MSurgA8), colleagues appeared more hesitant when making interruptions:

> "A [female allied health professional] comes into his clinic room to ask him something and he is doing admin, she waits in silence until he says *'start talking.'"*
>
> (MSurgA8: Observation fieldnotes. Italicised text indicates participant's words)

It seems that the lack of, or untimely, assistance and greater interruptions that female consultants received may relate to their lower displays of dominance, as described earlier in this chapter. Cassell (1998) supports this explanation and suggests a greater sense of respect and support for male leaders in surgery may be linked to their greater

displays of dominance in this setting. Stereotypical male and female gender roles may explain female doctors' adoption of these more deferential styles in their interactions with nurses. Research from the US has reported similar findings, whereby recent female medical graduates defaulted to gender stereotypes, such as assisting nurses (Babaria, Abedin et al. 2009). Gjerberg and Kjolsrod (2001) suggest that this lack of delegation to nurses by female doctors may lead to feelings that they are being supported less by nursing staff.

While these variations in displays of dominance may have affected the cooperation that consultants received from their colleagues, constant comparison across cases in this analysis suggests that level of dominance was not the only factor influencing uncooperative behaviours. During observations there were instances of uncooperative behaviour with consultants (both male and female) that showed dominant characteristics with their colleagues. For example, FMedA1 and FSurgA6 both displayed fairly dominant and assertive characteristics when interacting with their colleagues, yet observations revealed a lack of cooperation at times. Data from both observation fieldnotes and interviews can be used to highlight these scenarios:

> "The HCA has begun tidying up the clinic room for the end of clinic, presumably she doesn't realise there are still patients waiting for appointments. The consultant tells her this, but she continues to tidy the clinic room even when the patient arrives to see the consultant. The HCA leaves but then the consultant needs [some equipment] but the HCA has taken it away. This disruption causes approximately 3-4 minutes delay."
>
> (FMedA1: observation fieldnotes)

> "This afternoon, I've got a lady who needs probably a [surgical procedure], but I've got a [list] to do and [the radiologists] haven't done the CT that I requested this morning, because the radiologist is being difficult for whatever reason… I don't really understand why he's not going to do it… but I'd really like that [CT result]."
>
> (FSurgA6: interview)

The case of poor cooperation that was observed with a male surgeon (described earlier under *internal factors*) is another example of the unsupportive behaviours that consultants experienced, despite portraying relatively assertive and dominant behaviours with their colleagues. This also suggests that uncooperative behaviours may not be solely limited to female consultants.

Questionnaire items designed and piloted in Chapter 8 of this thesis will be used to explore potential gender differences in consultants' feelings of support in the workplace amongst a larger sample. However, as the only instance of lack of cooperation to have occurred with male consultants in this study, it is important to consider other possible explanations for this finding. It seems possible that the lack of cooperation observed with nursing staff and this male consultant may arise as a result of poor team morale as these observations took place at a hospital where pressure was expressed by various participants from this trust as a result of financial constraints and uncertainty that was ongoing at the time these observations took place. This pressure may have influenced team morale in these scenarios and the lack of cooperation that was observed.

Alternatively, this may relate to colleagues' perceptions of this consultants' legitimacy. Legitimacy theory suggests that the legitimacy of leaders, as judged by their colleagues in the workplace, may affect the co-operation that they receive (Ridgeway, Diekema et al. 1995). Whilst both male and female consultants may be de-legitimated in their roles as senior doctors, Johnson et al (2006) suggest that women's lower perceived status may lead to greater de-legitimation, particularly in male dominated settings such as medicine. This de-legitimation of women may be another manifestation of the 'spill-over' of gender roles, which Gutek and Cohen (1987) suggest influence workplace behaviours to a greater extent than organisational roles.

In an interview, consultant FMedA4 touched on differences in dominance portrayed by male and female consultants but also suggested that females may be de-legitimated in their role as consultants compared to males. It seemed that this consultant felt that variations in nurses' perceptions of respect for male and female doctors may impact on the amount of cooperation and support they provide:

> "I don't want to use the word 'respect' but that's what it is isn't it? [Nurses are] a bit more deferential to male colleagues, older ones I think especially. Because we've got a few older male consultants and older female consultants and if you watch the way they get treated, it's very different… even on the ward rounds, you can just look at it by which one they follow, if you want to know, you know, where do you think, where they think the important person is. So, it's very telling." (FMedA4: interview)

Perceived legitimacy may therefore help to explain the greater sense of teamwork from colleagues of male doctors in this study and these perceptions may vary according to social stereotypes. It seems that unless these perceptions are challenged, they will

continue to exert an influence over these interactions. Related to this, the observational data from this study suggests that de-legitimation may be more of a problem for female consultants when working with unfamiliar nursing teams, as their perceptions can only be formulated based on prior beliefs about the legitimacy of female doctors, rather than knowledge of the individual's skills per se. For example, when returning to work on her usual ward during observations consultant FMedA1 referred to this as "the mother ship" as she felt she received greater levels of support from the nursing team that she worked with on a daily basis.

6.3 Common findings

Aside from the gender difference findings, the following concerns were stressed at length by the consultants that took part in this study and therefore warrant consideration. These findings are only described in brief here as the focus of this thesis is on gender differences.

6.3.1 Concerns about the future of the NHS

The consultants' concerns about the future of the NHS related to government plans to reorganise the provision of healthcare in the UK at the time this study was undertaken (Department of Health 2010b). Amongst many participants in this study there were fears that these steps would lead to gradual privatisation of the NHS and uncertainty about how these proposed changes would affect their day to day work. Concerns about moves towards privatisation have been reported in the British press (Milne 2010, Pollock and Price 2010), whilst the consultants' anxiety about the impact of these reforms on their working lives has been reflected in the health literature surrounding the plans for reorganisation. For example Walshe (2010) described the effect reorganisation may have on staff morale and potential uncertainty amongst staff about their futures, as well as the vast financial implications of such reforms.

Concerns were also raised about the growing healthcare needs of the aging population and the ability of the NHS to meet this growing demand despite cost containment. These fears relate to what has been termed 'the Nicholson challenge' in which the NHS Chief Executive set out aims for productivity savings of £20bn by 2015 in order to address the rising demands on healthcare and constrained NHS funding (Department of Health 2009).

6.3.2 Concerns about the adequacy of current medical training

A common problem raised by all of the consultants in this study related to the lack of competence and sense of responsibility among the current cohort of junior doctors. These concerns relate to the recent movement towards shift based systems of working as a result of European Working Time Directive (EWTD) restrictions on junior doctors' working hours. The following quotation summarises these concerns:

> "Yesterday they all left at five, I would never have dreamt of doing that when I was a junior doctor… they also lose that, that responsibility… I'm already seeing the difference. We would never have gone home at five, not if there's something to be done. That's not there anymore. So that's really worrying… We used to come in at seven, to take the bloods, when I was a student, because this is the way to learn your venopuncture… we used to just come in because we knew we had to, when we were house officers, you have to be competent, we would come in at seven and do it and if you can't we would ask somebody. You don't get that anymore." (FMedA4: interview)

Other participants referred to this change in mentality and lack of responsibility amongst junior doctors as a loss of 'professionalism;' suggesting that the current system which prioritises working hours over continuity of patient care goes against professional ethics for doctors. Similar concerns have been raised by the Royal College of Surgeons – 80% of consultant surgeons and 66% of surgical trainees have reported concerns about the effect of restricted working hours on patient care (Royal College of Surgeons 2011). Interviews with general practitioners in Wales have reflected similar concerns about the impact of reduced working hours on clinical expertise (MacBride-Stewart 2012). However, a recent systematic review of the literature assessing the impact of reductions in working hours suggests that there is not currently sufficient evidence from the UK setting to test the accuracy of these concerns (Moonesinghe, Lowery et al. 2011).

The concerns held by the consultants in this study are important as they related to their working behaviours, with many commenting on feeling unwilling to delegate certain tasks to junior doctors. For example, in an interview a female consultant commented on how she struggles to delegate tasks to junior doctors for fears of mistakes that may be made and medico-legal complaints:

> "I delegate less than my colleagues do, and the reason is that I just get frustrated, because I suppose I have very high standards… it goes back to the defensive thing [litigation concerns], I see how relatively little experience they have coming in… I started doing all my own paperwork when there was a couple of disasters when the [juniors] had done it and they'd missed cancers and things, so I just thought, do you know what, it's just not worth the hassle. The extra couple of hours, well, I'll just sit down a couple of times a week and just get through it." (FSurgA6: interview)

For the most part the consultants wrote in patients' notes themselves when undertaking ward rounds, although in cases where this was delegated it was done so by older male consultants. For example, consultant MSurgA2, a male consultant in the oldest age group in this sample, delegated note making during ward rounds to the junior doctors that were conducting the ward rounds. This was a different approach to all but one of the consultants (another slightly older male), as junior doctors tended to take a more peripheral role in these ward rounds. Whether this represents a gender difference or a cohort effect is difficult to unpick as there were no female consultants in the oldest age group in this sample.

During observations consultant MSurgB10 also delegated note making for clinics and theatre notes by dictating these for his secretary to type afterwards and enclose in the patients' medical file. During observations he commented on this and suggested that although he realises that this is against Trust policy, he finds it inefficient to write extensive notes in the patient file and instead notes only a couple of words and then dictates the rest to his secretary. In an interview with his female consultant colleague, she comments on how this sometimes creates problems for her and other staff if these notes have not been typed by the secretary on time and are needed urgently. Although she acknowledges that making duplicate notes takes more time, she finds this necessary in order to avoid this breakdown in communication about patients' care:

> "I end up handwriting operation notes as well as dictating, which is not a very efficient use of time, but it means that the communication is as it should be… if the staff on the wards don't know that if you operate on somebody whether the patient's bled a litre, when you're assessing somebody on the ward you need to know this stuff." (FSurgB9: interview)

Therefore, whilst the general concerns about the current adequacy of medical training were voiced by all consultants in this study, there appear to be gender differences in

terms of the willingness to delegate certain tasks to junior doctors. Whether this is as a result of there being more male doctors in the older age groups in this sample is not clear, and further research is needed in order to explore this possibility using quantitative methods to control for potential confounding variables. Items incorporated into the questionnaire designed in Chapter 8 of this thesis could be used to explore this further.

6.4 Reflections on method

This study contributes towards a greater understanding about how the working lives of hospital consultants may vary, particularly according to gender. These potential variations are important amidst a background of the increasing feminisation of medicine and current emphasis in the UK on management of hospital consultants' work in order to maximise clinical activity. The implications of these findings are considered in the final discussion chapter of this thesis, alongside discussion of the other key findings from this thesis. In addition, these findings are used to generate questionnaire items in Chapter 8, in order to test these findings amongst a larger sample of hospital consultants.

An interactionist approach was primarily taken to explore *how* and *why* variations in working behaviours of hospital consultants exist so that findings could be placed within the context of wider theory pertaining to gender differences in behaviours. The relationship between the behaviours observed in this study and social role expectations or stereotypes about normative behaviours in different contexts has been explored.

Exploratory qualitative methodology was undertaken using interview and observational research methods to study the gender differences in hospital consultants' working lives. Specifically, interview methods were useful to explore the participants' perspective and attitudinal factors that may influence their work, including aspects such as feelings about the pressure of responsibilities outside of work. Meanwhile observations were important to explore behavioural factors that may influence consultants' work, such as the interactions that take place with colleagues or patients. There are potential strengths and weaknesses related to the qualitative methodology that was used in this study and these need to be considered alongside study findings.

6.4.1 Transferability

In qualitative research the focus is on developing detailed knowledge about phenomena in a naturally occurring context, and this is achieved through studying smaller numbers of participants in depth rather than seeking to generate statistically representative findings (Mays and Pope 2006). In this study, the small number of participants allowed greater length of observation periods per participant (~20 hours), creating greater analytical depth. However, owing to the relatively small number of participants included in this study, questions may be raised about how these findings transfer to other contexts. Chapter 8 aims to address these concerns, as the findings from this study are translated into questionnaire items to explore some of these gender difference findings amongst a larger sample of hospital consultants.

Mays and Pope (2006) refer to research's *relevance* when discussing issues of transferability, and describe this as the extent to which research findings address an important issue of public concern, as well as the extent to which the reader is able to judge the relevance of findings to their own setting. Participant and organisation characteristics are described in the previous chapter, thus enabling the reader to judge for themselves the transferability of these research findings to their own setting. Furthermore, this study adopted a theoretical sampling strategy, which focuses on theoretical generalisability or transferability of findings. These findings therefore represent the experiences and attitudes of hospital consultants across a range of medical and surgical specialties in two differing organisations.

There may be some benefit in exploring the experiences of hospital consultants of different age groups or years of experience in future research as these variations could not be fully explored in this study. In addition, the sample included fewer men with children than women with children. Although the data from male consultants with children support the findings that are drawn, further research may be needed to explore these sources of variation. A larger sample of hospital consultants is studied using questionnaire methods in Chapter 8 to address these limitations.

During the recruitment phase of this study there were three potential participants that were identified and invited to take part in the study but refused. These included one female consultant physician in Trust B and two male consultants (one surgeon and one physician) in Trust A. Reasons given for non-participation were generally due to a lack

of time to take part in the study, although one non-participating male surgeon disagreed with the qualitative nature of the study design. These non-participating consultants did not appear to create a selection bias in this study, as there were no common characteristics to these non-consenting participants. However without knowing more about these potential participants' working style or behaviours it is not possible to be certain that there were no differences in participating and non-participating consultants. For example, it is possible that the non-participating doctors may have been more dominant in their approach. The range of behaviours and scenarios that were observed during this study, however, suggests that selection bias may have been limited in this study.

6.4.2 Validity

The concept of validity refers to the extent to which research findings can be considered as credible or reflecting some 'truth' (Mays and Pope 2006). Various techniques to improve validity have been described in qualitative textbooks. For example, the use of quotations to support findings is perhaps the simplest way for qualitative researchers to demonstrate the validity of findings, although this is by no means a precursor to good quality in qualitative research. In addition to the use of quotations to support links between interpretation and original data, the concepts of triangulation, respondent validation and reflexivity are considered below.

Triangulation was undertaken in this study by combining data obtained through interview and observation methods in order to improve the comprehensiveness of the findings of this study by enabling both the attitudinal and behavioural factors that may influence consultant's working lives to be studied. The combination of these methods also sought to reduce the likelihood of respondent bias as often what people say they do and what they do in practice may differ (Hansen 2006, Corbin and Strauss 2008). This relates to the 'Hawthorne Effect' which suggests that individuals in this study may have altered their behaviours as a result of being observed. By undertaking observations on multiple occasions in different settings, the likelihood that participants would have exhibited only socially desirable behaviours during observation periods is reduced. Moreover, on some occasions behaviours that could perhaps be described as socially undesirable were in fact observed. In addition to undertaking multiple methods (observations and interviews) and observing in multiple settings, data was also collected by two researchers. In the pilot study, this was undertaken concurrently for

the first two participants and data triangulated to improve the accuracy and inter-rater reliability of data collection.

Respondent validation was not undertaken in this study, as there are limitations to using this as a test of validity in research studies (Mays and Pope 2006, Silverman 2010). Primarily, although the perspective of the researcher and the participant may differ, neither one may necessarily be correct nor incorrect as they may both approach the research process through different lenses. Therefore, the impressions of the researcher were not validated by participants in this study, although where there was confusion or further interest about events that took place during observations, these were discussed with participants at interview to explore these more fully.

6.4.3 Reflexivity

Reflexivity requires sensitivity to the ways in which the researcher, their beliefs, values and attitudes may have influenced the research process. Any potential personal biases of the researchers involved in this research study are highlighted in the previous chapter when describing reflexivity in the methods for this study and are discussed again below. Through discussion of these factors it is hoped that the credibility of the findings may be enhanced by making the role of prior experience and knowledge clear to the reader.

Payne and Payne (2006) describe the concept of objectivity in the research process (related to reflexivity), whereby findings should not depend on the beliefs or values of the researcher, who should remain distanced from what they are studying. Objectivity was encouraged in this study through the standardisation of procedures for recording data, using interview topic guides and observation frameworks. Due to the nature of qualitative data collection and analysis there is still a risk that characteristics of the researcher may have influenced these study findings. However, by using two researchers to undertake data collection and discuss the stages of analysis, any influence of an individual researcher's own beliefs, values and attitudes in this research process has been reduced.

According to Huberman and Miles (1998, p201), reflexivity in qualitative research requires "regular, ongoing, self-conscious documentation." This was undertaken throughout the data collection periods of this study and through discussion of this here I

will seek to be transparent about these potential issues and allow the reader to make their own judgement about the impact of these characteristics on the research findings.

The majority of participants were observed by a young female student researcher (LJ) and, during these data collection periods, regular reflections were made in observation fieldnotes about how these characteristics may have influenced the research process. These characteristics appeared to be an advantage when undertaking observations, as the researcher felt able to 'blend in' to the background as she held similar characteristics to many of the junior doctors and medical students that worked with the consultants. Moreover, several participants commented on how they felt at ease during observations or forgot that they were being observed during these data collection periods. This was also true of observations undertaken by the second researcher (KB).

It is possible that the gender of the researchers in this study (both were women) may have affected the topics that were discussed by participants in interviews or the researchers' interpretation of events during observations. For example, it is possible that the researchers' gender may have influenced the greater sense of social desirability in responses to interview questions about gender differences that were given by male consultants in this study. It may also have encouraged greater openness about problems relating to gender differences amongst female consultants in this study. Both researchers undertaking data collection activities in this study were non-healthcare professionals, therefore it is possible that this may create different interpretations of events compared to healthcare professionals. While these researcher characteristics cannot be overcome or altered, throughout data collection and analysis the researchers attempted to adopt as neutral a position as possible and it is hoped that by being reflexive about these characteristics and presenting findings objectively and transparently the reader can assess the extent to which they feel the study findings may have been influenced by the researchers' own characteristics.

The use of two researchers to undertake data collection may have reduced the potential for researcher bias in interpretations as the findings from this study were not based on the impressions of one researcher. The piloting stage (described in Chapter 5) ensured greater inter-rater reliability in the recording of information across observers. Although only one researcher undertook the data analysis phase (LJ), this was undertaken alongside frequent discussion with the second researcher who

undertook observations (KB) in order to compare impressions and interpretations of the data.

6.5 Conclusion

These research findings provide detailed understanding about how gender may affect the working lives of consultants in the UK hospital setting. These findings reinforce the results of existing research studies in this field, which prior to this study were predominantly based in settings outside of the UK, were conducted at a time when there were fewer women in medicine or concentrated on gender differences in primary care doctors rather than the hospital setting.

In summary, these findings suggest that individual hospital consultants' actions appear to relate to a complex system of structures and expectations in society, which according to Davies (2003, p721), are "all imbued by gender." Findings revealed factors at an *internal* and *external* level that varied by gender and may generate variations in the working behaviours and interactions of hospital doctors. These factors at an individual (internal) level and group or societal (external) level may be intertwined and may reinforce one another. It seems that individual behaviours, while associated with gender perceptions themselves, may in fact construct and maintain social perceptions of gendered behaviours and these may influence interactions between individuals.

There are important potential implications of the gender differences that have been identified in doctors' working lives in this chapter, for example it is possible that these gender differences have implications for the productivity of male and female hospital consultants. These implications are considered in Chapter 9, which draws together findings from this qualitative study together with quantitative studies undertaken in this thesis.

While the qualitative research methods employed in this study developed rich and contextual understanding of the variations that may exist in the working lives of hospital doctors, Chapter 8 explores the extent to which these findings may apply to a larger sample by incorporating these findings into items on a pilot questionnaire.

Meanwhile, a quantitative approach is adopted in the following chapter, to investigate the effect of doctors' gender on length of clinic consultations that were measured

during observational sessions described in this chapter. This time data is then integrated with qualitative characteristics of consultants in order to explore the factors that may be associated with consultation length. Finally, potential gender differences in consultants' visit lengths are synthesised with existing research from Chapter 4.

7

Synthesis of data on length of consultations

7.1 Introduction

Gender differences in doctors' communication style with patients, revealed through systematic review and qualitative methods in this thesis, may have implications for the amount of time doctors spend on consultations, and as a result may be a source of variation in the number of patients seen by male and female doctors (Bloor, Freemantle et al. 2008). Indeed, findings from the systematic review described in Chapter 4 suggest that differences exist in the average length of medical consultations with male and female doctors. Across the 10 studies included in the meta-analysis on visit length, results suggest that female doctors may spend over two minutes more time in consultations with patients compared to males(coefficient= 2.24 (95% CI 0.62 to 3.86), p=0.01). Since these findings were predominantly based on settings outside the UK (9/10) and in primary care (7/10), visit length data was collected during observations undertaken as part of the qualitative study of hospital consultants in England, described in Chapters 5 and 6. To synthesise this information on consultation length with the findings from the systematic review, consultation length data is described, analysed and combined with the existing evidence through meta-analysis in order to generate a pooled estimate of the effect of doctors' gender on consultation length. In addition, themes from qualitative observations that may impact on consultation length are explored for each consultant by cross-tabulating this information with visit length data in order to explore work characteristics that may influence visit length.

7.2 Methods

7.2.1 Analysis of observational clinic time data

Aside from the qualitative focus that was placed on observations carried out as part of the study described in Chapters 5 and 6, quantitative data was also collected on the length of outpatient clinic consultations and time between patient consultations with male and female consultants. Various forms of interactions between patients and consultants were observed during this qualitative study (e.g. ward consultations), but the decision was taken to only analyse the outpatient clinic time data as these interactions were considered to be the most comparable and followed a similar format across specialties. Furthermore, this allowed the analysis of clinic times to be compared with existing research on gender differences in length of clinic consultations using meta-analysis.

Time data was available for 11 of the 12 consultants who were observed during the qualitative study as one of these consultants did not have any outpatient clinics as part of their job plan. Data on visit length was not recorded for one male surgeon (MSurgA2) who had taken part in the observations during the piloting phase when procedures were still being streamlined and the decision had not yet been taken to measure time. This consultant was therefore excluded from the analysis on visit length, although data was available for 'total time per patient' (visit length plus time between each patient) and so it was possible to include this consultant in the analysis of 'total time.'

Descriptive statistics are used to demonstrate the mean visit length and total time per patient for male and female consultants. Breakdowns for each consultant were also explored in order to describe variation across the sample. Data was then analysed using robust standard errors regression to test the effect of doctors' gender on visit length and total time per patient. This statistical method allows the observations for each participant to be treated as a cluster since it is possible that factors at an individual participant level may result in observations that are not independent; an assumption of multiple regression. Through using this method the results of the regression are more robust, with smaller confidence intervals and more accurate estimates compared with ignoring the clustering of the data. Both univariate and multivariate robust standard errors regression models were undertaken in order to test

whether gender or specialty (medicine/surgery/oncology) could be used to predict consultation length.

7.2.2 Integration of time data with qualitative study findings

By integrating the qualitative findings from observations with quantitative data about each consultant's consultation lengths, potential characteristics that may predict consultation length are explored. A mixed methods matrix, as described by O'Cathain and colleagues (2010), is used as this enables patterns to be drawn across the data, by presenting both the qualitative and quantitative data for each participant simultaneously. The exploration of patterns in the data was further facilitated by ordering the matrix rows (participants) by length of consultation.

Qualitative themes anticipated to be associated with the length of consultations were used, including level of dominance, psychosocial communication and 'additional' patient conversation displayed during observations. These characteristics were categorised into 'low', 'medium' and 'high' levels observed during consultations with each participant. In order for these factors to be entered into the matrix using the same scale (where higher levels indicated longer consultations), allowing patterns in the data to be explored, the 'dominance' characteristic was renamed 'deference' as this is considered to be the reverse of dominance in the literature (Davies 2003).

7.2.3 Synthesising observational time data with existing studies

In order to synthesise findings and establish a more accurate estimate of the effect of doctors' gender on visit length the observational time data on visit length was combined with the results of the systematic review described in Chapter 4. Only visit length (actual contact time with patients) was included in this meta-analysis as this is most comparable with existing studies that only measure the length of patient consultations. The observational time data was eligible for combining with these existing studies as this study met the inclusion criteria set out for the systematic review described in Chapter 4:

1) The study did not study psychiatric medical visits or psychotherapy treatment visits.
2) The study only measured consultation times for actual doctors and actual patients.

3) The study measured time using neutral observers.
4) The study tested for an association between doctors' gender and time
5) Original data was presented and analysed

Synthesis was undertaken by combining the results from the robust standard errors regression of observational clinic data on visit length with the data from the ten studies that were included in the meta-analysis described in Chapter 4 (Meeuwesen, Schaap et al. 1991, Roter, Lipkin et al. 1991, Hall, Irish et al. 1994, Bertakis, Helms et al. 1995, Bernzweig, Takayama et al. 1997, Carr-Hill, Jenkins-Clarke et al. 1998, Roter, Geller et al. 1999, van Dulmen and Bensing 2000, Bertakis, Franks et al. 2003, Pahal and Li 2006). As in Chapter 4, random effects meta-analysis was conducted and analysis χ^2 and I^2 tests were conducted to measure the degree of heterogeneity across studies.

7.3 Results

7.3.1 Observational time data

7.3.1.1 Visit length

In total, 174 patient consultation times were recorded (63 with four male doctors and 111 with six female doctors). The mean visit length per patient consultation was slightly longer for male consultants than for female consultants (see Table 7.1), although this difference was small. Table 7.2 demonstrates the variability in clinic consultation times across the participants. For example, one male consultant surgeon had a mean consultation time of 7.33 minutes (SD 2.71), whilst another male consultant surgeon spent approximately double this amount of time, with an average of 14.31 minutes per consultation (SD 4.62).

Table 7.1: Visit length (in minutes) for men, women and all consultants.

	Men	**Women**	**Total**
Mean (SD)	12.51 (6.09)	11.86 (6.01)	12.10 (6.03)
Range (Min, Max)	3 - 26	3 - 35	3 – 35

Table 7.2: Number of consultations recorded and mean visit length by consultant.

Consultant	Gender	Specialty	Total observations (N)	Clinics (N)	Visit length (Mean, SD)	Visit length (min - max)
FMedA1	Female	Medicine	12	1	10.92 (5.52)	5 – 25
FMedA4	Female	Medicine	19	2	13.84 (4.98)	5 – 24
MMedA5	Male	Medicine	12	1	10.67 (6.27)	4 – 23
FSurgA6	Female	Surgery	25	2	10.76 (4.52)	3 – 20
FSurgA7	Female	Surgery	26	2	9.96 (5.97)	4 – 27
MSurgA8	Male	Surgery	26	2	14.31 (4.62)	8 – 24
FSurgB9	Female	Surgery	17	2	13.12 (7.04)	4 – 34
MSurgB10	Male	Surgery	12	1	7.33 (2.71)	3 – 12
FMedB11	Female	Oncology	12	4	14.33 (8.05)	4 – 35
MMedB12	Male	Oncology	13	3	15.38 (7.64)	3 – 26

Univariate robust standard errors regression models revealed no statistically significant relationship when comparing the length of patient consultations for female doctors compared with male doctors (coefficient: -0.64, 95% CIs -4.41 to 3.13, p=0.71). That is, although female consultants' visits were 0.64 minutes shorter than males, this difference was not statistically significant. Meanwhile, consultants' specialty was associated with visit length, with oncologists spending longer with patients compared to physicians, and this finding was statistically significant (p=0.01).

Similarly, when including both gender and specialty in a multivariate robust standard errors regression model to assess the relationship between these variables and length of clinic consultations, only specialty was found to be a predictor of clinic consultation time. Table 7.3 provides the results of the model, which demonstrated a weak ability to predict the length of patient consultations using these variables (R^2=0.04). In particular, this model suggests that, holding all other variables constant, oncologists spent 2.65 minutes longer per visit with patients compared to physicians and this was statistically significant (p=0.05). In addition, surgeons spent less time per patient consultation (-0.74 minutes) compared to physicians, although this difference was not statistically significant (p=0.60). After adjusting for specialty, gender did not predict length of clinic consultations (p=0.83).

Table 7.3: Results of multivariate robust standard errors regression model for visit length (n=174, R^2=0.04).

	Coefficient	Robust Standard Error	P value	95% Confidence Intervals	
				Lower	Upper
Specialty *(reference group is physicians)*					
Surgeons	-0.74	1.39	0.60	-3.88	2.39
Oncologists	2.65	1.14	0.05	0.07	5.23
Gender *(reference group is men)*					
Women	-0.38	1.65	0.83	-4.10	3.35

7.3.1.2 Total time per patient

Observational time data was available for 180 time points for the 11 consultants who were observed during outpatient clinics. These 'total' times included the length of visits with patients, as well as other tasks that took place between each patient, such as dictating letters, writing in and reviewing patient notes, conversations with colleagues, interruptions, giving advice or training to junior doctors, delays due to patient lateness or patients that 'Did Not Attend' (DNAs), and other delays (such as waiting for diagnostic tests to be completed before continuing patient consultations).

The mean total time was similar for male and female consultants, as shown in Table 7.4 and data presented in Table 7.5 demonstrate the high variability across participants and highlights the impact that other factors may have on the number of patients that are seen during an outpatient clinic, other than just the contact time with each patient.

Table 7.4: Mean total time per patient

	Men	Women	Total
Mean (SD)	19.72 (10.50)	18.37 (9.93)	18.89 (10.15)
Range (Min, Max)	7 – 53	5 – 55	5 – 55

Table 7.5: Total time per patient, by consultant.

Consultant	Gender	Specialty	N observations	N clinics	Total time (Mean, SD)	Range (Min, Max)
FMedA1	Female	Medicine	12	1	12.92 (6.61)	5 – 30
MSurgA2	Male	Surgery	6	1	13.33 (2.58)	10 – 17
FMedA4	Female	Medicine	19	2	15.79 (4.33)	10 – 24
MMedA5	Male	Medicine	12	1	13.17 (5.37)	7 – 23
FSurgA6	Female	Surgery	25	2	13.04 (5.96)	5 – 26
FSurgA7	Female	Surgery	26	2	20.73 (11.08)	7 – 43
MSurgA8	Male	Surgery	26	2	20.04 (5.90)	9 – 29
FSurgB9	Female	Surgery	17	2	23.18 (13.4)	8 – 55
MSurgB10	Male	Surgery	12	1	16.00 (10.37)	9 – 45
FMedB11	Female	Oncology	12	4	27.08 (7.30)	17 – 45
MMedB12	Male	Oncology	13	3	31.54 (14.00)	8 – 53

The results of a robust standard errors regression analysis (Table 7.6) demonstrates that, after adjusting for specialty, there was no difference in the total time per patient with male and female consultants ($p=0.99$). Meanwhile, specialty does appear to be related to the use of time between patients in this sample of consultants. When holding all other variables constant, this model predicts that oncologists will spend an additional 15.13 minutes in total per outpatient appointment compared to physicians and this difference is highly statistically significant ($p<0.001$). This difference may relate to the nature of this specialty, as consultants that took part in this study described how their clinics were planned with larger gaps between patients in order to allow extra time to be spent when necessary, owing to the upsetting nature of some of their consultations. Surgeons also spent longer per outpatient appointment compared to physicians in this adjusted model, but this difference did not reach the 5% level of statistical significance so it is possible that this difference may have arose due to chance.

Table 7.6: Results of multivariate robust standard errors regression model for total time per patient (n=180, R^2=0.20)

	Coefficient	Robust Standard Error	P value	95% Confidence Intervals	
				Lower	Upper
Specialty *(reference group is physicians)*					
Surgeons	4.06	2.03	0.07	-0.47	8.59
Oncologists	15.13	1.92	<0.001	10.85	19.42
Gender *(reference group is men)*					
Women	-0.04	2.01	0.99	-4.52	4.44

7.3.2 Integration of qualitative findings with visit length data

When cross-tabulating consultants' visit length times with characteristics of their patient consultations, observed and reported in the qualitative study in Chapter 6, it is possible to identify trends that may help to explain differences in participants length of consultations. Table 7.7 demonstrates a pattern in this data: consultants with shorter consultation times appear to be related to qualitative characteristics including lower deference (or higher dominance), lower use of psychosocial communication and lower instances of 'additional' topics of conversation from patients. Meanwhile, the reverse may be true of consultants who were observed holding longer consultations.

There appears to be one deviant case in this matrix, consultant MSurgA8, who demonstrated lower levels on all of the qualitative characteristics that would be expected to relate to shorter consultations, but this consultant held relatively longer consultations (mean 14.31 (SD 4.62)). Whilst there are limits to the conclusions that can be drawn from this dataset due to small sample size and potential for other characteristics that may influence the length of consultations, it is worth considering possible explanations for this deviant case. A possible explanation could relate to the organisation of this consultant's outpatient clinics, as patient consultations were often interrupted for further diagnostic tests to be undertaken before the consultation could be continued (later in the outpatient clinic); leading to longer total consultation times.

Table 7.7: Mean visit length by consultant, in ascending time order, and cross-tabulated with qualitative findings.

Consultant	Visit length (Mean, SD)	Qualitative themes associated with longer times		
		Deference	Psychosocial communication	Additional patient conversation
MSurgB10	7.33 (2.71)			
FSurgA7	9.96 (5.97)			
MMedA5	10.67 (6.27)			
FSurgA6	10.76 (4.52)			
FMedA1	10.92 (5.52)			
FSurgB9	13.12 (7.04)			
FMedA4	13.84 (4.98)			
MSurgA8	14.31 (4.62)			
FMedB11	14.33 (8.05)			
MMedB12	15.38 (7.64)			

Key:

 Lower levels observed

 Medium levels observed

 Higher levels observed

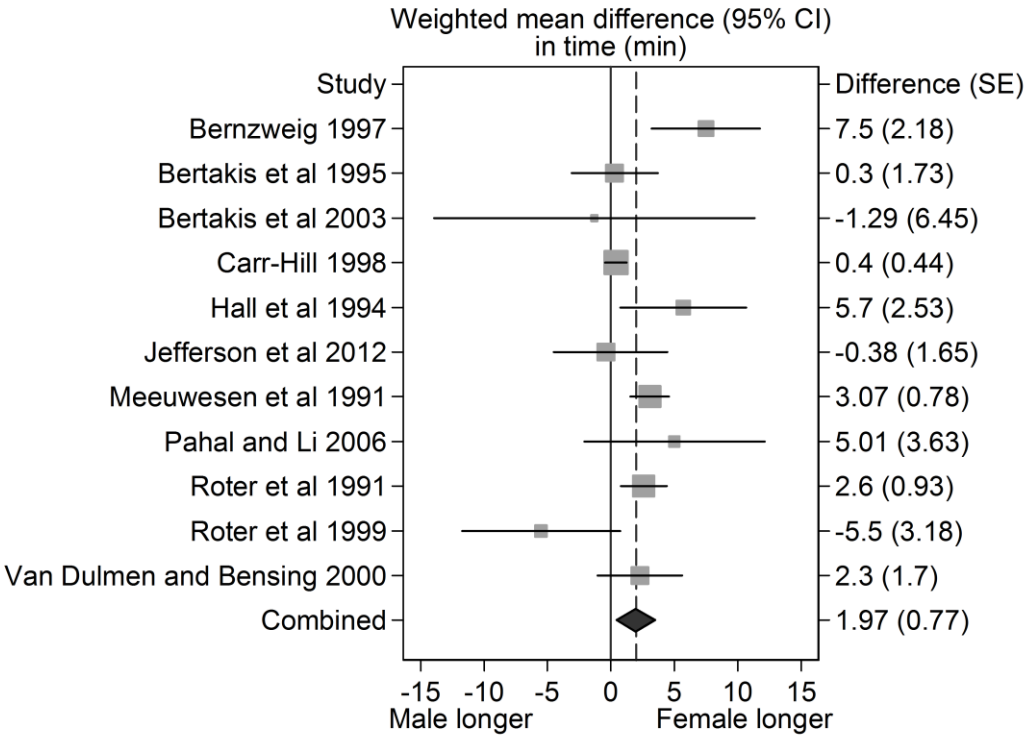
7.3.3 Synthesis of visit length data with systematic review results

By combining the results from the robust standard errors regression for visit length with the findings from existing studies through meta-analysis a statistically significant difference in the length of visit of male and female doctors remained (coefficient = 1.97

(95% CIs 0.47to 3.47 and p=0.01). The forest plot in Figure 7.1 provides a graphical representation of this, with the observational findings from this thesis indicated on the forest plot as “Jefferson et al 2012.”

As stated earlier in this thesis, the results of this meta-analysis should be interpreted with caution due to the restrictive nature of the data from existing studies that was used to compute the meta-analysis and due to the heterogeneity of the included studies. The forest plot in Figure 7.1 also demonstrates this high variability between studies, which was highlighted further by statistical tests for heterogeneity which revealed significant variation across studies (χ^2 = 29.84, df = 10, P=0.001, I^2 =66.5%). This may relate to the variability in study methods, practice settings, patient groups, and doctor characteristics, such as years of experience, in these included studies.

Figure 7.1: Forest plot of visit length including observation data from this thesis (indicated as “Jefferson et al 2012”)



7.4 Discussion

This study fills a gap in the current evidence base on gender differences in length of medical consultations, as to my knowledge this is the first study which has measured gender differences in the length of clinic consultations in a UK hospital setting. However, further research may be warranted to measure the effect of doctors' gender on length of medical consultations in this UK hospital setting amongst a larger sample of doctors, particularly as findings from this study do not appear to be comparable with existing evidence from outside the UK and in primary care settings.

No statistically significant difference in the length of consultations for male and female consultants was found in this setting and there was high variability in length of consultations across participants. The integration of both qualitative and quantitative data for the same consultants enabled exploration of the characteristics that may affect outpatient visit length. Findings suggest that the level of dominance displayed by consultants, use of psychosocial communication in consultations and patients' engagement in 'additional' talk (such as social conversation), may be associated with the length of consultations. Specifically, lower dominance, higher psychosocial communication and higher patient engagement in 'additional talk' appear to be associated with longer consultations. These findings have implications for the productivity of consultants' outpatient clinics and may be of interest to medical educators; topics which are discussed in more detail Chapter 9.

By including the observational data on visit length in a meta-analysis of existing studies, the pooled estimate of the effect of doctors' gender on visit length altered slightly. Prior to including the findings from this thesis in the meta-analysis the mean difference pooled across 10 existing studies suggested consultations were 2.24 minutes longer with female doctors compared to males (95% CI 0.62 to 3.86), p=0.01). Therefore, the non-statistically significant difference between male and female doctors that was found from the observational data collected during this study pulled the pooled estimate slightly closer to the line of no effect. Nevertheless, this pooled estimate remains statistically significant and may be a potentially important difference at almost 2 minutes longer per consultation with female doctors compared to males.

7.4.1 Strengths and weaknesses

A strength of this study was the use of statistical techniques to control for the effect of specialty and individual consultant level differences (through cluster analysis); methods which the majority of previous studies in this field have not undertaken. The statistically significant relationship between specialty (specifically oncology) and visit length that was revealed highlights the importance of adjusting for other characteristics that are potential confounders when measuring gender differences in consultation length.

This study also highlights how other factors, such as consultants' consulting style (e.g. use of dominance and psychosocial communication) may influence the length of consultations. The combination of qualitative and quantitative methods is a novel and useful approach in this area, as previously studies have concentrated on exploring differences in consultation length without measuring the impact of characteristics such as consulting style.

Furthermore, this study also demonstrates the influence of other factors taking place between each patient consultation, on the number and speed at which patients can be seen during hospital outpatient clinics. While there were no statistically significant gender differences in total time per patient, which captured these other activities, future research using larger samples would be beneficial to explore these variations as they may have implications for the productivity of hospital doctors' outpatient clinics. For example, the under-booking of clinics in specialties such as oncology may impact negatively on the efficiency of these clinics, particularly when patients are late or miss an appointment. Various other factors that affect the time that consultants spend between patients included: time waiting for patients to arrive (due to patient lateness or patients that 'Did Not Attend' (DNAs); consultants' approach to undertaking administrative duties (e.g. some consultants dictated letters between each patient whereas others left this until after the clinic had finished or another day) and advising or training junior doctors between patients. Other delays related to the time that some consultant surgeons in this study had to wait whilst diagnostic tests were completed before being able to continue consultations; the streamlining of which may result in reduced total time per patient.

The main limitation of this study is the small sample size of doctors that were observed, owing to the fact that this data was collected alongside an in-depth qualitative study.

Therefore, although these findings are based on 174 observations of visit length and 180 observations of total time, they may not be generalisable to wider samples of doctors. This study was not sufficiently powered to detect a statistically significant result, so it is possible that a type two error may have occurred, whereby no significant difference was found between male and female doctors in this sample as there were too few doctors measured in order to detect a difference. Small sample sizes were also a common problem of existing research in this field – as has been described in the systematic review in Chapter 4, the median number of doctors included in these existing studies was only 27 (IQR: 17 to 49.5). Nevertheless, the small sample size in this study was necessary as it enabled both qualitative and quantitative aspects of patient consultations to be explored simultaneously, which would not have been as feasible in a larger sample.

It is possible that the researchers' presence during observations may have influenced the length of time spent between patients, as at times the consultants talked to the researchers which may have lengthened the periods between patients. Efforts were made to avoid this where possible and not engage in conversation with participants; but future studies should consider using audio- or video-recording of clinic consultations in order to reduce this effect.

Another potential weakness of this study may be the method of measuring time, which was done with wrist watches rather than stopwatches, which would provide more accurate measurement. The use of stopwatches in the present study was considered too obtrusive as these could have potentially altered consultants' behaviours and interactions with patients; a central focus of the qualitative study which these observations formed a part of. For example, consultants may have been more aware of time and sped up their consultations if they were conscious of being timed.

7.5 Conclusion

This study has found no gender differences in outpatient clinic lengths and total times per patient in this sample of consultants. Although these findings are based on a relatively small sample of consultants, they represent the first time that doctors' consultation times have been compared in the UK hospital setting. Furthermore, this study demonstrates the importance of adjusting for potential confounding variables when measuring gender differences in length of consultations, as specialty was found

to be a statistically significant predictor of both length of visit and use of time between patient consultations. Additionally, this study highlights a potential relationship between consulting characteristics and length of consultations; which appear to differ according to the level of dominance and psychosocial communication displayed in consultations, as well as the patients' level of engagement in 'additional' conversation with consultants. Continuing with the quantitative approach adopted here, the following chapter describes the design and implementation of a pilot questionnaire which sought to build upon the qualitative findings from this thesis using quantitative methods.

8

Development and feasibility testing of a pilot questionnaire exploring consultants' working lives

8.1 Introduction

While the qualitative study in this thesis developed *depth* of information and enabled theory to be generated, the next stage in this thesis tests the *breadth* of these qualitative study findings by returning to a quantitative methodological approach. This will be undertaken through questionnaire methods. It is important to test whether similar findings are revealed across a wider sample of doctors holding different characteristics, such as across different specialties and hospitals, thus exploring the generalisability of these qualitative findings to other populations. Further, while a strength of the observational work undertaken in this thesis was the ability to explore what happens in practice, the nature of questionnaire methods enables the perceptions and attitudes of individuals to be explored using large samples. A strength of quantitative research is also the ability to explore the influence of other characteristics on participants' experiences and attitudes; thus building on qualitative findings further by considering other factors that may affect consultants' work experiences and attitudes about their work.

This chapter describes the design and implementation of a pilot questionnaire which sought to explore gender differences in the working lives of hospital consultants amongst a larger sample and test the feasibility of disseminating such a questionnaire to hospital consultants nationally. Existing surveys of health professionals and findings

from the qualitative study are considered in order to describe areas in which research is currently lacking and where gaps in the literature could be filled by undertaking a survey of hospital consultants. Following this, the design and feasibility testing of a pilot questionnaire is described and some analyses of gender differences in responses are presented.

8.1.1 Existing surveys of medical professionals

Surveys of medical doctors have been completed internationally as a means of understanding the attitudes and motivations of the healthcare labour force; particularly with the aim of identifying determinants of trends in labour supply. Existing surveys provide a useful guide to help inform the design of the questionnaire described in this chapter and to identify any potential gaps in the literature. In the UK examples of national surveys of medical doctors include the Scottish national survey of doctors (e.g. (French, Andrew et al. 2004); the UK Medical Cohort surveys (e.g. (Taylor, Lambert et al. 2008); and the NHS staff surveys (e.g. (Department of Health 2012b). Elsewhere, the Medicine in Australia: Balancing Employment and Living (MABEL) surveys (e.g. (Joyce, Scott et al. 2010) have been undertaken annually since 2008. These surveys vary in nature, for example the UK Medical Cohort surveys are longitudinal surveys which follow UK medical graduates throughout their careers and focus on aspects relating to careers in medicine; whereas the MABEL surveys are undertaken annually to measure the attitudes and experiences of a nationwide sample of Australian doctors on a broad range of areas from work-life balance to experiences of aggression in the workplace.

Currently the only UK-wide surveys of doctors are the UK medical cohort studies, as others have been undertaken elsewhere or do not solely measure the responses of doctors (e.g. the NHS staff survey). The UK medical cohort studies have followed-up 13 cohorts of doctors qualifying from 1977 to 2009, with all doctors qualifying in UK medical schools contacted via postal survey. However, whilst the UK medical cohort studies have provided detailed exploration of the career choices and preferences of medical graduates nationally in the UK, the authors call for further research exploring gender differences in doctors' working experiences in more depth, for example by examining potential gender differences in the conflict between work and family lives that may create an indirect barrier in doctors' careers (Taylor, Lambert et al. 2009).

Existing doctor surveys have covered a large number of constructs. Items have been used to assess doctors' attitudes to workload, family commitments, career choices, career progression, retirement intentions, experiences of working in rural settings, team-working and relationships in the workplace, financial information, general health and well-being. In addition to items designed specifically to measure these areas, existing scales have also been used to measure areas including: job satisfaction (using the Warr-Cook-Wall (1979) scale); personality (using the shortened Big Five Inventory (BFI-S) (John and Srivastava 1999)); and locus of control (using the Pearlin and Schooler (1978) sense of mastery scale).

However, few studies focus on gender as a source of variation in participants' responses and there are gaps in the literature which suggest further research may be necessary. Table 8.1 provides a summary of findings from previous national surveys of medical doctors that have reported on gender differences. Areas of consensus include: the existence of gender differences in specialty choices and working hours of doctors (Lambert and Goldacre 1998, Goldacre, Lambert et al. 2001, French, Andrew et al. 2004, French, Andrew et al. 2006, Taylor, Lambert et al. 2009) and studies also suggest that lifestyle issues may motivate male and female doctors differently and may be of greater priority to female doctors when making career decisions (Goldacre, Lambert et al. 2001, Moss, Lambert et al. 2004). Other studies suggest that female doctors in Australia may experience more aggression in the workplace (Hills, Joyce et al. 2011) and female doctors in Scotland may take less meal breaks but may use more annual leave than male doctors (French, Andrew et al. 2004), however these findings have not been explored in a UK-wide sample of doctors. Meanwhile there is a lack of consensus as to whether gender differences exist in terms of doctors' job satisfaction as studies have reported conflicting results (French, Andrew et al. 2004, French, Andrew et al. 2006, Taylor, Lambert et al. 2008, Joyce, Schurer et al. 2011). Studies have also reported different findings when measuring respondents' feelings about work-life balance (Healthcare commission 2004, Shrestha and Joyce 2011).

Existing surveys have started to explore potential variations in the factors that may affect the working lives of male and female doctors differently, but there are gaps in the literature which suggest that more research is needed to explore gender differences in factors that affect doctors' working lives, particularly in a UK-wide sample of medical doctors. Through the qualitative study described in Chapters 5 and 6, various potential sources of gender differences were identified and questions raised that warrant further

investigation; areas which have not been addressed sufficiently in previous surveys of doctors.

Table 8.1: Main gender difference findings reported from previous doctor surveys

Survey	Publication	Findings
MABEL	(Shrestha and Joyce 2011)	• Female doctors report greater balance between their personal and professional commitments than males, but when the number of hours was taken into account, the relationship was reversed, with men reporting greater work life balance compared with women working the same number of hours
	(Hills, Joyce et al. 2011)	• Female doctors report greater experiences of workplace aggression, from patients' relatives, carers and co-workers compared with male doctors
	(Joyce, Schurer et al. 2011)	• No gender differences were reported in terms of job satisfaction
Scottish national survey	(French, Andrew et al. 2004) and (French, Andrew et al. 2006)	• Female doctors were less likely to take meal breaks compared with male doctors • Female doctors were more likely to take full annual leave entitlement compared to male doctors • Female doctors were more likely to moderate their own working hours or career aspirations in order to accommodate a partner's career • Women reported higher overall job satisfaction compared to male doctors on similar contracts • Male GPs were more likely to work full-time and participate in out of hours work and non-NHS work
NHS staff survey	(Healthcare commission 2004)	• No information is provided about gender differences in the doctor workforce. For example, although no gender differences in work life balance are reported, this captures the views of a range of NHS workers, not just the doctor workforce.
UK medical cohort studies	(Moss, Lambert et al. 2004)	• Lifestyle issues and domestic responsibilities weigh more heavily on the decisions of female doctors considering leaving UK medical practice
	(Goldacre, Lambert et al. 2001)	• More men than women leave medicine to practice abroad • More women than men leave medicine for domestic reasons
	(Lambert and Goldacre 1998, Goldacre, Lambert et al. 2001, Taylor, Lambert et al. 2009)	• There were gender differences in career choices, for example female doctors were more likely to work part-time and in specialties such as general practice, psychiatry, paediatrics and community health.
	(Taylor, Lambert et al. 2008)	• No gender differences were reported in terms of job satisfaction

8.1.2 Questions raised from qualitative study findings

Through qualitative investigation undertaken as part of this thesis, various theories about sources of variations in the working lives of male and female hospital consultants

were generated. This knowledge has raised questions relating to gendered beliefs and experiences of working teams; gender in medicine; consulting style; workload and work-life balance. The findings from this qualitative research are considered in order to explain the reasoning behind questions chosen and the overall design of the questionnaire described in this chapter.

8.1.2.1 Working teams

Qualitative findings from this thesis suggest that female consultants may be less dominant; may receive lower support from colleagues; and may be viewed as more approachable by their colleagues compared with males. Items in this pilot questionnaire explored potential gender differences in doctors' attitudes towards working styles and experiences of working relationships such as cooperation and delegation with colleagues. Qualitative findings suggest that these experiences may vary according to the professional group that individuals are interacting with, therefore some items on the questionnaire explored experiences of working with different groups of colleagues including: medical managers; non-medical managers; fellow consultants within their specialty and outside their specialty; senior grade non-training doctors; junior doctors; nursing colleagues within their specialty and outside their specialty and medical secretaries.

Furthermore, qualitative findings described in Chapter 6 reflect concerns about the competency of the junior doctor workforce; views which have been widely voiced amongst the medical community (Royal College of Surgeons 2011, MacBride-Stewart 2012). This questionnaire therefore included questions to identify respondents' beliefs about the competence and role of junior doctors in their day to day work, for example do concerns about the competence of junior doctors affect hospital consultants' willingness to delegate?

8.1.2.2 Gender in medicine

Through observations of male and female consultants in this thesis there was a sense that gender stereotypes about the behaviours expected of male and female doctors may have influenced participants' interactions with colleagues and patients. Furthermore, some female participants reported experiences of barriers they had experienced in their careers and past experiences of gender discrimination. The gendered culture in medicine has been discussed by several sociologists who have

commented on the discriminatory effect this has historically had on female doctors (Currie 1993, Hafferty 1998, Davies 2003, Abbott 2005) and recent surveys of medical doctors have also highlighted respondents' experiences of male dominance and an 'old boy network' in medicine (Sanfey, Saalwachter-Schulman et al. 2006, Miller and Clark 2008). Therefore, items were incorporated into the questionnaire to quantify the extent to which male and female doctors in the UK feel that gender may affect their medical work. Specifically, these measured whether respondents feel they are treated differently by colleagues or patients because of their gender and enumerated respondents' experiences of barriers in career progression and gender discrimination.

8.1.2.3 Consulting style

Findings from the systematic review described in Chapter 4 suggest that there may be gender differences in doctors' communication during consultations with patients, for example with female doctors demonstrating greater partnership building and affective communication compared to male doctors. Similar findings were reported in the qualitative study through observations with male and female hospital consultants, as female consultants displayed more willingness to engage in psychosocial conversation and adopted a more affective communication style. Furthermore, male consultants appeared to be more comfortable adopting a dominant and assertive approach when necessary in order to speed up consultations. While these studies have measured observable differences in communication style, through questionnaire methods it is possible to explore whether male and female doctors hold different beliefs about the appropriateness of using psychosocial communication in consultations and their relative level of comfort in being assertive in consultations. In addition, this quantitative approach enables comparisons to be made across a larger sample of male and female doctors, as although these qualitative findings allowed in depth information to be generated, they were based on a small number of consultants in a limited number of specialties and hospital trusts.

Meta-analysis of existing studies that have measured the effect of doctors' gender on length of medical consultations, described in Chapter 4, have suggested that consultations with female doctors may last longer than consultations with males. This raises questions about the approach that male and female doctors take in adapting consultations when under time pressures and the extent to which they feel able to complete consultations quickly in these scenarios. Items on the questionnaire were

used to explore these factors. In addition, questionnaire items explored respondents' use of time in their working week, to identify the extent to which male and female doctors report working additional hours and the breakdown of their programmed activities during a working week. Differences in the time and number of patients scheduled and actually seen in clinics were also measured in the questionnaire.

8.1.2.4 Workload, work-life balance and family life

The pressure experienced by doctors due to heavy workloads may have important implications for their functional capacity at work and general health and well-being (Meijman and Mulder 1998). In the qualitative study described in this thesis, both men and women reported similar problems with pressure in the workplace and difficulties achieving work-life balance. The main difference between male and female participants in this study appeared to arise in terms of the problems faced in achieving balance or 'schedule fit' between their work and family commitments, with problems reported to a greater extent in women compared to men. Other studies have shown that female doctors tend to report higher levels of stress compared to males (Caplan 1994, Cartwright, Lewis et al. 2002, Kluger, Townend et al. 2003) and the literature reviewed in Chapter 3 suggests that this may relate to women's greater responsibilities outside of work (Beerman and Nackreiner, 1995. In: Folkard and Hill, 2002). Items on this questionnaire were therefore used to explore whether there are indeed gender differences in perceptions about workload; strategies used to cope with high workload; and feelings about work-life balance and conflict between work and home or family lives.

8.2 Study aim

Building on the rich information about gender differences in consultants' working lives that was generated through qualitative investigation, this chapter describes the development and feasibility testing of a pilot questionnaire that sought to identify the extent to which experiences and attitudes differ by gender in hospital consultants nationally.

The use of questionnaire methods should complement the qualitative work that has already been described. Using the theories that were generated earlier in this thesis and testing them in a wider sample of hospital consultants, this chapter will begin to

explore the external validity of the qualitative findings. Through piloting the survey amongst a nationwide sample of hospital consultants in the UK, the feasibility of disseminating such a survey nationally was also tested.

8.3 Methods

8.3.1 Questionnaire design

8.3.1.1 Themes and item development

The questionnaire was developed following review of the existing surveys of doctors and questions raised through the qualitative study described in Chapters 5 and 6. The main themes of the questionnaire included: 'working teams,' 'gender in medicine,' 'consulting style,' 'workload,' 'work-life balance,' 'effect of work on family life,' 'characteristics of your work,' and 'overall satisfaction.' These themes were chosen based upon the sources of gender differences in consultants' working lives that were identified through the qualitative study in this thesis and remaining questions relating to these areas.

In designing the questionnaire, it was important to balance exploring a wide range of topics within as short and concise a questionnaire as possible. The aim was to create a questionnaire which took approximately 15 minutes to complete, in order to improve the likelihood that the questionnaire would be completed despite hospital consultants' high workloads. This would not have been possible by including existing scales. Scales such as the Warr-Cook-Wall scale of job satisfaction (Warr, Cook et al. 1979); job stress scales (e.g. (Cooper, Rout et al. 1989, Gosden, Williams et al. 2002)); perceived stress scale (Cohen, Kamarck et al. 1983) and emotional intelligence scale (Schutte, Malouff et al. 1998) were considered for inclusion in this questionnaire but consisted of too many items that were not specifically relevant to the objectives of this study and would have resulted in too lengthy a questionnaire. For example, the Job Stress Scale has previously been used to test stress amongst GPs (Cooper, Rout et al. 1989) but includes 33 items – too lengthy to include in this multi-faceted questionnaire which sought to explore a wide range of other work experiences and attitudes. Another example is the Warr-Cook-Wall (1979) scale, which encompasses 10 questions about job satisfaction ranging from respondents' satisfaction with their remuneration; satisfaction with the amount of responsibility that they feel in their work and satisfaction

with freedom to choose their own methods of working. Some of these items were either not applicable to hospital consultants' work, or not compatible with the aims of this study. Therefore, all questions were developed for the purposes of this questionnaire and no pre-existing questionnaire scales or items were used in this questionnaire.

Specific items were created and refined through a series of iterations and discussions with thesis advisors (KB and YB) and an expert in questionnaire design (TC). Items used in the questionnaire can be found at Appendix 8.3. Some items on the scale were reversed in order to avoid acquiescence bias, whereby respondents circle the same response category for each question. Additionally, when designing the items on the questionnaire it was important to ensure that each item only addressed one point, so that the interpretation of responses were clear and unambiguous.

8.3.1.2 Response modes

Various response modes were used in the questionnaire design, including multiple choice categories; likert scales; visual analogue scales and an open ended question was used at the end of the questionnaire in order to enable participants to provide any additional information they felt necessary. Five point likert scales were used for the attitudinal items to measure level of agreement, with response options including 'strongly disagree;' 'disagree;' 'neutral;' 'agree;' 'strongly agree.' This likert scale was chosen because it is easy for respondents to understand, quick to complete and allows responses to be scaled depending on the extent to which respondents agree or disagree with a statement. Another fast and easy method for providing responses to questions along a scale is the visual analogue scale, which was used in this questionnaire for participants to rate their overall satisfaction with their 'life in general' and 'choice of career' using a range from 1: 'completely dissatisfied' to 10: 'completely satisfied.'

8.3.2 Feasibility testing and face validity

Prior to distributing the finalised questionnaire to participants, simulation exercises were undertaken in order to test the feasibility, ease of completion and face validity of questionnaire items. Meetings were carried out to undertake these simulation exercises with 4 local contacts, three of whom were local hospital consultants (2 female and 1 male) that had participated in the qualitative study described in Chapters 5 and 6, and

the fourth was a general practitioner (1 male). Meetings were audio-recorded in order to enable greater integration of feedback into the final questionnaire.

A process termed ‘think aloud’ by cognitive psychologists (Lamond, Crow et al. 1996), was undertaken during these meetings, whereby doctors were asked to complete the questionnaire and talk through their responses as they completed each item. By verbally voicing their thought processes and meanings attributed to each question as they completed the questionnaire, the validity of each question could be tested to see how well the questionnaire items addressed the study objectives. This stage of the questionnaire testing was also used to explore whether those completing the questionnaire felt there were any important omissions in the questionnaire design and the length of time taken to complete the questionnaire. In addition, this process provided valuable insight that was helpful when interpreting the results of this questionnaire study as participants in the ‘think aloud’ meetings tended to expand upon their responses, describing their beliefs and experiences in full. This depth of information discussed during this process also highlighted the usefulness of adopting a qualitative approach to study these issues earlier in this thesis.

During this ‘think aloud’ process problems with the questionnaire were identified and changes made in order to make improvements to the final questionnaire that was distributed to potential participants. A description of the changes that were made to the questionnaire at this stage is given in Appendix 8.1, where tracked changes and comments are visible on the version of the questionnaire that was used in the ‘think aloud’ process. For example, some items were standardised by using the term ‘in general’ at the beginning of questions so that it was clear to participants that an overall opinion was required. Other improvements included the rewording or reordering of questions in order to improve the flow of the questionnaire and reduce the likelihood for mistakes being made during the completion of the questionnaire. Sections were also altered so that certain questions would only be populated in the online version of the questionnaire when responses to previous questions had satisfied certain criteria. For example, questions relating to children and the section ‘Effect of work on family life’ were only populated in the online questionnaire when respondents answered ‘yes’ to having children earlier in the questionnaire. Similarly, questions relating to partner or spousal occupation were only populated if responses to an earlier question indicated that the participant was living with a partner or spouse. These changes made the

questionnaire less cumbersome for participants to complete and improved the relevance of questions to individual participants.

8.3.3 Final questionnaire

Following the 'think aloud' process and changes that were made to improve the questionnaire, a final version of the questionnaire was created which incorporated 81 questions. The sections 'about you,' 'about your medical career,' 'working teams,' gender in medicine,' 'consulting style,' 'workload,' 'work-life balance,' and 'effect of work on family life' were used. The final version of the questionnaire can be found at Appendix 8.3 and screenshots of the online version of the questionnaire that was disseminated to participants can be found at Appendix 8.4.

When testing the feasibility of completing this questionnaire with participants in the 'think aloud' process described above, the questionnaire took approximately 15-20 minutes to complete as each question was simple and followed similar formats so they could be answered quickly by respondents. As the questionnaire was sent to participants online via a web link, it was possible to incorporate a progress bar at the bottom of each page of questions so that respondents could gauge how much of the questionnaire they had completed and how much more time would be needed to complete the questionnaire. It was also possible for respondents to save their responses and revisit the questionnaire at a time that was convenient for them.

8.3.4 Sampling strategy and procedure

Following feasibility and validity testing through the 'think aloud' process, the finalised questionnaire was sent to the British Medical Association (BMA), who commented on the questionnaire design and created an online version of the questionnaire. A sample of BMA panel members were then contacted to ask if they would be willing to participate in completing the questionnaire. This panel is used routinely by the BMA as a group of survey respondents and comprises approximately 1500 medical doctors. A random sample of 400 potential participants was taken.

Therefore, in order to be eligible for inclusion participants were required to be part of this BMA panel group and to be working as hospital consultants. Hospital consultants formed the focus of this survey as it sought to expand upon the qualitative findings that were based on consultant grade hospital doctors and shed light on potential

explanations for gender differences in the activity rates of hospital consultants in the UK (Bloor, Freemantle et al. 2008), an aim of this thesis. Participants working in general practice were excluded, as were specialties that did not involve patient contact (pathology, public health and research) as much of the questionnaire investigated aspects of their working lives that involved patient contact, such as consultation style.

Following the invitation email that was sent by the BMA (see Appendix 8.2), potential participants were able to complete the questionnaire via weblink to the online questionnaire. An automated reminder was sent to non-responders after one week. Following advice from the BMA, and in order to improve response rates, respondents were entered into a prize draw to win an iPad 2® if they completed the questionnaire and provided their contact details for the prize draw. A winner was chosen at random following closure of the online questionnaire after 3 weeks.

Contacted participants were not obliged to take part in this study and were given the opportunity to refuse participation. Participants could withdraw at any time during completion of the online questionnaire. No identifiable information was obtained in the questionnaire, enabling confidentiality to be ensured. NHS ethical approval was not required for this research study since it involved only NHS health professionals, for which National Research Ethics Committee approval is not required, and did not involve use of any NHS organisation premises or facilities during the implementation of this questionnaire (National Research Ethics Service 2012). University Departmental Ethics Committee approval was obtained for this study.

8.3.5 Analyses

8.3.5.1 Data cleaning

Data were managed and analysed using SPSS® for Windows® version 18.0 (SPSS, Chicago, Illinois, USA) and Stata® for Windows® version 10.0 (Stata Corporation, College Station, Texas, USA). Steps were taken to prepare the data by undertaking data checks and computing any variables that would be used in later analyses. Data cleaning steps as described by Altman (1991) were undertaken and included: checking for data entry errors (for example where dates had been entered as ‘92’ instead of ‘1992’); range checking and replacing zero values with missing values where these had automatically been entered by the survey software where responses were missing.

Variables were also computed from the answers to questions given in date format. These included:

- 'Years medical experience' – calculated as the year the questionnaire was completed (2012) minus the year they completed undergraduate medical training
- 'Years taken to complete specialist training after undergraduate training' – calculated as the year completed specialist training minus the year completed undergraduate training

8.3.5.2 Feasibility testing

Items on the questionnaire were examined to identify any that appeared to be problematic for participants to complete. For example, range checking was used to identify whether there had been any confusion over the measurement scale, such as responses in hours worked per week instead of number of programmed activities per week.

Analysis of redundant items was employed in order to explore whether there were any items on the questionnaire which did not provide any information about the sample due to low variance. This was undertaken by analysing the frequencies of responses to items and, as recommended by Streiner and Norman (2003), a cut-off point of 80% was chosen, with any items with more than 80% of answers attributable to either strongly agree or strongly disagree categories considered redundant.

8.3.5.3 Analysis of free text responses

Participants' additional comments about the questionnaire and their experiences and attitudes towards work were analysed by drawing out recurrent themes and recording the number of times these themes occurred in participants' responses. This process was mainly used to provide an overview of potential areas for further research that could be included in future questionnaires and more complex qualitative analyses were not undertaken.

8.3.5.4 Statistical analyses

Descriptive statistics and univariate analyses

Descriptive statistics were used to explore the characteristics of the sample (such as age, family characteristics and characteristics of participants' medical careers). Comparisons between means for continuous variables were analysed using *t* tests and assumptions that the data were independent and normally distributed were also checked. Where continuous data were not normally distributed, the Mann Whitney U test was employed.

The relationship between gender and categorical variables were analysed using χ^2 tests, however checks were made to ensure that the assumptions of this test were met (i.e. no expected frequencies were below 5). Fisher's Exact tests were used in these circumstances.

Categorical variables that were in a ranked order, such as the attitudinal questions measured on a 5 point likert scale, were analysed using Mann Whitney U tests to measure the relationship between these variables and participants' gender. The assumptions for this test were met as data could be ranked and independent groups were measured. Responses given as 'not applicable' were dropped prior to univariate statistical analyses of categorical variables and gender.

Multivariate analyses

Three questionnaire items, chosen to provide illustrative examples of the multivariate analyses that could be undertaken in a larger dataset, were used to explore whether gender was a predictor of participants' beliefs about their working lives, after accounting for potential confounding variables. The three items 1) feeling well supported in the workplace; 2) feeling it is important to engage in psychosocial communication with patients; and 3) feeling that responsibilities at home create pressure when at work, were chosen as these had greatest relevance to the key findings from the qualitative research in this thesis. Additional items from this questionnaire were not analysed as these models were undertaken primarily for illustrative purposes to demonstrate the techniques that could be undertaken with

larger sample sizes and due to problems of multiple testing creating a risk of spurious associations (Bland and Altman 1995, Bender and Lange 2001).

The planned analysis strategy for these multivariate models was ordinal logistic regression as this is the most appropriate method since the response categories (strongly disagree, disagree, neutral, agree, strongly disagree) were ordered in nature. While it would be feasible to dichotomise these response categories to 'disagree' or 'agree,' and undertake a binary logistic regression, this would lose useful information and the estimates from the models would be associated with greater error (Altman and Royston 2006).

Covariates included in each model varied and the inclusion of variables was based upon theoretical justification of the variables which may have been associated with the dependant variable in some way. In model one, the effect of gender on feeling well supported in the workplace was assessed after accounting for specialty, as it is possible that participant's experiences may vary by specialty group. For example female consultants may feel less well supported in surgical specialties due to the low proportion of other female consultants specialising there.

Attitudes towards engaging in psychosocial communication (model 2) may also vary depending on specialty, for example it is possible that psychiatrists may feel this is more important than other specialty groups. Meanwhile, medical experience was also included since qualitative findings from this thesis suggest it is possible that different cohorts of doctors may hold different opinions about the importance of psychosocial communication in consultations due to changes in medical training over time.

The third model, assessing the effect of gender on participants' feelings that responsibilities at home put pressure on them when they are at work, was the largest model, with 6 covariates included. In addition to gender and specialty, the effect of having children, having children under 5 and being a carer to someone other than their children were assessed as these factors may all influence the amount of pressure individuals feel from home responsibilities. In addition, partner's employment status was included as a covariate as this may mediate the effect of pressures from external responsibilities depending, for example if their partner is not in paid employment. Whether or not participants actually had a partner or spouse was also captured in the variable 'partner employment status' as those participants that did not have a partner or

spouse ticked ‘not applicable’ in the questionnaire. Therefore it was not necessary to include the variable ‘presence of partner/spouse’ in this analysis.

8.4 Results

8.4.1 Feasibility testing

In total, 160 participants responded to the questionnaire, giving a response rate of 40%. However, analysis of free-text comments made by 2 participants indicated that they were not eligible to take part in the survey as they were no longer working as NHS hospital consultants. Therefore, the final sample consisted of 158 participants.

8.4.1.1 Problematic items

During the process of range checking some outliers were identified which suggested that participants may have been confused about the scales for certain questions. Problems arose in relation to questions about programmed activities and outpatient clinics. In addition, this section considers how questions about children’s age could be refined in future studies.

Programmed activities

Two participants recorded the number of programmed activities (PAs) in hours (e.g. 40) instead of PAs (which are 4 hours each). These errors were easily overcome by re-entering the data in the correct format.

A relatively high proportion of participants (33% in total) responded that they worked over 12 PAs per week. This figure is high given that the standard full-time job plan is based on 10 PAs per week (Department of Health 2003), suggesting that some participants may have provided information about the total number of PAs they work per week, rather than the number they were contracted to work in their job plan. This question could therefore be improved to highlight more strongly that participants should provide information on the number of PAs they are contracted to work, perhaps with an additional question for the number of PAs that they actually work, to remove any potential confusion.

Outpatient clinics

Other problems were associated with how respondents had recorded information about clinic times and numbers of patients in outpatient clinics. Free-text comments suggested that many respondents operated mixed clinics with both new and follow up patients. In addition, wide variations in the information provided about clinic times and number of patients in outpatient clinics suggested that these items on the questionnaire were answered incorrectly by participants. For example, Table 8.2 demonstrates the wide variations in responses, with times scheduled for new patient clinics ranging from 3.5 minutes to 240 minutes, suggesting that some respondents may have entered time per patient rather than time per clinic. Furthermore, a number of participants did not provide information for these questions, as there were between 41 and 47 missing values for these questions, suggesting that these questions may have confused participants.

Table 8.2: Descriptive statistics for responses to items on outpatient clinics

		Median (IQR)	Range		Missing data
			Min	Max	
New patients	Time scheduled	60 (30-175)	3.5	240	42
	Time actually taken	90 (40-180)	3.5	350	42
	Patients scheduled	4 (2.25-8)	1	35	41
	Patients actually seen	5 (2.5-8)	1	24	41
Follow up patients	Time scheduled	60 (15-172.5)	3.5	360	46
	Time actually taken	90 (20-180)	3.5	390	46
	Patients scheduled	8 (6-12)	1	35	46
	Patients actually seen	8 (6-12)	1	30	47

Data provided by participants on the actual time taken in clinics was divided by the actual number of patients seen in order to calculate a ‘time per patient’ variable. However, the computed ‘time per patient’ further highlighted the erroneous nature of information provided by participants as these calculations suggested that some participants spent as long as 2 hours per new patient.

Due to these problems, the decision was taken not to analyse gender differences in participants’ responses to these items on the questionnaire. These problems should be considered and improvements made to these items on the questionnaire if it is to be used in future studies. The use of response categories may ease participants’ completion of such questions and reduce the potential for errors, for example by

including a question which asks the frequency with which participants' clinics overrun. A similar question was successfully included in this questionnaire to explore the frequency with which theatre sessions overrun. In addition, a simple question which asks participants the average time per patient (in minutes) could be utilised.

Children's age, childcare and maternity/paternity leave

The format of questions about children's age and childcare use prohibited the ability to undertake significance testing to explore the effect of doctors' gender on participants' responses as multiple responses were given by participants, for example, if they had more than one child. In future, researchers should consider altering the format of this question to ask participants the exact age of their first, second, third (etc) child, in order to make it possible to identify the exact ages of participants' children and how many children they have at each age.

The use of such question formats in future studies would enable multivariate analyses to be undertaken, as it is possible that other variables may be correlated or confound the effect of child's age on outcomes. For example, child's age may be related to a number of other variables, such as participants' age or years since completion of specialist training as research suggests that female doctors may delay parenthood until they have progressed further in their careers (Elston 2009, Goldacre, Davidson et al. 2012).

In addition to these suggested changes to questions about child's age, future surveys should consider including a childcare category that enables participants to indicate if their 'partner/spouse' provides childcare support, as it is possible that in these scenarios participants may have ticked 'relatives' as there was no option for partner/spouse in the current questionnaire.

Some respondents incorrectly answered questions about maternity/paternity leave, with responses suggesting participants may have answered these questions from their partner's perspective. For example, three male participants agreed about difficulties with maternity leave cover and one female participant agreed with difficulties associated with paternity leave cover. Future studies such consider rewording such questions or populating these items depending on the gender information given earlier in the survey.

8.4.1.2 Item redundancy

There were no items from the attitudinal sections of the questionnaire which had more than 80% of responses in either the strongly agree or strongly disagree categories, suggesting that there no items on this questionnaire were redundant. Information about the frequency of responses in each category for these items can be found at Appendix 8.5 and subsequent sections of this chapter provide tables containing a gender breakdown of these scores.

Over 40% of participants' responses were 'neutral' for four questionnaire items:

- 'In general, *nursing colleagues from outside my specialty* are cooperative and help me in my day to day work;'
- 'In general, I find that I am able to delegate tasks to *other administrative staff*;'
- 'In general, when I ask for something to be done it is usually carried out appropriately by *nursing colleagues from outside my specialty*;'
- 'I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry).'

Possible explanations for these relatively high numbers of neutral responses could include: confusion over the phrasing of the questions; potential response bias due to participants concerns about the social desirability of agreeing or disagreeing with these questions; or genuine indifference regarding the question. Alternatively, participants may have experienced instances where they could either agree or disagree with the statement, leaving no other option but the middle response category.

8.4.2 Participant characteristics

The demographic characteristics for this sample are presented in Table 8.3. The majority of respondents were men (73.4%) and the mean age of participants was 49 years (SD 7.86). Age was normally distributed across respondents. There was no statistically significant difference in age of male and female hospital consultants who took part in this study; however Figure 8.1 demonstrates that women tended to be slightly younger than men.

Figure 8.1: Age distribution of participants by gender

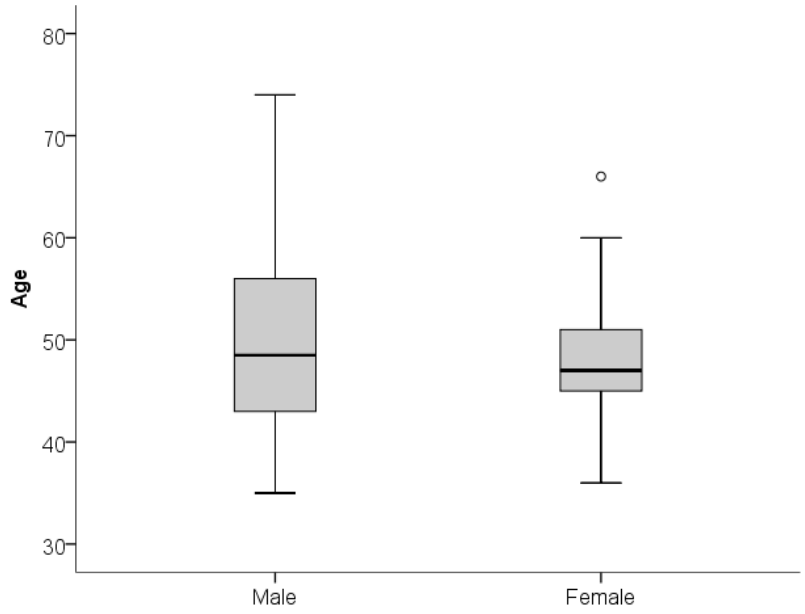


Table 8.3: Demographic characteristics and univariate comparisons by gender

	Male	Female	Total	Test statistic	P Value
Age (Mean, SD)	49.15 (8.31)	48.29 (6.50)	48.96 (7.86)	*t*=0.67	0.51
Cohabitation status (N, %)					
Living with partner/spouse	107 (92.2)	35 (85.4)	142 (90.4)	χ^2=1.68	0.20
Not living with partner/spouse	9 (7.8)	6 (14.6)	15 (9.6)		
Employment status of partner (N, %)					
Not in paid work	30 (25.9)	4 (9.8)	34 (21.7)	Fisher's	
Currently seeking work	1 (0.9)	1 (2.4)	2 (1.3)	Exact=	0.001
Full-time employment	35 (30.2)	25 (61.0)	60 (38.2)	17.92	
Part-time employment	39 (33.6)	5 (12.2)	44 (28.0)		
N (%) whose partner is a health professional	73 (68.2)	16 (45.7)	89 (62.7)	χ^2=5.71	0.02
If so, number and % whose partner is:					
A medical doctor	33 (45.2)	14 (87.5)	47 (52.8)	Fisher's	0.01
A nurse	29 (39.7)	2 (12.5)	31 (34.8)	Exact=	
Other	11 (15.1)	0 (0)	11 (12.4)	8.99	
N (%) who provide care or special help to anyone, excluding children	13 (11.2)	11 (26.8)	24 (15.3)	χ^2=5.71	0.02
N (%) with children	98 (84.5)	33 (80.5)	131 (83.4)	χ^2=0.35	0.55
Age group of children (N, %)					
Under 5	15 (12.9)	1 (2.4)	16 (10.2)		
5-11	35 (30.2)	15 (36.6)	50 (31.8)		
11-16	36 (31.0)	20 (18.8)	56 (35.7)		
Over 16	57 (49.1)	18 (43.9)	75 (47.8)		
Forms of childcare used (N, %)					
Relatives	29 (25.0)	11 (26.8)	40 (25.5)		
Nannies	8 (6.9)	9 (22.0)	17 (10.8)		
Childcare at partner's work	0 (0)	0 (0)	0 (0)		
Childcare at my workplace	2 (1.7)	0 (0)	2 (1.3)		
Other day care	8 (6.9)	2 (4.9)	10 (6.4)		
Afterschool clubs	16 (13.8)	8 (19.5)	24 (15.3)		
Type of school children attend (N, %)					
State school	45 (38.8)	18 (43.9)	63 (40.1)		
Private school (non-boarding)	23 (19.8)	12 (29.3)	35 (22.3)		
Private school (boarding)	2 (1.7)	1 (2.4)	3 (1.9)		

8.4.2.1 Household characteristics

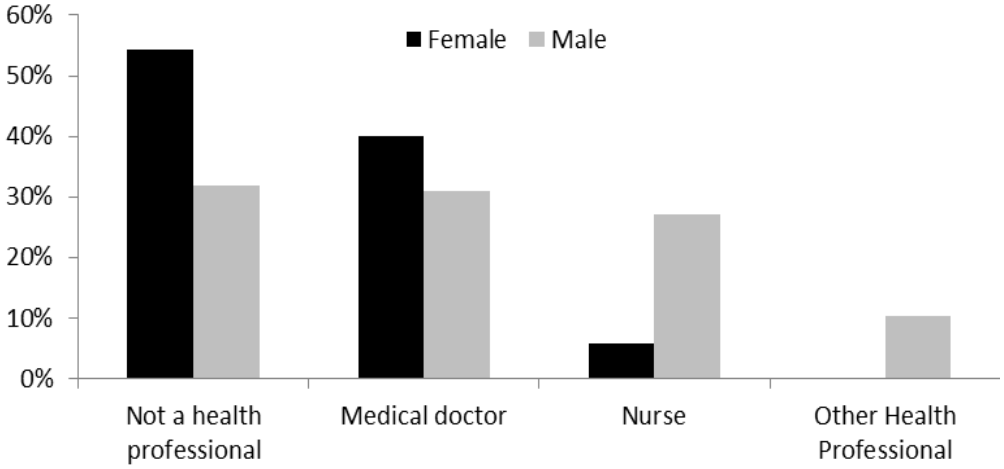
The majority of participants were living with a partner or spouse (90.4%). Very few participants had partners that were 'currently seeking employment' and the others were spread across the categories: 'not in paid work'; 'full-time employment' and 'part-time employment.' Univariate analysis revealed gender differences in partners' employment

status (p=0.001). While the majority of female hospital consultants' partners were in full-time employment (61%), less than a third of men's partners were (Figure 8.2).

Figure 8.2: Men and women consultants' partners' employment categories

In total, 30% of participants' partners were health professionals and statistically significantly more men had partners that were health professionals compared to women (p=0.02). Gender differences were also apparent in the health professional group of participants' partners, as women were more likely to have partners who were medical doctors and men are more likely to have partners who were nurses (p=0.01)(Figure 8.3).

Figure 8.3: Men and women's partners' working in health professions



A quarter of women in this sample provide care or special help to someone other than their children, such as an elderly relative. This proportion was over twice that of men who reported doing so (p=0.02).

There were no differences in the number of male and female hospital consultants with children, or the age group of participants' children in this sample. Various forms of childcare were used by participants. Women were more than 3 times as likely to report using nannies for childcare compared to men (22% vs 6.9%).

8.4.2.2 Medical careers

Table 8.4 provides descriptive statistics and univariate findings for comparisons across male and female hospital consultants' responses relating to the characteristics of their medical careers. There were no gender differences in participants' year experience or the length of time participants took to complete specialist training in this sample. Gender differences did, however, exist in terms of the specialties recorded by participants (p=0.05). Figure 8.4 highlights these gender differences, with notable differences in proportions of women and men in the anaesthetics, obstetrics and gynaecology and paediatrics specialties.

Figure 8.4: Proportion of men and women across specialities

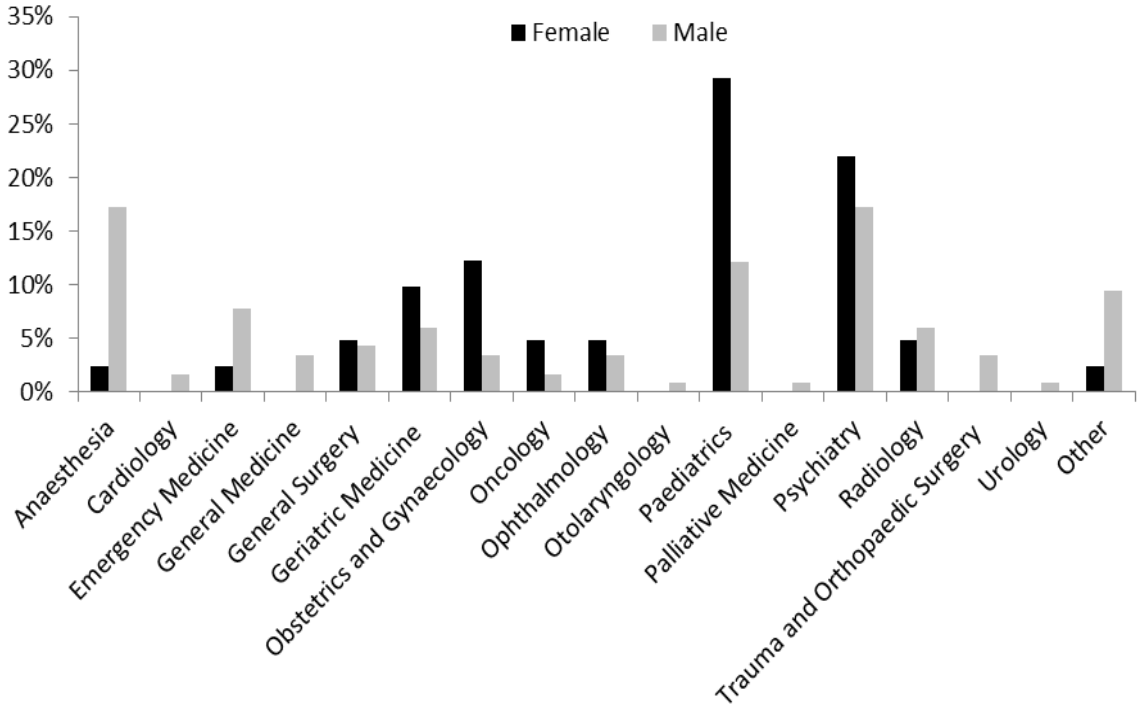


Table 8.4: Characteristics of medical careers and univariate comparisons by gender

	Male	Female	Total	Test statistic	P Value
N (%) undertaking medical training in:				Fisher's Exact= 0.81	0.65
Medical school within the UK	88 (76.5)	34 (82.9)	122 (78.2)		
Medical school within the EEA	11 (9.6)	2 (4.9)	13 (8.3)		
Medical school outside the EEA	16 (13.9)	5 (12.2)	21 (13.5)		
Years medical experience (Mean, SD)	25.01 (8.17)	24.46 (6.92)	24.9 (7.84)	*t*=0.38	0.71
Years taken to complete specialist training (Mean, SD)	11.44 (3.54)	11.77 (2.93)	11.51 (3.39)	*t*= -0.52	0.61
Specialty				Fisher's Exact= 23.6	0.05
Anaesthesia	20 (17.2)	1 (2.4)	21 (13.4)		
Cardiology	2 (1.7)	0 (0)	2 (1.3)		
Emergency Medicine	9 (7.8)	1 (2.4)	10 (6.4)		
General Medicine	4 (3.4)	0 (0)	4 (2.5)		
General Surgery	5 (4.3)	2 (4.9)	7 (4.5)		
Geriatric Medicine	7 (6.0)	4 (9.8)	11 (7.0)		
Obstetrics and Gynaecology	4 (3.4)	5 (12.2)	9 (5.7)		
Oncology	2 (1.7)	2 (4.9)	4 (2.5)		
Ophthalmology	4 (3.4)	2 (4.9)	6 (3.8)		
Otolaryngology	1 (0.9)	0 (0)	1 (0.6)		
Paediatrics	14 (12.1)	12 (29.3)	26 (16.6)		
Palliative Medicine	1 (0.9)	0 (0)	1 (0.6)		
Psychiatry	20 (17.2)	9 (22.0)	29 (18.5)		
Radiology	7 (6.0)	2 (4.9)	9 (5.7)		
Trauma and Orthopaedic Surgery	4 (3.4)	0 (0)	4 (2.5)		
Urology	1 (0.9)	0 (0)	1 (0.6)		
Other	11 (9.5)	1 (2.4)	12 (7.6)		

8.4.2.3 Medical work

Job plans and contracts

Table 8.5 provides a summary of participants' work characteristics such as contractual arrangements. Only 73.9% of hospital consultants had an agreed job plan, and women were statistically significantly more likely to have a job plan in place compared to men (p=0.02). Of those who had an agreed job plan in place, only half considered this to be a reasonable reflection of their workload. A higher proportion of men thought this compared to women (59.0% vs. 47.2%), although this difference was not statistically significant. Half of respondents in this sample had management responsibilities and there were no gender differences in this questionnaire item.

Participants reported being contracted to work 10.58 PAs on average per week (SD 2.02). It is possible that some respondents provided the total number of PAs actually worked rather than contracted for this question as a relatively high proportion (one

third) of participants in this sample responded that they were contracted to work over 12 PAs per week.

Women reported statistically significantly lower numbers of PAs per week compared with men ($p<0.001$). In particular, women were more likely than men to work part-time (fewer than 10 PAs per week), whilst men routinely appear to be contracted for more than 10 PAs per week, compared with lower numbers of women. Gender differences were also apparent in the number of PAs per week spent on direct clinical care ($p<0.001$). This appears to be an effect of more women working part-time, as when concentrating on only those working part-time or only those working full-time, there do not appear to be large differences in PAs contracted for direct clinical care (see Table 8.6). No gender differences were identified in the frequency of consultants' on call rotas.

Three quarters of participants indicated that they worked additional hours in a working week in excess of their contracted hours and, of these, the majority worked over 4-5 additional hours per week. No gender differences were identified. The majority of participants in this sample did not work in the private sector (68.5%), however a greater proportion of men compared to women worked in the private sector and there were statistically significant gender differences in private sector work ($p=0.02$).

Of those participants who provided information on the frequency with which their theatre sessions overrun (56 men and 13 women); gender differences in responses were revealed, with women more inclined to report that their theatre sessions 'mostly' overrun ($p=0.01$).

Table 8.5: Characteristics of medical work and univariate comparisons by gender

	Male	Female	Total	Test statistic	P Value
N (%) with an agreed job plan	80 (69.0)	36 (87.8)	116 (73.9)	χ^2=5.5	0.02
If so, N (%) who consider their job plan to be a reasonable reflection of workload	46 (59.0)	17 (47.2)	63 (55.3)	χ^2=1.38	0.24
Agreed PAs (N, %)					
Less than 10	9 (7.8)	15 (36.6)	24 (15.3)	Fisher's Exact= 19.89	<0.001
10	22 (19.0)	10 (24.4)	32 (20.4)		
11	30 (25.9)	6 (14.6)	36 (22.9)		
12	43 (37.1)	8 (19.5)	51 (32.5)		
More than 12	12 (10.3)	2 (4.9)	14 (8.9)		
Total agreed PAs (Mean, SD)	10.98 (1.76)	9.48 (2.34)	10.58 (2.02)	*t*= 3.74	<0.001
PAs per week on: (Mean, SD)					
Direct clinical care	8.14(1.77)	6.81 (2.37)	7.78 (2.02)	*t*= 3.28	<0.001
Supporting professional activity	2.15 (0.91)	1.85 (0.59)	2.07 (0.85)	*t*= 1.91	0.60
Additional NHS responsibilities	1.38 (1.02)	1.37 (0.64)	1.38 (0.94)	*t*= 0.03	0.98
External duties	0.74 (0.31)	1.12 (1.31)	0.81 (0.62)	*t*= -0.64	0.56
Clinical academic activity	2.31 (2.65)	1.86 (1.88)	2.14 (2.35)	*t*= 0.42	0.68
N % with managerial responsibility	58 (50.4)	20 (48.8)	78 (50.0)	χ^2= 0.03	0.86
Estimated additional hours worked per week (N, %)					
Less than 2 hours	9 (10.5)	2 (7.1)	11 (9.6)		
2-3 hours	12 (14.0)	6 (21.4)	18 (15.8)	*U*=1079.5	0.40
4-5 hours	34 (39.5)	5 (17.9)	39 (34.2)		
6-7 hours	10 (11.6)	6 (21.4)	16 (14.0)		
More than 8 hours	21 (24.4)	9 (32.1)	30 (26.3)		
Approximate hrs/wk in the private sector (N, %)					
Does not work in the private sector	70 (63.1)	32 (84.2)	102 (68.5)		
Less than 4	23 (20.7)	3 (7.9)	26 (17.4)	*U*=1667.5	0.02
4-8	10 (9.0)	3 (7.9)	13 (8.7)		
8-12	5 (4.5)	0 (0)	5 (3.4)		
More than 12	3 (2.7)	0 (0)	3 (2.0)		
On call arrangements (Mean, SD)					
1 in *n* weeks in Category A	8.57 (3.71)	8.16 (2.74)	8.48 (3.51)	*t*= 0.42	0.68
1 in *n* weeks in Category B	14 (10.99)	11.67 (9.09)	13.36 (10.35)	*t*= 0.51	0.62
Frequency theatre sessions overrun (N, %)					
Always	4 (7.1)	0 (0)	4 (5.8)		
Mostly	18 (32.1)	11 (84.6)	29 (42.0)	*U*=206.0	p=0.01
Occasionally	19 (33.9)	2 (15.4)	21 (30.4)		
Rarely	14 (25.0)	0 (0)	14 (20.3)		
Never	1 (1.8)	0 (0)	1 (1.4)		

Table 8.6: Mean (SD) PAs contracted to work on each aspect of the job plan, by gender and contracted working hours*

	Part-time workers			Full-time workers		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
Direct clinical care	4.67 (1.15)	4.62 (1.47)	4.64 (1.33)	8.43 (1.48)	8.07 (1.80)	8.34 (1.56)
Supporting professional activity	1.79 (0.81)	1.66 (0.53)	1.70 (0.62)	2.17 (0.92)	1.95 (0.60)	2.13 (0.87)
Additional NHS responsibilities	1.00 (0.00)	0.88 (0.25)	0.90 (0.22)	1.38 (1.03)	1.55 (0.65)	1.42 (0.96)
External duties	0.83 (0.29)	0.20 (0.00)	0.68 (0.39)	0.72 (0.32)	1.34 (1.40)	0.84 (0.66)
Clinical academic activity	0.00 (0.00)	2.40 (2.46)	2.40 (2.46)	2.31 (2.65)	1.31 (1.18)	2.07 (2.39)

**Part-time is classed as fewer than 10 PAs per week and full-time is 10 or more PAs per week.*

Access and use of colleagues

No gender differences were found in participants' responses about colleagues they have access to or regularly use in different hospital settings (Tables 8.7 and 8.8). Although not statistically significant, fewer women than men regularly use colleagues at more senior levels in hospital ward settings, such as senior non-training grade doctors (17% vs 31%).

Table 8.7: Access to colleagues for support in clinic and ward settings, by gender

		Access to				
		Male	**Female**	**Total**	**Test statistic**	**P Value**
Outpatient clinics (N, %)	*Specialist nurses*	64 (55.17)	24 (58.54)	89 (56.3)	0.14	0.71
	Other nurses	57 (49.14)	22 (53.66)	79 (50.0)	0.25	0.62
	Junior doctors	53 (45.69)	22 (53.66)	76 (48.1)	0.77	0.38
	Senior grade non-training doctors	32 (27.59)	14 (34.15)	46 (29.1)	0.63	0.43
	Fellow consultants	51 (43.97)	22 (53.66)	73 (46.2)	1.14	0.29
	Other	12 (10.34)	7 (17.07)	20 (12.7)	1.29	0.26
Wards (N, %)	*Specialist nurses*	62 (53.45)	23 (56.10)	85 (53.8)	0.09	0.77
	Other nurses	75 (64.66)	27 (65.85)	102 (64.6)	0.02	0.89
	Junior doctors	80 (68.97)	31 (75.61)	111 (70.3)	0.65	0.42
	Senior grade non-training doctors	46 (39.66)	11 (26.83)	57 (36.1)	2.16	0.14
	Fellow consultants	69 (59.48)	21 (51.22)	90 (57.0)	0.85	0.36
	Other	14 (12.07)	5 (12.2)	19 (12.0)	0.00	0.98

Table 8.8: Regularly use colleagues for support in clinic and ward settings, by gender

		Regularly Use				
		Male	**Female**	**Total**	**Test statistic**	**P Value**
Outpatient clinics (N, %)	*Specialist nurses*	59 (50.86)	24 (58.54)	84 (53.2)	0.72	0.40
	Other nurses	48 (41.38)	17 (41.46)	65 (41.1)	0.00	0.93
	Junior doctors	48 (41.38)	17 (41.46)	66 (41.8)	0.00	0.99
	Senior grade non-training doctors	28 (24.14)	12 (29.27)	40 (25.3)	0.42	0.52
	Fellow consultants	32 (27.59)	14 (34.15)	46 (29.1)	0.63	0.43
	Other	12 (10.34)	9 (21.95)	22 (13.9)	3.52	0.06
Wards (N, %)	*Specialist nurses*	53 (45.69)	19 (46.34)	72 (45.6)	0.01	0.94
	Other nurses	70 (60.34)	28 (68.29)	98 (62.0)	0.82	0.37
	Junior doctors	79 (68.10)	28 (68.29)	107 (67.7)	0.00	0.98
	Senior grade non-training doctors	36 (31.03)	7 (17.07)	43 (27.2)	2.97	0.09
	Fellow consultants	49 (42.24)	16 (39.02)	65 (41.1)	0.13	0.72
	Other	16 (13.79)	6 (14.63)	22 (13.9)	0.02	0.89

8.4.3 Attitudinal responses

Mean item scores and proportion of responses to each category (strongly disagree to strongly agree), totalled for all participants in this sample are provided in Appendix 8.5. Meanwhile, Tables 8.9-8.15 in the following subsections present the number and proportion in agreement for men, women and total sample for each attitudinal item.

8.4.3.1 Working in teams

With particular colleagues

Overall, participants' responses suggest that the majority of their colleagues are cooperative and helpful in their day to day work, except for non-medical managers and nursing colleagues from outside their specialty. No statistically significant gender differences were found in these responses.

Generally, responses suggest that participants feel able to delegate tasks to their various colleagues, although this was less common with nursing colleagues outside of their specialty and 'other administrative staff.' Women were three times less likely, compared to men, to agree or strongly agree that they felt able to delegate tasks to nursing colleagues outside their specialty, although this difference was not statistically significant. The majority of consultants felt that, when they delegate tasks to their colleagues, these are completed appropriately.

General experiences of working in teams

The majority of participants' responses were positive about their experiences of working in teams, for example, most felt that they could ask for input from their fellow consultants. There were no gender differences in participants' responses to these items, except for how well support participants' felt at work. Overall, only half of all respondents felt that they were well supported at work and fewer women thought this compared to men ($p=0.05$). This is demonstrated in Figure 8.5.

Responses to questions about working with junior doctors suggest some disagreement amongst participants in their views of junior doctors' competency as responses varied across participants and there were no clear trends. No statistically significant gender differences were found in these items.

Figure 8.5: Participants' responses about feeling well supported at work, by gender.

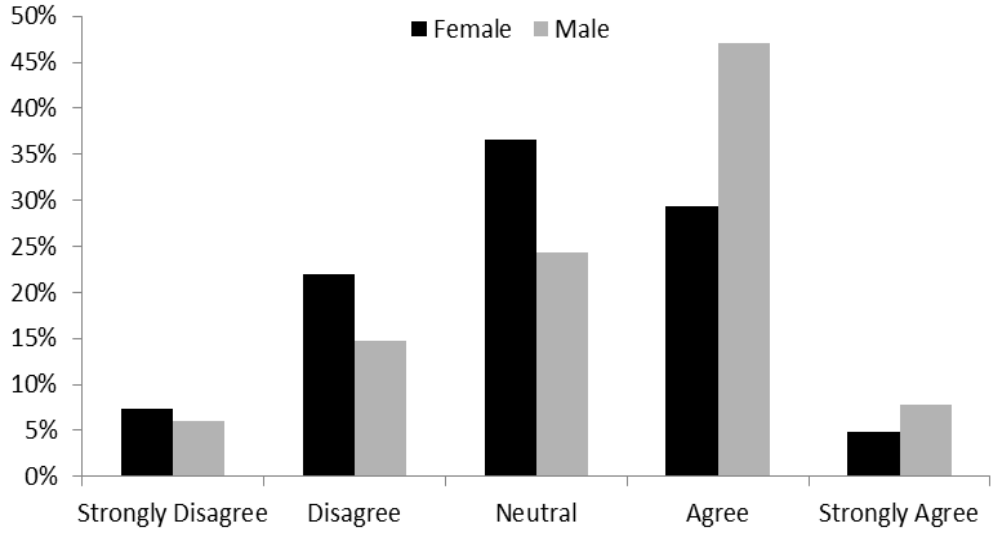


Table 8.9: Working teams, specific colleagues: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U Statistic	P value
	Men	Women	Total		
In general, the following colleagues are cooperative and help me in my day to day work:					
Medical managers (e.g. clinic leads)	78 (67.3)	27 (58.5)	100 (65.0)	2201.00	0.45
Non-medical managers	53 (45.6)	14 (34.1)	67 (42.6)	1974.50	0.09
Consultants from outside my specialty	82 (71.3)	32 (78.1)	114 (73.1)	2277.50	0.71
Consultants within my specialty	100 (87.0)	36 (87.8)	136 (87.2)	2224.50	0.56
Senior grade non-training doctors	87 (76.4)	26 (66.6)	113 (73.8)	2037.50	0.40
Junior doctor colleagues	92 (80.0)	34 (85.0)	126 (81.3)	2189.00	0.61
Nursing colleagues from outside my specialty	41 (35.3)	17 (41.5)	58 (37.0)	2236.50	0.54
Nursing colleagues within my specialty	107 (92.2)	36 (87.8)	143 (91.1)	2372.50	0.98
Medical secretaries	107 (93.1)	37 (90.3)	144 (92.3)	2280.50	0.73
Other administrative staff	79 (68.1)	26 (63.4)	105 (66.9)	2267.50	0.63
In general, I find that I am able to delegate tasks to:					
Senior grade non-training doctors	61 (53.1)	18 (46.2)	79 (51.3)	2097.00	0.53
Junior doctor colleagues	81 (69.8)	28 (70.0)	109 (69.8)	2224.00	0.67
Nursing colleagues from outside my specialty	27 (23.9)	3 (7.9)	30 (19.9)	1848.50	0.18
Nursing colleagues within my specialty	89 (77.4)	30 (73.2)	109 (76.3)	2180.00	0.44
Medical secretaries	94 (81.8)	31 (75.6)	125 (80.1)	2087.50	0.24
Other administrative staff	53 (46.1)	15 (36.6)	68 (43.6)	2137.50	0.35
In general, when I ask for something to be done it is usually carried out appropriately by:					
Consultants from outside my specialty	75 (64.6)	24 (61.6)	99 (63.9)	2233.50	0.90
Consultants within my specialty	100 (87.7)	37 (90.2)	137 (88.4)	2293.50	0.84
Senior grade non-training doctors	80 (70.2)	25 (65.8)	105 (69.1)	2062.00	0.63
Junior doctor colleagues	92 (79.3)	29 (72.5)	121 (77.6)	2032.50	0.18
Nursing colleagues from outside my specialty	44 (38.6)	9 (22.5)	53 (34.4)	2030.50	0.27
Nursing colleagues within my specialty	101 (87.0)	34 (82.9)	135 (76.0)	2222.00	0.48
Medical secretaries	107 (92.3)	34 (82.9)	141 (89.9)	2171.00	0.36
Other administrative staff	69 (60.0)	23 (57.5)	92 (59.4)	2227.00	0.75

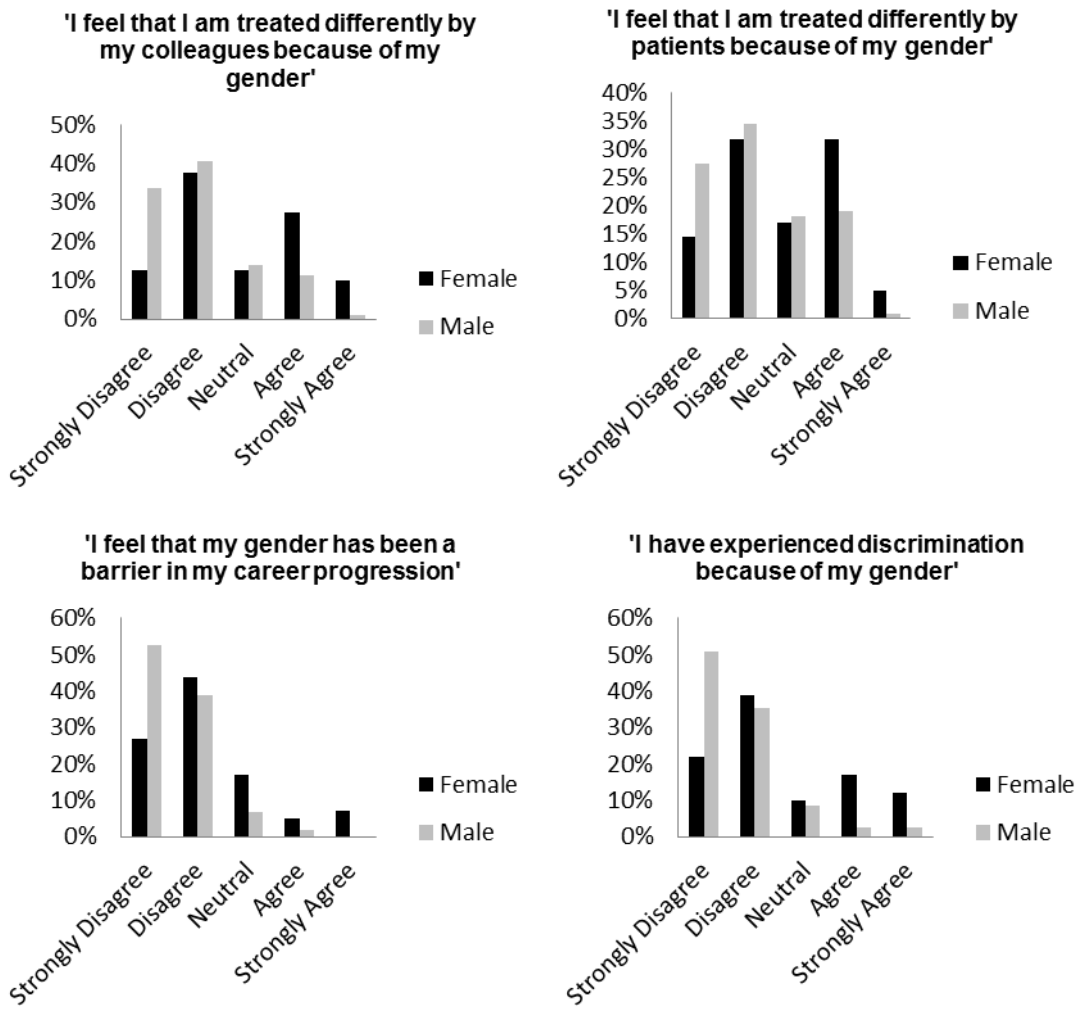
Table 8.10: Working in teams, general opinions: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U Statistic	P value
	Men	Women	Total		
I feel comfortable being assertive when necessary with colleagues	81 (69.8)	27 (65.9)	108 (68.8)	2227.00	0.51
I'm often asked to do things because I'm more approachable than my colleagues	95 (81.9)	37 (92.5)	132 (84.6)	2049.50	0.23
I feel well supported at work	63 (54.8)	14 (34.2)	77 (49.4)	1889.00	0.05
On the whole, relationships in my workplace are strained	25 (21.6)	8 (19.5)	33 (21.0)	2289.50	0.71
In general, I find that I am able to ask for input from fellow consultants	94 (81.7)	36 (90.0)	130 (83.9)	2239.00	0.78
Generally, I am confident in the competency of the junior doctors that I work with	55 (47.9)	20 (50.0)	75 (48.4)	2275.00	0.91
My concerns about juniors' competence mean that I do not delegate as much as I'd like to	53 (45.7)	19 (47.5)	72 (46.2)	2182.50	0.56
I share my admin workload with the junior doctors in my specialty	21 (18.2)	4 (10.3)	25 (16.2)	1965.00	0.23
I feel that the junior doctor role is important for service provision and is not just a learning role	95 (81.9)	33 (80.5)	128 (81.5)	2195.00	0.42

8.4.3.2 Gender in medicine

Overall, participants in this survey tended not to agree with items on the questionnaire which asked about gender differences in medicine and barriers to careers in medicine or gender discrimination. However these overall responses may be skewed by the high proportion of men in the sample as men were statistically significant less likely to agree with statements in this section about gender in medicine. Figure 8.6 demonstrates these gender differences graphically.

Figure 8.6: Proportions of responses to items about gender in medicine, by gender.



Approximately half of women felt that men and women are treated differently in medicine, compared to 31% of men (p=0.01). Statistically significantly more women than men felt that they were treated differently by colleagues (p<0.001) and patients

(p=0.02) because of their gender. A minority of both men and women respondents felt that their gender had been a barrier in their career progression, although statistically significantly more women than men felt this was the case (p<0.001). Almost 30% of women in this survey reported experiencing gender discrimination, a statistically significantly higher proportion than men (p<0.001).

Table 8.11: Gender in medicine: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U statistic	P value
	Men	Women	Total		
In general, I feel that men and women are treated differently in medicine	35 (31.0)	21 (51.3)	57 (36.3)	1763.50	0.01
I feel that I am treated differently by my colleagues because of my gender	14 (12.1)	15 (37.5)	29 (18.6)	1479.50	<0.001
I feel that I am treated differently by patients because of my gender	23 (19.9)	15 (36.6)	38 (24.2)	1823.50	0.02
I feel that my gender has been a barrier in my career progression	2 (1.7)	5 (12.2)	7 (4.4)	1569.50	<0.001
I have experienced discrimination because of my gender	6 (5.2)	12 (29.3)	18 (11.5)	1445.50	<0.001

8.4.3.3 Consulting style

Few participants in this survey felt that they were comfortable being assertive when necessary with patients, with the majority neutral about this. Most participants felt that it was important to engage with patients in psychosocial conversation, as well as discussing their medical condition, and also felt that they were able to complete a consultation quickly when under time pressure and it was appropriate to do so. No statistically significant gender differences were found in these items.

A lower proportion of female hospital consultants felt uncomfortable about reducing the amount of time they spend on psychosocial communication with patients, compared to males and this difference was statistically significant (p=0.04).

Table 8.12: Consulting style: mean item scores and strongly agreed / agreed responses, by gender and univariate comparisons of responses for men and women.

Item	N % strongly agreed or agreed			Mann Whitney U statistic	P value
	Men	Women	Total		
I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)	43 (37.1)	13 (31.7)	56 (35.6)	2301.50	0.74
I feel it is important to engage in psychosocial conversation with patients as well as discussing their medical condition	102 (87.9)	39 (97.5)	141 (90.4)	2002.50	0.15
When I am short of time I feel uncomfortable about reducing the amount of time I spend on psychosocial communication with patients	49 (42.6)	10 (24.4)	59 (37.8)	1860.50	0.04
When under time pressure I feel able to complete a consultation quickly, if it is appropriate to do so	79 (68.7)	27 (67.5)	106 (68.4)	2206.50	0.68

8.4.3.4 Workload

There was a spread of responses relating to participants' views about the difficulty of taking time off work when they *want* to and there were no gender differences in these responses. Gender differences were, however, apparent in terms of the difficulty participants experienced when taking time off when they *needed* to, with women more likely to find this difficult (p=0.01).

The majority of participants appear to struggle with their workloads, as most reported difficulties in taking breaks during a working day; regularly taking work home with them; and difficulties in meeting the conflicting demands on their time at work. Only 28% felt that they were satisfied with their level of workload overall and approximately one third of respondents felt that their workload was adversely affecting their health. No gender differences were evident in participants' responses to these questions.

Table 8.13: Workload: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U statistic	P value
	Men	Women	Total		
I find it difficult to take time off work when I WANT to (e.g. for holidays)	53 (45.7)	17 (41.4)	70 (44.6)	2215.50	0.50
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	39 (33.9)	23 (56.1)	62 (39.7)	1735.00	0.01
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	81 (70.5)	32 (78.0)	113 (72.5)	2042.50	0.18
I find it difficult to meet the conflicting demands on my time at work	81 (69.8)	31 (75.6)	112 (71.4)	2189.00	0.42
I regularly take work home with me in order to stay on top of things	88 (75.9)	30 (73.2)	118 (75.1)	2337.00	0.86
My workload is adversely affecting my health	43 (37.4)	15 (36.6)	58 (37.2)	2271.50	0.72
Overall, I am satisfied with my level of workload	33 (28.5)	11 (26.9)	44 (28.0)	2291.50	0.72

8.4.3.5 Work-life balance

Approximately two thirds of participants perceived their lives to be stressful and most found it challenging to manage competing responsibilities at home and at work. Nevertheless, most respondents indicated that they felt that they were well supported at home and had hobbies and leisure interests outside of work. There were no gender differences in these responses about general work-life balance.

A minority of participants reported negative spill-over from their home to work lives, and, although not statistically significant, a higher proportion of women than men felt that responsibilities at home put pressure on them when they were at work (p=0.11).

Many participants reported negative spill-over from work to home lives, such as difficulty managing the effect of work on their home lives and ability to switch off from work. Over half of respondents felt that their home lives regularly suffer because of work commitments and felt that they were missing out on important events outside of work. There were no gender differences in responses to these items about negative work to home spill-over. However, more women than men reported delaying or not having children, now or in the past due to pressure at work (p=0.01). These differences are illustrated in Figure 8.7.

Figure 8.7: Participants' responses about considering delaying or not having children

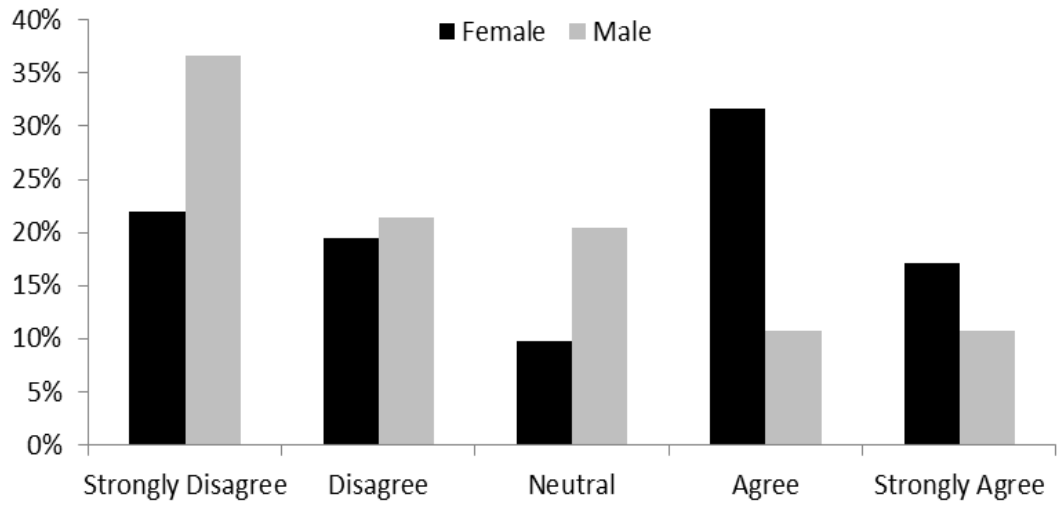


Table 8.14: Work-life balance: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U statistic	P value
	Men	Women	Total		
Generally, I perceive my life to be stressful	76 (66.1)	26 (63.4)	102 (65.4)	2287.50	0.76
It is challenging to manage competing responsibilities at home and at work	91 (78.4)	33 (80.5)	124 (79.0)	2034.50	0.13
I manage to maintain the balance between my personal and professional commitments	50 (43.1)	16 (40.0)	66 (42.3)	2293.50	0.91
I have hobbies and leisure interests outside of work	89 (76.7)	36 (87.8)	125 (79.6)	1961.00	0.07
I feel well supported at home	95 (82.6)	32 (78.0)	127 (81.4)	2036.50	0.16
I feel that my responsibilities at home put pressure on me when I am at work	29 (25.2)	13 (32.5)	42 (27.1)	1924.50	0.11
I feel that my work regularly suffers because of my commitments at home	3 (2.6)	1 (2.4)	4 (2.5)	2361.00	0.94
I find it difficult to manage the effect work has on my home life	43 (37.4)	15 (39.5)	58 (37.9)	2083.00	0.66
I find that I am able to switch off from work when I leave	46 (39.7)	16 (39.0)	62 (39.5)	2317.50	0.80
I feel that my home life regularly suffers because of my work commitments	65 (57.1)	26 (65.0)	91 (59.1)	2042.00	0.31
I feel as if I am missing out on important events outside of work	76 (66.1)	22 (55.0)	98 (63.2)	2148.00	0.52
Pressure at work, now or in the past, means that I have considered delaying or not having children	24 (21.4)	20 (48.8)	44 (28.7)	1713.50	0.01

8.4.3.6 Effect of work on family life

Over half of participants with children responded that they feel as if they are missing out on important aspects of their children's lives and some respondents reported having difficulties with the practical arrangements of childcare. There were no gender differences in these responses.

Almost a third of women indicated that they had experienced difficulty in arranging maternity leave in the past. Almost half of women and 22.6% of men reported feeling guilty when informing colleagues that they would need to take time off work for maternity or paternity leave. This gender difference was not statistically significant.

Table 8.15: Work and family life: responses by gender and univariate comparisons

Item	N % strongly agreed or agreed			Mann Whitney U statistic	P value
	Men	Women	Total		
I feel as if I am missing out on important aspects of my children's life	58 (59.8)	16 (48.5)	74 (56.9)	1501.50	0.58
I have difficulty with the practical arrangements of childcare	23 (24.4)	8 (25.8)	31 (24.8)	1401.50	0.74
I have experienced difficulty trying to arrange maternity cover in the past	3 (3.2)	10 (30.3)	13 (10.2)	N/A	N/A
I have experienced difficulty trying to arrange paternity cover in the past	18 (18.5)	1 (3.0)	19 (14.7)	N/A	N/A
When arranging maternity/paternity leave I felt guilty informing my colleagues that I would need to take time out	21 (22.6)	15 (45.5)	36 (28.5)	1367.50	0.34

8.4.3.7 Overall satisfaction

Participants responses about their satisfaction with life in general followed a negatively skewed distribution (median=7, IQR=5-8). Approximately a quarter of respondents appear to be unsatisfied with their lives in general (scores of ≤5) and participants tended to report that they were satisfied with their choice of career (median=8, IQR=7-9). 18.4% of participants appear to be dissatisfied with their choice of career (scores of ≤5). No gender differences were found in participants' satisfaction with their lives in general or choice of career.

8.4.4 Multivariate analyses

Results from multivariate analysis of three questionnaire items are presented here to demonstrate the effect of gender on these aspects of hospital consultants working lives, after adjusting for other covariates. Three questionnaire items were chosen that broadly explored areas of doctors' working lives in which gender differences have been described in the qualitative study in this thesis, including: 1) feeling well supported in the workplace; 2) feeling it is important to engage in psychosocial communication with patients; and 3) feeling that responsibilities at home create pressure when at work.

Difficulties arose as a result of the relatively small sample size of this pilot questionnaire study, highlighting the need for dissemination of this survey amongst a larger sample of hospital consultants, so that the relationship between participants' beliefs and predictor variables can be fully explored.

In addition to the problems encountered when undertaking these multivariate analyses, it was not possible to include interaction terms in these models due to the small sample sizes and resultant low cell numbers when variables were cross-tabulated (see Appendix 8.7 for illustrations of this). In future, research utilising larger samples should include interaction terms in statistical models as it is likely that variables such as gender and specialty are correlated. Diagnostics for these models, such as the Hosmer-Lemeshow test for goodness of fit were also not feasible as sample sizes smaller than 400 are not recommended for this type of test and these tests are generally used for models using continuous predictor variables (Hosmer and Lemeshow 2000).

8.4.4.1 Feeling well supported in the workplace

After accounting for specialty, gender remained a statistically significant predictor of feeling well supported in the workplace. Women in this sample were half as likely to report that they feel well supported, compared to men (OR = 0.50, p=0.04). That is, for every one unit increase in response category (e.g. from disagree to neutral, or from agree to strongly agree), the odds that women's responses would be one unit higher up the response scale was 0.50 times that of men. As demonstrated in Table 8.16, specialty was not a statistically significant predictor of participants' views about feeling supported in the workplace.

Table 8.16: Multiple ordinal regression model results testing the effect of gender and specialty on survey participants' feelings about being well supported in the workplace (n=156, pseudo R^2=0.02).

	Odd ratio	Standard Error	P value	95% Confidence Intervals for OR	
				Lower	Upper
Gender *(reference group is men)*					
Women	0.50	0.17	0.04	0.26	0.96
Specialty *(reference group is surgeons)*					
Medicine	1.20	0.50	0.66	0.53	2.73
Anaesthesia	0.65	0.35	0.43	0.22	1.89
Psychiatry	1.10	0.54	0.85	0.42	2.87
Radiology	2.15	1.55	0.29	0.52	8.86

8.4.4.2 Feelings about the importance of engaging in psychosocial communication in patient consultations

Problems encountered during analysis

Due to the relatively small sample size of this pilot survey, problems arose when analysing responses to this item on the questionnaire. Table 8.17 demonstrates that, due to low numbers in this sample and participants' tendency to agree with this statement, there were some cells with low or zero responses for the outcome. It would have been possible to dichotomise this variable in order to increase the number of participants in each cell and undertake a binary logistic regression. However, as all women agreed to some extent with this statement, this method would have lost valuable information about the 39 women who completed this question and it would not have been possible to examine gender differences in participants' responses. Therefore, the categories strongly disagree, disagree and neutral were combined, resulting in three categories of responses: i) strongly disagree, disagree and neutral ii) agree iii) strongly agree. Ordinal regression was then undertaken using these categories and gender, specialty and years medical experiences as covariates.

Table 8.17: Frequency of responses to 'I feel it is important to engage in psychosocial communication with patients as well as discussing their medical condition.'

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Male	1	4	6	42	60
Female	0	0	0	14	25

Multivariate results

Results from the multivariate ordinal regression model demonstrate that, after accounting for specialty and years of medical experience, gender had no statistically significant effect on participants' views about the importance of psychosocial communication in patient consultations, replicating the results from the univariate analysis presented in Section 8.4.3.3. Specialty however does have an effect, specifically psychiatrists were over four times more inclined to agree with this statement compared to the reference group, surgeons (p=0.01).

Table 8.18: Multiple ordinal regression model results testing the effect of gender and specialty on survey participants' feelings about being well supported in the workplace (n=149, pseudo R^2=0.08).

	Odd ratio	Standard Error	P value	95% Confidence Intervals for OR	
				Lower	Upper
Gender *(reference group is men)*					
Women	1.74	0.71	0.17	0.78	3.88
Specialty *(reference group is surgeons)*					
Medicine	1.97	0.88	0.13	0.82	4.74
Anaesthesia	0.86	0.50	0.80	0.28	2.66
Psychiatry	4.33	2.58	0.01	1.35	13.91
Radiology	0.28	0.21	0.10	0.06	1.27
Years medical experience	0.98	0.02	0.29	0.93	1.02

8.4.4.3 Feeling that responsibilities in the home create pressure at work

Problems encountered during analysis

In the first instance, an ordinal logistic regression model was run for this questionnaire item, with the following covariates included: i) gender; ii) specialty; iii) partner's employment status; iv) having children; v) having children under the age of 5; vi) being a carer to someone other than their children. The results of this ordinal logistic regression model are presented in Appendix 8.7. However, the standard errors for this model were large, potentially as a result of the large number of covariates included in this model and small sample size. Therefore, a linear regression model was run, providing very similar results when compared to the ordinal logistic regression model, but with greater precision.

Multivariate results

The results from this multiple linear regression model, presented in Table 8.19, demonstrate that, after accounting for other covariates such as factors associated with their home situation, gender was a statistically significant predictor of participants' feeling that responsibilities at home put pressure on them at work. Women were more likely to agree with this statement than men, regardless of their specialty, partner's employment status, having children or not, having children under 5 and being a carer to someone other than their children (p=0.03). That is, when the response categories considered a continuous variable (ranging from 1=strongly disagree, to 5=strongly agree) in this analysis, women's scores are predicted to be 0.47 points higher than men's using this adjusted model. Prior to accounting for these covariates, univariate analysis found that gender was not a statistically significant predictor of these feelings (p=0.11).

Having children was also statistically significantly associated with feeling pressure from home responsibilities when at work, regardless of other covariates and whether their children were under 5 (p=0.04).

Table 8.19: Multiple linear regression model results testing the effect of gender and specialty on survey participants' feelings that responsibilities in the home put pressure on them when at work (n=155, R^2=0.13).

	Coefficient	Standard Error	P value	95% Confidence Intervals	
				Lower	Upper
Gender *(reference group is men)*					
Women	0.47	0.22	0.03	0.04	0.90
Specialty *(reference group is surgeons)*					
Medicine	0.14	0.24	0.55	-0.32	0.61
Anaesthesia	0.10	0.31	0.75	-0.52	0.72
Psychiatry	-0.23	0.28	0.43	-0.78	0.33
Radiology	-0.58	0.40	0.15	-1.36	0.21
Partner's employment status *(reference group is 'not in paid work')*					
Currently seeking	0.10	0.80	0.90	-1.47	1.68
Part-time	-0.05	0.25	0.85	-0.54	0.44
Full-time	-0.10	0.25	0.68	-0.59	0.39
No partner/spouse	-0.32	0.34	0.35	-1.00	0.36
Having children	0.52	0.25	0.04	0.02	1.02
Having children under 5	0.39	0.30	0.19	-0.20	0.97
Being a carer	-0.48	0.25	0.06	-0.97	0.01

8.4.5 Participants' free-text comments

8.4.5.1 Comments about their working lives

Although some participants (11/79 total free-text comments) commented on positive aspects of their working lives (e.g. rewarding, privileged and well paid careers), the majority of free-text comments made at the end of the survey related to negative aspects of the consultants' work which created difficulties for them and which they would like to see improved. Most frequently these related to the excessive hours and workload (14/79). Related to this, many commented on the poor work-life balance and adverse effect that their work was having on their home lives and health (19/79). Several described how their levels of pay or job plan did not reflect their hours worked, but they were unable to reduce hours due to service demands and service financial constraints. As a result of pressure from high workloads and poor work-life balance, many commented on their plans for early retirement or desire to emigrate. One female

participant commented that part-time contracts were hard to negotiate, which had caused problems in her work and family life.

Numerous participants described problems associated with hospital managers (13/79), such as feeling undervalued or mistrusted by management colleagues. In these negative comments participants suggested there was a lack of alignment in priorities between managers and clinicians. There were also comments, although fewer in number, about the lack of administrative support due to financial cuts made to this area of the hospital workforce; changes to pensions; increased intensity of hours; regulation and revalidation and some respondents felt that future research should investigate consultants' opinions about these organisational changes.

8.4.5.2 Suggested improvements to the questionnaire

Several participants (10/79) offered positive comments about the nature and structure of the survey and only two commented that the survey was too lengthy. Difficulties in completing the questionnaire were generally related to the questions about duration of clinics and number of patients for new and follow up clinics, described in Section 8.4.1.1. Some respondents also commented that a 'not applicable' option would have been valuable for some questions. For example, questions about childcare and schooling were only populated for respondents who had previously answered that they had children, but this was not relevant for participants whose children were now over 16 years of age. This should be implemented in any future surveys.

8.5 Discussion

This chapter has described the development and feasibility testing of a questionnaire which represents the first attempt to explore gender differences in the working lives of hospital consultants using a UK-wide sample of doctors. By reviewing gaps in the existing literature and building upon qualitative findings from this thesis, an 81 item questionnaire was created which demonstrated good face validity when tested with consultant hospital doctors through the 'think aloud' process. Lessons can be learnt from piloting this questionnaire amongst BMA members, which will aid future researchers wishing to disseminate such a survey amongst hospital consultants on a larger scale. In addition, findings from this pilot study demonstrate gender differences in consultants' working lives which warrant further exploration amongst a larger

national sample of hospital consultants. Following discussion of the survey feasibility, sources of gender differences in participants' responses will be considered.

8.5.1 Survey feasibility

When piloted amongst a sample of 400 hospital consultants from a BMA panel of doctors, a response rate of 40% was achieved, which is satisfactory for this type of survey. This information may be useful for researchers designing any future surveys of hospital consultants in the UK setting, as response rates for existing doctor surveys vary widely from 18% to 60% (French, Andrew et al. 2004, Shrestha and Joyce 2011). It is possible that endorsement from the BMA (who circulated the questionnaire) and incentivising participants through entry into a prize draw may have increased this response rate. These are factors which should be considered in order to boost response rates to future doctor surveys. However, it is also possible that the response rate to this survey may have been artificially high due to recipients of the questionnaire being existing members of the BMA panel who may be more willing to participate in research surveys. Nevertheless, participants who took part in this survey appear to be fairly representative of UK hospital consultants nationally, with a mean age of 49 years and similar proportion of male and female respondents as in the national distribution (26.6% respondents were women, whilst 31% of hospital consultants nationally are women (NHS Information Centre 2011b)).

In terms of the questionnaire structure, there does not appear to have been any problems related to the length of the questionnaire, as all participants finished the questionnaire. Analysis of redundant items suggests that the attitudinal items on this questionnaire appear to have been successful since there was sufficient spread of scores across response categories, with no items where more than 80% of responses were attributed to either strongly agree or strongly disagree. This pilot study did not aim to develop a scale as such, but rather to explore specific items that were of relevance to the qualitative study findings described earlier in this thesis. Therefore, factor analysis was not undertaken to explore the underlying structure and validity of the scale, but this may be something that researchers in future may wish to undertake when disseminating the survey to a larger sample of doctors.

The majority of questions measuring participants' demographic and work characteristics appear to have been useful and unproblematic for participants to

complete. Nevertheless, there are some items on the questionnaire which would benefit from some modification. These included questions about the number of programmed activities that participants were contracted to work; questions about the length and number of patients in outpatient clinics; and the age group and childcare used for participants' children. Suggestions as to improvements for these items have been made, such as the simplification and streamlining of questions about outpatient clinics in order to reduce the potential for errors in interpretation.

8.5.2 Key findings

Due to the pilot nature of this study, the relatively small sample size means that it is not sufficiently powered to detect statistically significant gender differences on all areas were a relationship between doctors' gender and their working lives may exist. Further research in larger samples is needed to undertake additional multivariate modelling of predictors of hospital consultants' attitudes and experiences in their working lives. Nevertheless, this study has demonstrated the feasibility of disseminating such a questionnaire to hospital consultants and provides useful insights about gender differences in their working lives.

8.5.2.1 Contracts

This survey has provided useful information about hospital consultants' use of job plans in the NHS and the number of Programmed Activities (PAs) that they are contracted to work. Given current guidelines which stress the importance of job planning (BMA 2011), a surprising number of participants did not have an agreed job plan in place (26.1%). Women were more likely to have an agreed job plan in place and although it is not possible to determine causality, it may be that women need to be more fastidious in organising their hours of work due to greater external commitments such as childcare. Alternatively, this may be a cohort effect as increasing numbers of women have entered medicine since 1991 when the concept of job planning was first introduced (BMA 2011).

To date the NHS Information Centre only publish information on the number of full-time or part-time workers and not the actual number of PAs that are worked. Not only do these results show that female hospital consultants are more likely to work part-time (fewer than 10 PAs per week), replicating previous evidence (Elston 2009), but findings

also show that when working full-time, women were also less likely to work more than 10 PAs, compared to the majority of men who did so. These findings may have implications for the productivity of male and female hospital consultants, as if all workers on 'full-time' contracts (over 10 PAs per week) are considered as one group without taking account of variation in PAs over and above the standard 10, productivity differences may be evident as a result of male full-timer's greater likelihood to work more PAs than female full-timers. This may explain gender differences in activity rates which have been found in the UK (Bloor, Freemantle et al. 2008), since data on the actual number of PAs was not available and so analyses were only conducted for those employed on maximum part-time or full-time contracts.

Theoretical explanations discussed in Chapter 3 of this thesis suggest that these differences in working patterns may arise as a result of women's traditional role as caregiver in the home. Indeed, several of the findings from this questionnaire suggest that these gendered roles may continue to exert influences on the working lives of male and female hospital consultants differentially.

8.5.2.2 Work-home interface

The household characteristics of respondents in this study suggest that male hospital consultants may experience fewer responsibilities outside of work and may receive greater domestic support in the home, compared to female hospital consultants. For example, women were more likely to provide care or support to someone outside of work (other than their children), a finding which has also been reflected in a previous survey of UK doctors (Davidson, Lambert et al. 1998). Men's partners were more likely to be in part-time employment or not in paid work compared to women's partners who mostly worked full-time. Additionally, it is possible that gender differences in the health professions of participants' partners may also be associated with greater level of domestic support for male hospital consultants as they were more likely to have partners who were nurses; whose work characteristics may be more manageable or predictable compared to women's partners that were health professionals as these tended to be medical doctors. These variations in men and women's partner employment status and women's potential lower spousal support in the home may also relate to the gender differences in use of nannies for childcare support in this study, as women reportedly used these to a greater extent than men, although this difference was not statistically significant.

The traditional gender division of domestic work and women's potentially greater responsibilities outside of work also appear to influence male and female doctors' experiences in the workplace. Regardless of specialty or home situation, women in this study were more likely to feel that responsibilities at home put pressure on them when they were at work. This finding has important implications and may explain the gender differences in working hours and tendency to work in the private sector that were found in this pilot survey. In addition, these responsibilities appear to adversely affect women as they reported difficulties associated with *needing* to take time off work, for example to care for a sick child, to a greater extent to men. It is possible that difficulties associated with *needing* to take time off work may be experienced to a lesser extent by men in this sample if they have greater support from partners or wives, as only 30% of men's partners were in full-time employment compared with 61% of women's.

This study has found that approximately half of female hospital consultants, and more than twice as many women than men, had considered delaying or not having children due to work pressures during their careers. Findings from a qualitative interview study in England have reported similar trends, with some female doctors prioritising their medical career progression over having a family (Dumelow, Littlejohns et al. 2000). This also supports qualitative findings reported earlier in this thesis which highlighted some female doctor's feelings of guilt about leaving colleagues with higher workloads during maternity leave. This latter point is also reflected in these survey findings, which found approximately half of women felt guilty when informing colleagues that they would need to take time away from work due to pregnancy. It is important that policy makers and organisations adapt to an increasingly feminised workforce's needs, not only from a workforce planning perspective due to greater maternity leave requirements, but also because inadequate alignment with doctors' personal needs may lead to dissatisfaction or resentment (Dumelow, Littlejohns et al. 2000).

Despite the problems with work-life balance that were highlighted by the majority of participants in this study, respondents generally suggested that they were satisfied with their lives overall and their choice of careers. The MABEL national survey of hospital doctors in Australia and a UK cohort survey publication have reported similarly high levels of job satisfaction amongst doctors (Davidson, Lambert et al. 2002, Joyce, Schurer et al. 2011). Nevertheless, one quarter of participants to this pilot survey appear to be dissatisfied with their lives in general and 18.4% were dissatisfied with their choice of career. The implications of these findings are important, not just in terms

of staff morale and the productivity of the hospital consultant workforce, but also in terms of retention of doctors to UK medical practice. Free text comments from this survey highlight the attraction of overseas working or early retirement due to poor working conditions in the NHS. Goldacre et al (2001) estimate that between 6% and 9% of UK trained doctors are working in medicine abroad and a recent survey of UK doctors that emigrated to New Zealand shows that lifestyle issues and a desire for better working conditions were the main contributing factors which had encouraged UK doctors to emigrate (Sharma, Lambert et al. 2012).

Aside from workforce retention, other negative effects of perceived poor working conditions may include sickness absence. Over one third of respondents felt that their workloads were adversely affecting their health; important given the impact this may have on doctors' functional capacity at work and likelihood to take time off for sickness. This may be of relevance to NHS organisations, for whom the Boorman review (2009) has highlighted the importance of reducing sickness absence and improving staff well-being. Furthermore, this may be particularly important given that current data suggests that sickness absence is increasing amongst NHS hospital doctors and is currently highest amongst hospital consultants (Health and Social Care Information Centre 2012).

8.5.2.3 Experiences in the workplace

Potential sources of variations in male and female hospital consultants' experiences in the workplace were revealed through analyses of questionnaire items that explored factors such as participants' experiences of working in teams and their working style.

Important gender differences were found in the proportion of men and women who felt well supported at work, with women less inclined to report this compared to men. This difference remained statistically significant after accounting for specialty differences in multivariate analysis. Only one third of women in this sample felt well supported at work. This finding has implications for working teams in hospital settings, the effectiveness of which is necessary for good collaboration between health professionals in order to ensure high quality patient care (Boaden and Leaviss 2000). Furthermore, well-functioning teams may affect the productivity of the workforce and research suggests that problems with teamwork can predict long spells of sickness absence amongst hospital physicians (Kivimaki, Sutinen et al. 2001).

Although it is not possible to attribute causal explanations from this survey data about why a lower proportion of women than men felt well supported at work, previous research highlights potential theoretical explanations. It is possible that the historically gendered nature of medical work may affect cultures in medicine, affecting male and female doctors' working lives. For example, research suggests that a lack of female role models in the medical workplace may cause problems for female doctors (Sanfey, Saalwachter-Schulman et al. 2006, BMA 2009) and recent survey by Connolly and Holdcroft (2009) suggests than women may experience an unsupportive and hostile culture in medicine. Indeed, findings from this survey have highlighted gender differences in the extent to which male and female hospital consultants felt that their gender had been a barrier to their career progression and experiences of gender discrimination. 30% of women reported that they had experienced gender discrimination during their medical careers; an important finding that may also relate to women's feelings of lower support in the workplace. These results provide support for the qualitative study findings discussed previously in this thesis.

Surprisingly, given gender differences in general feelings of support in the workplace, there were no statistically significant variations in men and women's experiences of working with particular colleagues in this study. Qualitative study findings suggest that nursing colleagues may be less cooperative towards female consultants compared to males and previous research suggests that lack of delegation to nurses by female doctors may lead to feelings of lower support (Gjerberg and Kjolsrod 2001). However, while the data from this pilot study suggests a trend towards women experiencing more difficulties in working with colleagues, particularly nursing colleagues outside their specialties, no significant gender differences were found. It is possible that this study was insufficiently powered to detect a statistically significant effect in these experiences of working with colleagues. Alternatively, confounding variables that may have affected these opinions, such as specialty, were not accounted for in these univariate analyses.

Although in the minority, negative experiences of working relationships with management colleagues were highlighted in this pilot survey as over a third of participants felt that non-medical managers were uncooperative and unhelpful in their day to day work. Numerous participants also raised concerns about these working relationships in free-text items at the end of the survey. In addition, and in line with findings from the qualitative study reported in this thesis, approximately half of respondents were less likely to delegate tasks to junior doctors due to concerns about

their levels of competence. A recent systematic review has called for more research in order to properly evaluate the effect of reductions in junior doctor working hours in UK settings following the introduction of EWTD guidelines (Moonesinghe, Lowery et al. 2011). This may be particularly pertinent given that the findings from this survey suggest there are persistent concerns amongst some hospital consultants about the competency levels of junior doctors and this may affect how they work with junior doctors.

Existing research, reviewed and synthesised in Chapter 4, suggests that differences exist in the communication style adopted by male and female doctors and variations were also observed during qualitative exploration in this thesis. Findings from this survey did not demonstrate any gender differences in participants' awareness of the importance of psychosocial communication in medical consultations. Furthermore, results suggest that men feel more uncomfortable reducing the amount of time spent on psychosocial communication in consultations compared to women. These disparities in study findings from this thesis highlight the different nature of information collected using observational methods, which can identify what happens in practice, compared to survey methods, which allow us to explore participants' views and perceptions but not necessarily their actions. Adopting both methodologies is beneficial as it enables a more well-rounded perspective to be developed. For example, it is possible that whilst both men and women are aware of the importance of psychosocial communication, men are more likely to reduce this aspect of consultations when short of time and this may lead them to being more inclined to indicate their discomfort in doing so.

A surprisingly low proportion, just one third, of hospital consultants in this sample felt that they were comfortable being assertive when necessary with patients. This is an important skill for hospital consultants given that consultations are often time pressured and there are times when the consultant may need to exercise control and assertiveness in order to progress through a consultation. For example, the qualitative study described in this thesis highlighted the potential for patients' social conversation to interrupt the flow and increase the length of consultations, particularly for female consultants who appeared to be less assertive in these scenarios. It is surprising therefore that no differences were found in hospital consultants' responses about feeling comfortable being assertive in these scenarios. The nature of survey methods is such that they can only explore differences in individuals' attitudes and not necessarily

their actions. It is possible, therefore, that neither men nor women feel comfortable being assertive with patients, but men may be more inclined to do so, as observed in the qualitative study.

8.5.3 Conclusion

Findings suggest that the lives of male and female hospital consultants may differ both outside of work and within the medical workplace, affecting their working patterns as well as beliefs and experiences of their working lives. While some improvements could be made to this questionnaire and additional research is needed to disseminate an improved version of this survey amongst a wider sample of consultants, this pilot questionnaire study provides a useful tool to explore gender differences, and potentially other sources of variation, in the working lives of hospital consultants in the UK. This is important amidst a changing workforce demographic and provides the first opportunity for the views and experiences of hospital consultants to be explored using such a wide range of domains associated with their working lives. Future dissemination of this survey to a larger sample of doctors is now recommended to enable further exploration using multivariate modelling (including interaction terms) and factor analysis to explore the psychometric properties of the questionnaire.

9

Discussion and conclusions

9.1 Introduction

The studies undertaken as part of this thesis explore various aspects of doctors' working lives and provide insights which address the broad aim – to explore potential variations in the working lives of male and female doctors, specifically in order to identify possible explanations for productivity differences that have been found between male and female hospital consultants in the UK NHS (Bloor, Freemantle et al. 2008).

Comprehensive understanding of the variations that exist in the working lives of male and female doctors has been developed through the adoption of multiple methods which enable the subject area to be explored from a variety of viewpoints, building a more complete picture than if the methods were used alone (Adamson 2005).

9.2 Discussion of findings

Numerous sources of gender variations have been identified in this thesis and these may be useful for explaining gender differences in productivity rates which have been described in the literature (Woodward and Hurley 1995, Bloor, Freemantle et al. 2008). Table 9.1 provides a brief summary of findings from the studies in this thesis, which are discussed using four broad themes that have been developed as a means of summarising and integrating the complex and multi-faceted sources of gender variations that have been found.

An overarching finding, however, that links these sources of gender differences is the influence of historical gender stereotypes, as findings suggest that these may be long-standing and may influence aspects of the working lives of doctors. While sometimes unrealistic, the expectations of patients, colleagues and the doctors themselves about the attributes associated with men and women appear to influence doctors' behaviours. It is possible that these stereotypes may be particularly strong in medical settings such as hospitals, where the practice of medical work has traditionally been associated with men, whereas caring and nursing practices have stereotypically been associated with women. The historical background to the gendered nature of medical work, described in Chapter 2, suggests women's role in medicine has been characterised by the active discouragement and exclusion of women from medical practice until the late 19th and early 20th centuries when a handful of medical schools began to admit female applicants (Achterberg 1991). Over a century later, and with a substantial increase in the proportion of women practising medicine and more women than men entering medical school, the findings of this thesis suggest that cultural norms and gendered customs in medicine continue to exist and may influence male and female doctors' careers and working practices.

Table 9.1: Key study findings

Chapter	Summary of Findings	Theme
2	**Women in medicine – analysis of workforce data** The proportion of women in primary care has doubled in the past two decades. Male and female GPs hold different positions with men more likely to be GP providers and women in salaried positions. In hospital medicine women are more likely to hold lower grade positions, owing to their relatively recent movement into the profession. More female than male hospital doctors work part-time, although this becomes more common for both men and women as they progress in their careers. Female hospital doctors specialise in different areas, with more women than men in areas such as obstetrics and gynaecology and less in surgical specialties.	*Career decisions and working patterns*
4	**Systematic review of the effect of doctors' gender on medical communication** Of the 33 studies included in this review, the majority were undertaken in the US and primary care settings. Overall, research suggests that women spend, on average over two minutes longer with patients per consultation (95% CI 0.62 to 3.86 minutes). Female doctors appear to engage in more rapport building behaviours such as encouragement and lowered dominance, and may also exhibit more affective behaviours such as sympathy. However, these results must be interpreted with caution because of the heterogeneity and poor quality of many studies.	*Consultation length* *Workplace interactions*
6	**Qualitative study to explore the working lives of hospital consultants** Findings revealed internal and external factors that varied according to consultants' gender. Internal factors related to the greater dominance observed amongst male consultants and greater use of psychosocial and affective communication amongst female consultants. Female doctors asked more open questions at the end of consultations that led to patients' greater psychosocial communication and female doctors appeared to be less inclined to redirect patients' psychosocial conversations. Female doctors also seemed more accepting of problems with nursing colleagues and this may relate to their greater awareness of how behaviours would be judged by others. External factors included gender differences in conflict between work and family life, which was reported to a greater extent by female consultants. Additionally, a gendered culture in medicine appeared to influence negatively the working lives of women and some described experiences of gender discrimination during their careers. Patients' and colleagues' behaviours appeared to be influenced by their perceptions of male and female doctors, with women viewed as more approachable, leading to more emotional communication with patients of female consultants and greater interruptions and less cooperation from colleagues. Some female consultants described experiencing confusion over their identity as senior doctors.	*Workplace interactions* *Barriers* *Workplace interactions*
7	**Synthesis of data on length of consultations** Observational data on length of clinic consultations revealed no statistically significant difference between the visit length and total time per patient consultation with male and female consultants, however oncologists had statistically significantly longer consultations. When observational time data was combined with existing studies, the effect of gender on consultation length was reduced to 2 minutes per consultation (95% CIs 0.47 to 3.47), but remained statistically significant. Lower displays of dominance, more psychosocial communication and more patient initiated 'additional' conversation appear to be associated with longer consultations in this sample.	*Consultation length* *Workplace interactions*
8	**Design and feasibility testing of a pilot questionnaire** An 81 item questionnaire was developed which may be a useful and feasible tool for exploring doctors' working lives. Male and female hospital consultants' lives may differ both outside of work and within the medical workplace. For example, women reported feeling more pressured from responsibilities in the home and this may relate to the finding that women were more likely to work part-time, and of full-timers, women worked fewer programmed activities compared with men. In the workplace, 30% of women had experienced gender discrimination and women reported feeling less well supported by colleagues, regardless of specialty.	*Barriers and working patterns* *Workplace interactions*

9.2.1 Career decisions and working patterns

Using data from the UK medical workforce (Chapter 2), gender differences in doctors' career choices and working patterns have been highlighted. These differences in working preferences were further highlighted during interviews conducted as part of this thesis (Chapter 6), as both male and female consultants described an awareness of female doctors' apparent preference for particular specialties, such as general practice, and their greater likelihood to work part-time compared to men. Questionnaire findings (Chapter 8) have also revealed statistically significant differences in the specialties and working hours of male and female doctors.

These gender differences in the career choices and contracted hours of male and female doctors have been well documented in the literature (Lambert and Goldacre 1998, Allen 2005, Sanfey, Saalwachter-Schulman et al. 2006, Drinkwater, Tully et al. 2008, Elston 2009). While identifying variations in doctors' working patterns and career choices is important as they may have implications for the clinical activity rates of male and female doctors and future workforce planning, discussed later, the research in this thesis also provides understanding of potential barriers that may be sources of these differences; knowledge of which may provide an opportunity to tackle these problems.

9.2.2 Barriers

9.2.2.1 Barriers in medicine

Sociological literature on patriarchy reviewed in Chapter 3 highlights the influence that organisational and cultural barriers may have on male and female doctors' working lives. Interviews (Chapter 6) revealed barriers in the medical workplace which had influenced the medical careers of some participants. For example, female participants described first-hand experiences of discriminatory behaviours they had encountered, particularly in surgical specialties. Survey findings (Chapter 8) tested the generalisability of these findings to larger samples of hospital consultants, and demonstrate higher rates of gender discrimination amongst women as 30% of female survey respondents had experienced gender discrimination during their careers compared to 5% of men. Similar problems have been reported amongst female medical students in the US (Witte, Stratton et al. 2006) and in Japan, where researchers have recently found that 20% of female doctors report perceptions of

gender-based obstacles in their career progress, and stress the important effect these perceptions may have on female doctors' working practices and decisions to work part-time (Nomura and Gohchi 2012).

Female consultants in the qualitative study (Chapter 6) were also forthcoming in their discussion of structural barriers such as poorly organised systems for maternity leave, which placed pressure on female doctors. Questionnaire results (Chapter 8) demonstrate the extent to which these findings could be generalised beyond the participants in Chapter 6. This research demonstrated that half of female hospital consultants had felt guilty when informing their colleagues about their maternity leave and 30% had experienced difficulty when arranging maternity leave cover. These findings may relate to the traditionally male-dominated nature of medical work, as Chapter 2 has highlighted the low proportion of women in specialties such as surgery, where only 10% of consultants are women (NHS Information Centre 2011b). A recent survey found similar problems experienced by female doctors, who reported difficulties in their careers and career progression due to a hostile culture in medicine and a lack of support or understanding of family commitments (Connolly and Holdcroft 2009). These organisational and structural barriers are important to consider as they may impact the career choices of male and female medical graduates, and this may have implications for labour supply in certain specialties as the medical workforce becomes increasingly populated by women. For example, a US survey found that 35% of female students (compared with 3% of males) were discouraged to enter surgical careers because of a lack of female role models (Sanfey, Saalwachter-Schulman et al. 2006). The implications of these findings and discussion of current and potential strategies that may reduce the influence of these barriers of women doctors, particularly in surgical specialties, is considered in Section 9.4.1.1 of this chapter.

9.2.2.2 Barriers arising from work-life conflict

Aside from the cultural and structural barriers that women may perceive in the medical setting, a second explanation for gender differences in career preferences and working patterns may relate to the on-going gendered division of domestic labour. The presence of gendered roles in the home was discussed in Chapter 3. For example, economic theories, such as Becker's 'family economics,' suggest that women's greater responsibilities in the home may be 'rational', particularly historically, owing to their greater specialism there. Sociological theories, such as social role theory, suggest that

these behaviours are socially constructed and reinforced by society. Interestingly, research suggests that men and women may hold different perceptions about the barriers that may impede female hospital doctors' career progress, with men more likely to view role conflict associated with greater domestic responsibilities to be a barrier and women typically considering organisational culture, career structure and working practices to be barriers (Dumelow and Griffiths 1995).

Findings from this thesis suggest that all of these factors may be important to female doctors' working lives and career progression, as in addition to the organisational barriers described above, both qualitative and quantitative findings in this thesis support the suggestion that gender differences exist in the work-life conflict experienced by hospital consultants. Questionnaire results (Chapter 8) show that responsibilities in the home appear to create additional pressure on women when they are at work and this occurs to a greater extent than men and after accounting for specialty type and home situation, such as their partner's employment status. Qualitative interviews (Chapter 6) suggested that feelings of stress associated with these dual demands influenced all of the female doctors and had, for some, influenced decisions to specialise in certain areas or to work part-time.

These findings support previous research evidence which suggest that conflict exists for female doctors between professional and family demands and this potential conflict influences female doctors' career choices and progression (Davidson, Lambert et al. 1998, Williams and Cantillon 2000, Sanfey, Saalwachter-Schulman et al. 2006, Drinkwater, Tully et al. 2008, Miller and Clark 2008). In particular, a recent analysis of survey responses from over 20,000 doctors as part of the UK Cohort Studies, suggests that conflict between personal and professional aspirations may be particularly problematic in surgical specialties as only 41% of female surgeons had children by age 35, compared to 69% of male surgeons (Goldacre, Davidson et al. 2012). It is possible, however, that these experiences may be changing over time as more women enter the medical profession (for example data summarised in Chapter 2 shows the proportion of female consultant surgeons has more than doubled since 1992), but this study by Goldacre and colleagues did not explore cohort effects on differences in deferred parenthood across specialties as data from 1988 to 2002 cohorts were combined in analyses.

Research from this thesis (Chapters 6 and 8) suggests that there may be on-going gender differences in the level of work-life conflict experienced by hospital consultants today and women continue to hold greater responsibilities in the home. In interviews (Chapter 6), male consultants described feelings of pressure as a result of high medical workloads and a desire for greater work-life balance; however, women appeared to take more responsibility for family commitments as male consultants described receiving higher levels of spousal support from wives who had taken career breaks to care for a family. This finding was tested in the questionnaire (Chapter 8), where variations in the employment status of the partners of respondents suggested that men receive greater support for domestic and childcare responsibilities in the home, as over half of male respondents had partners who were part-time or not in paid work, compared to less than one quarter of women. This supports previous research in this field, which shows that in the home female doctors tend to take more responsibility for caring and domestic duties (Gjerberg 2003b), even in doctor-doctor marriages (Sobecks, Justice et al. 1999).

It is perhaps surprising that these gender divisions in domestic roles continue despite large changes in women's educational achievements (Beck 2011) and higher participation rates in the UK labour market (Office for National Statistics 2010a) since the feminist movements of the 1960s and 70s. Gender differences in domestic responsibilities and feelings of work-life conflict may have important implications for the levels of stress experienced by female doctors and may be associated with women's greater tendency to work part-time in medicine in order to balance these commitments. Indeed, interviews (Chapter 6) found that some female doctors may feel that it is not possible to be a good doctor and a good mother, particularly when working full-time. These findings also have implications for medical labour supply and workforce planning, considered later in this chapter.

9.2.3 Interactions in the workplace

Findings from this thesis suggest that social and cultural expectations associated with doctors' gender may also influence interactions between doctors, their colleagues and their patients.

9.2.3.1 Interactions with colleagues

In this thesis, hospital consultants' experiences of working in teams were explored from different perspectives. While the pilot questionnaire study, described in Chapter 8, provides insight into doctors' perceptions and attitudes towards working in teams and with different types of colleagues, the observational methods described in Chapters 5 and 6 generate knowledge about what actually happens in practice. Furthermore, the questionnaire study enabled hypotheses to be tested that were generated as part of the qualitative study.

Although predominantly good working relationships were observed in interactions with hospital consultants that took part in the qualitative study, in some instances a lack of cooperation was observed that appeared to impact negatively on female consultants' working days. Although gender differences in these interactions were subtle, they could potentially contribute to variations in the activity rates of male and female hospital consultants, for example women experienced greater frequency of interruptions during patient consultations, greater likelihood to be approached to help colleagues with tasks that other doctors could complete and less cooperation or sense of urgency from colleagues and occasional confusion over their identity as consultants.

The pilot questionnaire study did not demonstrate gender differences on the majority of items about consultants' experiences of working in teams, such as cooperation from colleagues. Only one item from the questionnaire, which encompassed various aspects of doctors' experiences of working in teams; 'I feel well supported at work,' revealed gender differences in responses. Women were less likely to feel well supported at work compared to men, even after accounting for respondents' specialty. It is possible that other survey items did not replicate qualitative findings because these methods generate knowledge from different perspectives, as observational data are recorded from the observer's perspective, whereas questionnaire findings explored participant's own perceptions. For example, it is possible that women may feel less well supported in the workplace, but are unable to identify specific triggers for these feelings, in the way that may be possible through non-participant observation. Differences in findings across studies may also have occurred as the pilot questionnaire study was not sufficiently powered to detect a statistically significant difference between men's and women's responses. Gender differences in responses, although not statistically significant, were in the same direction as those reported from observational work.

Sociological theory suggests that gender differences observed in consultants' interactions with colleagues may arise as a result of gendered perceptions held about men and women in society generally, and more specifically within the medical profession. According to Ridgeway (2009), gender may be one of the primary sources of information that individuals use to categorise or stereotype others during initial interactions, and these judgements will affect how individuals act in certain scenarios. For example, the greater interruptions and requests made of female consultants that were noted during observational work in this thesis (Chapter 6), may relate to the perception that female consultants may be more approachable than male consultants. It is also possible that consultants' own behaviours may reinforce these gendered perceptions as women behaved in a less dominant and more yielding manner compared to their male consultant colleagues. These behaviours may relate to sociological theory which suggests that individuals may default to gender stereotyped behaviours, enacting these in order to seek approval and meet social norms about how to act appropriately in different settings (West and Zimmerman 1987). During interviews and observations women described an awareness of how their behaviours would be interpreted by others; in particular the effect of behaving in a dominant or aggressive fashion towards nursing colleagues. They were concerned about raising problems with colleagues, particularly nursing colleagues, and suggested that men and women's interactions with colleagues may be different, with greater tolerance of negative behaviours from male doctors. Survey findings (Chapter 8) support these qualitative findings as female respondents were statistically significantly more inclined to feel their gender affected how they were treated by colleagues. Qualitative observational work in the US reported similarly gendered interactions with colleagues and suggest that dominant or aggressive behaviours of female surgeons are tolerated less by nurses and this leads to loss in cooperation (Cassell 1998). This reflects the cultural system of 'doing dominance' and 'doing deference' that has historically been enacted by male doctors and female nurses, which may be disrupted by the introduction of senior female doctors.

9.2.3.2 Interactions with patients

A large body of research, reviewed and synthesised in Chapter 4 and built on in Chapter 7, has investigated the effect of physician gender on medical communication with patients. The conclusions that could be drawn from this systematic review were

limited due to the poor quality, poor reporting and heterogeneous nature of included studies. The evidence base, however, seems to suggest that female doctors may engage in more rapport building behaviours such as encouragement and reassurance and may exhibit more affective communication style, such as likelihood to demonstrate concern or empathy with patients. These findings are consistent with those from a previous meta-analytic review, which suggested that communication during medical consultations with female doctors could be described as more patient-centred compared to males (Roter, Hall et al. 2002). Similar findings were identified through the qualitative observations (Chapter 6). In particular, the greater use of affective communication and use of open questions at the end of consultations were observed to a greater extent amongst female consultant participants.

Questionnaire findings (Chapter 8) suggested a less gendered focus as almost all respondents, regardless of gender, reported being aware of the importance of engaging in psychosocial communication with patients. Questionnaire methods can only allow us to elucidate individuals' perceptions and attitudes about phenomena, and not their actual behaviours. Therefore, while both male and female doctors report feeling it is important to engage in psychosocial communication in patient consultations (Chapter 8), observational work (Chapter 6) and systematic review results (Chapter 4) suggests there is something different about their consultations which mean that lower levels of psychosocial communication may actually be demonstrated in male doctors. It is possible that there may be differences in the way that psychosocial communication is understood and conceptualised by men and women, resulting in differences in their level of engagement in psychosocial communication that has been observed (Chapters 4 and 6), despite apparent similarities in importance placed on this approach (Chapter 8).

Alternatively, differences may arise as a result of both doctors' and patients' perceptions about how to behave according to gendered stereotypes and social roles. For example, patients' greater likelihood to raise additional topics of conversation in observations with female hospital consultants (Chapter 6) may relate to their own perceptions about what behaviours may be acceptable in the scenario (e.g. female doctors may be seen as more approachable or open to social conversation). Instances of confusion over female consultants' identity during qualitative observations appeared to be more common amongst elderly patients, who are perhaps used to predominantly male senior doctors owing to women's relatively recent progression into medicine and

the traditional gender divisions in healthcare (e.g. where men were doctors and women were nurses). Doctors' perceptions about how they should behave may also influence interactions. For example, qualitative findings (Chapter 6) suggest that male doctors may feel that it is more acceptable to behave in a dominant manner in order to direct patients' conversation back to their line of medical enquiry.

These potential gender differences are important as greater use of psychosocial communication and patient participation may have implications for the patient reports of the quality of medical consultations. However, there may be contradictory productivity implications as this style of communication may lead to longer consultation times.

9.2.4 Length of consultations

Gender variations in the interactions between doctors and their patients, such as women's greater use of psychosocial communication and open questions at the end of consultations, and lower displays of dominance, may lead to longer consultations. This may encourage patients to feel that they are able to talk more freely or become more emotional with female doctors. Indeed, integration of qualitative and quantitative findings in Chapter 7 suggests that these characteristics may be associated with consultation length, as consultants displaying lower dominance, greater psychosocial communication and experiencing higher levels of patient-initiated 'additional' talk appeared to hold longer patient consultations.

No differences in length of consultations were found when making comparisons across men and women participants in this small qualitative study. This was contrary to the findings from previous studies identified through systematic review methods in Chapter 4, which suggested female doctors spend longer in consultations with patients. There are, however, wide variations in methods, settings, patient and doctor characteristics included across studies in this field. Disparities in findings may have arisen as a result of variations in settings (as time data described in Chapter 7 was taken from observations undertaken in UK hospital practice and most of the studies included in this systematic review were based in US primary care settings) or variations in the methods used in these studies (for example specialty was analysed as a potential confounding variable in analyses of gender and time in Chapter 7 but most previous studies do not adjust for such confounders). Further research from the UK hospital setting may be warranted, particularly as observational time data from this study was

only based upon the consultations of 10 consultants. This small sample size, although necessary for the in depth qualitative work that was undertaken with these participants (Chapter 6), may limit the generalisability of these findings. In addition, it is possible that this statistical analysis was not sufficiently powered to detect a statistically significant difference between male and female doctors, if one exists.

When combining the estimates generated from this observational study with existing studies in this field, overall it seems that female doctors spend longer in consultations with patients. The pooled estimate, described in Chapter 7, suggests that a significant gender difference of 2 minutes (95% CIs 0.47 to 3.47) p=0.01) per consultation may exist. These gender specific differences in length of consultations have implications for the productivity of male and female doctors, which will be considered later in this chapter.

9.3 Strengths and limitations of this research

Careful planning and methodological awareness of factors that may influence the validity of findings from this thesis was particularly important owing to the multiple methods used in this thesis, as Mays and Pope (2006) suggest that aspects of quality may differ between qualitative and quantitative research. The strengths and weaknesses of studies in this thesis are considered here in order to present a review of the thesis as a whole, however, more detailed critiques of each study have been provided separately in Sections 4.5.3, 6.4, 7.4.1 and 8.5.1.

The use of both qualitative and quantitative methods is a key strength of this thesis as each of the methods employed have their own merits and by triangulating findings across these studies it is possible to shed light on potential gender differences in the working lives of doctors from a range of methodological perspectives. Hammersley (1992) suggests that, according to subtle realists, there are multiple 'truths' or views of reality and research findings presented by researchers will vary depending on the methodologies they undertake. For example, knowledge based on quantitative methods such as surveys may be limited to the types of questions that were asked or respondents' own perceptions, while knowledge generated from qualitative methods such as observations may depend on the researchers' own judgements and interpretations of data. The triangulation of findings in this thesis across multiple methods overcomes some of these problems and should present a more

comprehensive and multi-faceted view of gender differences in doctors' working lives (O'Cathain, Murphy et al. 2010).

Quantitative approaches were adopted as a starting point for understanding potential gender differences, firstly by analysing current data on the UK medical workforce in order to provide some context on the changing medical workforce and career preferences of male and female doctors and secondly by exploring the existing research evidence base for gender differences in doctors' communication using systematic review methods. This review (Chapter 4) updated and extended a previous review in this field, by providing a thorough and systematic critique of the existing literature, using searches with no language or date restrictions and multiple reviewers during the searching, data extraction, and quality assessment stages.

A paucity of research evidence providing detailed exploration of gender differences in the working lives of UK hospital doctors was demonstrated through this review, as well as other literature exploring other sources of variations in doctors' working lives (Chapter 3). Existing studies exploring gender differences in medicine tended to originate from US and primary care settings, and UK studies of doctors have predominantly used survey methods to explore areas such as career choices.

The qualitative study therefore filled a gap in the current evidence base by adopting a wider exploratory approach and providing detailed exploration of the factors which may be influencing the quantitative findings published to date. The strengths and weaknesses of this study design are considered in detail in Section 6.4 and issues of transferability of qualitative findings are discussed under Section 9.3.1 below. The reflexivity of this research account was also important, and as such a reflexive approach was taken to consider the influence of researchers on the research process. While it is possible that the researcher's own perspectives may have affected interpretations that were made, the use of observer triangulation (across two researchers) in this study and on-going discussions between researchers and the thesis advisory panel during the design, conduct and interpretation of this study; strengthens the validity of findings as they are not limited to the perspective of one researcher. Another consideration is the potential for researchers' characteristics (e.g. both were female and non-healthcare professionals), to influence participants' behaviours during observations or interviews. This did not appear to create a problem during observations in this setting, where it is common practice for medical students to

shadow hospital consultants on ward rounds and observe clinic consultations, and several participants commented that they felt at ease or forgot that the researcher was present during observations. However, it is possible that female consultants may have been more open during interviews about difficulties and gender differences in medicine as researchers were both women.

Following this qualitative exploration, a quantitative approach was adopted to analyse gender differences in observational time data, synthesising these with existing findings using meta-analysis. Owing to the fact that this data was collected during observations undertaken as part of the qualitative study, the main limitation of this analysis is the small sample of consultants that were included. Further research is needed to explore the relationship between doctors' gender and visit length in larger samples. Nevertheless, this was the first study to explore gender differences in consultation times in the UK hospital setting and represents a useful starting point for further research, particularly with the use of statistical methods to adjust for confounding variables such as specialty differences. The embedded nature of this quantitative data within a wider qualitative exploration of gender differences in characteristics, such as consulting style, was also a strength of this study. This enabled both qualitative and quantitative data to be combined on the same participants, drawing associations between length of visit and characteristics such as use of psychosocial communication.

Building on the qualitative findings, Chapter 8 described the design and feasibility testing of a survey instrument that could be used to explore gender differences in consultants' working lives amongst a larger sample of doctors nationwide. The use of qualitative findings as a basis to develop items for this questionnaire improves the face and content validity of the questionnaire as it is based upon the findings from rigorous and in depth fieldwork and first-hand information obtained in interviews with hospital consultants. A potential weakness of this study may be the sample size, as this was not sufficiently large to undertake more complex analyses and it is also possible that non-statistically significant differences may have resulted from the study being underpowered to detect variation due to sample size. However, the primary purpose of this study was achieved, as the feasibility and usefulness of this questionnaire has been demonstrated and this may now be of use to researchers wishing to test these findings in a national or international sample of hospital consultants.

9.3.1 Generalisability of findings from this thesis

Owing to the differing nature of qualitative and quantitative approaches, different terminologies have been developed to refer to the 'generalisability' of study findings; with 'external validity' used in quantitative research and 'transferability' in qualitative research (Teddie and Tashakkori 2003). While the emphasis in quantitative research is placed on generating results that may be statistically representative of wider populations, this is not possible in qualitative research, which tends to involve smaller samples of participants that are studied in greater depth. Lincoln and Guba (1985) suggest that the 'transferability' of qualitative study findings should instead be considered, which relates to the extent to which conclusions can be extrapolated to other settings based upon theoretical reasons and the provision of sufficiently detailed information about the context from which findings are drawn.

In the qualitative study, for example, it was necessary to sample a small number of participants in order to develop in depth knowledge and contextual understanding of hospital consultants' working lives across a range of settings (organisations, specialties and scenarios). However, the sampling strategy was a strength of this research as it involved multiple specialties and more than one hospital trust (differing in size, location and patient demographic), which enables theoretical generalisations to be made, concerned with the 'transferability' of these findings. Details about the context of this research and characteristics of participants are provided so that the reader is able to make judgements about the relevance of research findings to other contexts.

While these steps aim to demonstrate the transferability of qualitative study findings, questions may necessarily be posed about the statistical generalisability of these findings. By building upon and integrating these findings into questionnaire items in Chapter 8, it was possible to test the generalisability of these findings amongst a larger sample of hospital consultants. The replication of several findings across these studies suggests that some qualitative findings may be generalisable to wider settings. For example, greater reports of barriers to medical careers and feelings of work-family conflict that were discussed by female hospital consultants (Chapter 6), were also found in the questionnaire study (Chapter 8). Additionally, although the findings from this qualitative study are limited to the UK hospital setting in which participants were studied, similarities exist in terms of the gender differences that have been observed in doctors' psychosocial and affective communication with patients, as systematic review

results (Chapter 4) demonstrate similar findings from studies outside the UK and in primary care. Instances where findings were not replicated across studies have been discussed in Section 9.3 and potential explanations given.

9.4 Implications and recommendations

9.4.1 Policy implications

The findings from this thesis have important implications for policy makers and medical educators, particularly as the gender composition of the medical workforce in the UK rapidly approaches parity. It is possible that the growing number of women entering medicine, and the labour market generally, over the past few decades may gradually challenge gender expectations and stereotypes; however this change is likely to be slow as these perceptions have been ingrained in society and social interactions for centuries. Policy makers should therefore consider proactive steps that can be taken in order to enhance the working behaviours of both male and female consultants in the medical workplace.

The findings from this thesis have implications for two aspects of healthcare provision – the quality and quantity of care – both of which are a current priority for the UK and other governments and healthcare providers. ‘Quantity’ implications relate to the gender differences in visit length and working patterns that have been shown, as well as other potential effects of observed variations in behaviours on the activity rates of doctors. Meanwhile ‘quality’ implications relate to the variations in consulting style and likelihood of engaging in a patient-centred and holistic approach to care.

9.4.1.1 Quantity of care

In a healthcare system where increasing focus is being placed on productivity of doctors in order to meet efficiency saving targets, the knowledge generated from this thesis may be valuable for understanding the gender variations in activity rates of hospital doctors that have previously been reported in the UK (Bloor, Freemantle et al. 2008). Indeed, exploring sources of potential variations in productivity formed part of the rationale and aim of this thesis as it sought to identify explanations of why female consultants in the UK treat approximately 20% fewer in-patients over the course of a year (Bloor, Freemantle et al. 2008).

Findings from this thesis provide potential explanations for these differences and suggest that consultants' behavioural style and that of their colleagues and patients may be associated with such differences in activity rates. For example, in observations female consultants showed less inclination to interrupt patients' social conversation in order to close consultations, compared with male doctors who displayed more dominance and assertiveness in these scenarios. Intuitively, consultation style may be anticipated to relate to the length of consultations; indeed, when integrating the findings from qualitative observations with time data for consultants in Chapter 7, this appeared to be the case. Although based on a small number of participants, consultations may be longer when doctors display lower dominance, greater use of psychosocial communication and when patients engaged more in additional talk such as social conversation.

Although no gender differences were found in consultation length during qualitative observations in this sample of UK hospital doctors, pooled estimates across all studies in this field have shown that consultations of female doctors may be two minutes longer than males. Although seemingly small, this difference may have a large impact over the course of a doctor's overall working day and may partly explain the gender differences in activity rates of hospital consultants which have previously been reported (Woodward and Hurley 1995, Bloor, Freemantle et al. 2008). Based on UK workload data for GPs[3], an additional 1.97 minutes per consultation with female GPs would relate to approximately 15% fewer patients being seen by female GPs compared to male GPs during the course of a working day. Alternatively, this could lead to female doctors spending longer at work or missing meal breaks, as Roter et al (2002) suggest, a difference of 2 minutes per consultation could result in an extra hour of work within an already busy day.

External factors that appeared to affect the working lives of male and female hospital consultants differently in this thesis may also relate to variations in activity rates. For example, female doctors may experience greater pressure associated with balancing personal and professional commitments and this may create different working patterns for female doctors. Findings from the questionnaire study undertaken in this thesis provide new knowledge about men's greater tendency to work more hours than women, even when concentrating only on doctors employed on full-time contracts.

[3] working an average of 38.2 hours per week and on average spending 11.5 minutes per consultation (NHS Information Centre for Health and Social Care, 2007).

Qualitative findings suggest that women may find it more difficult to work over their contracted hours due to childcare responsibilities and problems were also identified relating to the maternity leave arrangements for female doctors. This was further highlighted in questionnaire findings, as women respondents reported practical difficulties in making arrangements for maternity leave, feelings of guilt when informing colleagues of their need for maternity leave, and pressure at work influenced half of women's plans about when or if they would start a family.

Steps should be taken to reduce the burden of these decisions and enable greater balance between personal and professional priorities for both men and women. Greater use of flexible contract arrangements and locum cover may reduce the difficulties experienced by female doctors making maternity arrangements. Flexible working arrangements, although potentially problematic as the NHS moves towards seven day provision of consultant care in hospitals (NHS Improvement 2012), may benefit women and men struggling with childcare, so that conflict between work and home lives is eased without needing to resort to part-time working practices. A guidance leaflet on pregnancy and maternity issues for women in surgery has been produced by the Royal College of Surgeons to target perceived difficulties in combining a surgical career with motherhood, by providing guidance on aspects such as flexible working and childcare arrangements (Royal College of Surgeons 2012). Recommendations, such as the need for improved access to childcare, have also been made in a report from Baroness Deech to the Department of Health (Deech 2009). Future research measuring the effectiveness of strategies designed to improve childcare support are considered later in this chapter.

Difficulties arising from personal commitments may be relevant to all professional women, as literature in Chapter 3 has highlighted, this problem is not unique to the medical workforce. Health policy makers should look to other industries to make positive changes that may ease the conflict that female doctors report between their personal and professional commitments. For example, a report from the Department of Trade and Industry (2003) has highlighted how employers such as BT plc and HSBC have successfully incorporated strategies such as flexible working arrangements and childcare programmes to ease employees dual demands from work and home responsibilities. The financial corporation HSBC, for example, have introduced improved childcare facilities and 'Open Line;' an in-house confidential advice line for employees who struggle to manage home and work responsibilities (Department of

Trade and Industry 2003). These strategies are reported to have reduced the number of women who leave employment after having a baby from 70% to 15% (Department of Trade and Industry 2003).

Further external factors that may affect the quantity of care provided by female doctors relates to the poorer levels of cooperation from nursing staff and confusion over the identity of female consultants in the medical workplace. Both of these factors may lead to women being less supported in their day to day work, which has the effect of potentially lowering clinical activity rates. Similar findings have been reported in a Norwegian study of doctors, as female doctors report feeling less supported by nurses and uncomfortable in asking for assistance from nurses (Gjerberg and Kjolsrod 2001) – factors which may both contribute towards the lower activity rates of female doctors. Although there is emphasis on communication skills training in the UK medical curriculum, this focuses primarily on *clinical* communication skills. For example, the UK consensus statement on the content of communication curricula for undergraduate medical education (von Fragstein, Silverman et al. 2008) places emphasis on skills that are necessary for effective doctor – patient communication, with perhaps insufficient focus on the interpersonal skills required for interactions with various colleagues. Findings from this thesis suggest that there needs to be greater emphasis on these interpersonal communication skills, particularly in terms of the use of appropriate assertive communication that is required for cooperation and collaboration across healthcare professions. Medical educators may wish to target such training to female doctors, so that they feel empowered to behave in a more direct and assertive manner with both patients and colleagues, without concerns about how this will be tolerated by nursing colleagues.

There is, however, a wider issue of equality associated with gender differences found in interactions with colleagues during observations in this thesis and questionnaire results, where 29% of women reported experiences of gender discrimination in medicine. It is important that healthcare organisations monitor doctors' experiences of these situations and take action where necessary.

Other solutions to problems encountered by female consultants as a result of gender stereotypes and expectations may be more straightforward and immediate. Changes to name badges so that they are clearly visible to patients and colleagues may overcome the problems of confusion over the consultants' identity or level of seniority that some

female consultants experienced with colleagues in this study. Alternatively, the introduction of grade-specific surgical scrubs, as used in other countries, have been advocated by some authors as a way to instantly recognise and distinguish between doctor grades, as well as improving infection control in hospitals (Palazzo and Hocken 2010).

Related to the quantity implications of gender differences discussed in this thesis, is the impact that findings may have on medical workforce labour supply. Workforce planners should consider the effect of more women in the medical workforce, as their preferences for part-time working and certain specialties (described in Chapter 2), may pose important implications for labour supply, particularly in areas that do not attract sufficient numbers of female doctors, such as surgical specialties. Reasons for these preferences have been highlighted in this thesis, and these largely appear to relate to the tensions between work and home lives that have been described to a greater extent amongst women. If addressed, this may encourage greater female participation across specialties and raise the 'Whole Time Equivalents' of doctors in the NHS workforce. Policy makers should encourage and support women, for example by developing improved childcare provision or creating flexible working arrangements, as it is possible that there will be shortages of doctors in certain fields of medicine if women are not sufficiently attracted to these roles. Problems may also arise for specialties which attract large numbers of women, such as obstetrics and gynaecology, in which over 70% of registrar doctors are now female (NHS Information Centre 2011c). Indeed, a recent report from the Royal College of Obstetrics and Gynaecology (2012) has recognised the need to establish new ways of working and service delivery, without needing to employ more doctors.

The introduction of more female role models in these fields may challenge the traditional gender stereotypes that have long been associated with medicine and may perpetuate the gender differences that have been reported in this thesis. Schemes such as the Women In Surgery (WinS) scheme (Royal College of Surgeons 2009) already exist and should continue to be supported in order to achieve these aims.

9.4.1.2 Quality of care

While current financial pressures have placed emphasis on maximising productivity in the healthcare system, the importance of value for money is increasingly evident

through policies that seek to measure quality in healthcare. In 2008, Lord Darzi set out three key aspects of quality as part of the NHS Next Stage Review (Department of Health 2008); which included: clinical effectiveness, patient safety and the patient experience. As part of this, measurement of quality was central, as "we can only be sure to improve what we can actually measure" (Department of Health 2008, p49). Emphasis on quality, with particular reference to the three aspects of quality outlined by Lord Darzi, has been made in the Health and Social Care Act (Stationery Office 2012) and NHS Outcomes Framework (Department of Health 2012a) since the UK Coalition Government came into power. A number of strategies are used to measure quality, for example 'Quality Accounts' are now published annually to make information about quality publicly available, allowing comparisons to be drawn across different NHS organisations and strengthening accountability for aspects of quality (Department of Health 2010a).

While the research undertaken in this thesis has focused on exploring variations in *quantity* of healthcare provided by male and female doctors, findings highlight gender differences in communication styles which may raise questions about variations in the *quality* of care provided by male and female doctors.

Patient-centredness is an aspect of quality that relates to the 'patient experience' component of quality that has recently been emphasised by the Department of Health (2008). The importance of patient-centredness in healthcare delivery has been recognised internationally by organisations such as the OECD (Kelley and Hurst 2006), the US Institute of Medicine (2001) and the NHS (Department of Health 2008). Patient-centredness involves engagement with the patient in terms of their medical, psychological and social needs. This relates to the 'holistic' approach to patient care, a term used throughout this thesis to describe the bio-psychosocial approach that is advocated in UK medical practice (General Medical Council 2009, British Medical Association 2011). The greater engagement in psychosocial communication during medical consultations observed amongst female doctors in this thesis and found using systematic review methods, may relate to this 'patient-centredness' aspect of quality.

While 'quality' and 'quantity' in healthcare appear to be two opposing forces; for example women may engage more in psychosocial communication (quality) but this may be related to longer consultations (quantity); there may be productivity gains of holding longer consultations if patient outcomes are ultimately improved. Research

suggests that adopting a patient-centred approach may affect patients' emotional health, symptom resolution, physiological outcomes and quality of life (Stewart 1995, Arora 2003), however I have found no research evaluating the effect of individual differences, such as doctors' gender, on these health outcomes.

Sociological theory suggests women may feel more comfortable engaging in psychosocial communication behaviours as a result of gender socialisation that occurs from childhood onwards or because of expectations that may be placed on the communication style of male and female doctors. Nevertheless, it is possible that men may be taught to develop these behaviours through communication skills training. The teaching of clinical communication skills currently forms an important part of medical curricula in the UK, with particular emphasis on patient-centredness training (von Fragstein, Silverman et al. 2008). Given this current focus, medical educators may wish to consider the effect of doctors' gender on willingness or ability to engage in a holistic approach to patient consultations. However, there may be some benefit in exploring the effect of other individual characteristics on communication behaviours; for example, it may be that older cohorts of medical consultants may engage less in patient-centredness due to the relatively recent emphasis that have been placed on this aspect of communication in the medical curricula.

The effect of communication on the patient experience has been demonstrated through differences in rates of malpractice claims according to doctors' communication style (Levinson, Roter et al. 1997). Levinson and colleagues (1997) found that general practitioners with no history of claims held longer visits and used more facilitative communication style (e.g. encouraging patients' involvement and checking understanding) compared with those with a history of malpractice claims. It is therefore possible that greater use of patient-centered communication by female doctors may influence the patient experience and likelihood for complaints to be made. In the UK, GMC data demonstrate a large gender difference in the percentage of enquires referred to the GMC regarding doctors' fitness to practice: despite near equal numbers of men and women in the medical workforce today, 75.2% of GMC referrals were for male doctors (General Medical Council 2010). Similar findings have also been reported in the US, where male doctors have been found to be three times more likely to be at high risk of malpractice compared to female doctors (Taragin, Wilczek et al. 1992).

Although these gender differences in doctors' complaints suggest there may be a relationship between doctors' gender and quality, it is not possible to determine whether these differences arise as a result of differences in: 1) patient's likelihood of complaining about male or female doctors 2) the patient experience (such as communication style) or 3) actual differences associated with patient safety and the competency of male and female medical doctors.

9.4.2 Future research

In this thesis, the focus is on exploring sources of variation in activity rates of male and female doctors, however a key question raised by this research is: do these gender variations have implications for quality in healthcare? Further research is needed in order to explore whether gender differences in consultation styles and working behaviours affect clinical outcomes. While there appear to be differences in rates of litigation and complaints about male and female doctors, there is little if any evidence exploring the effect of doctors' gender on other quality indicators such as physiological outcomes, medical errors or patient readmission rates. It may be beneficial to undertake a more thorough search of the literature, potentially followed by primary research in this field. The recent move towards greater measurement of patient health outcomes in the UK may enable investigation of other quality indicators by making comparisons across male and female doctors. For example, Quality and Outcomes Framework (QOF) indicators are available for general practice (NHS Information Centre 2012d) and Patient Reported Outcome Measures (PROMs) are now routinely collected to measure the surgical quality from a patient perspective for four major operative interventions (NHS Information Centre 2012c).

Findings from this thesis suggest that childcare responsibilities weigh heavily on hospital doctors, with female doctors in particular expressing feelings of pressure from competing personal and professional responsibilities. Dumelow and colleagues (2000) have stressed that the medical profession should adapt to enable doctors to live more balanced and fulfilling professional and personal lives, without detrimental effects on career progress. In Canada, the Quality Worklife Quality Healthcare Collaborative (QWQHC), formed of 12 healthcare organisations, has been created in order to improve health professionals' work-life balance, as ultimately it is believed that this will improve patient outcomes and service delivery (Quality Worklife Quality Healthcare Collaborative 2007). In the UK, policies initiated as part of the Department of Health

(2000) initiative ‘Improving Working Lives’ sought to improve facilities and support for childcare such as the ‘NHS childcare strategy impact analysis’ (Daycare Trust 2004). This involved the introduction of 220 childcare coordinators who were employed to support parents and NHS managers by coordinating better childcare support (Sladden 2006). The NHS staff survey results for 2005, however, suggest that low proportions (38%) of respondents with children actually had access to a childcare coordinator through their NHS employer (Healthcare commission 2006). To my knowledge, data has not been published since this date to identify whether this access has since increased, however the findings from this study would suggest that steps to improve childcare support by NHS employers have not sufficiently reduced the competing pressures that some doctors feel from responsibilities in the home, and these problems may encourage female consultants to work part-time. These findings have important implications in an expanding female workforce and the need for improvements in access to childcare have formed a key part of the recommendations made by Baroness Deech in her report on women in medicine (Deech 2009). Further research may be warranted to explore the effectiveness of specific strategies to help doctors with children.

9.5 Conclusion

This thesis adds valuable insights into the sources of gender differences in doctors’ working lives, contributing to the existing evidence base by focusing primarily on exploring the lives of UK hospital consultants. The research provides important and timely understanding of the potential sources of gender variations in productivity rates that have been found in UK hospital consultants.

Expectations of the behaviours of men and women appear to influence the working lives of male and female doctors differently, as gender stereotypes persist despite growing proportions of women entering the field. The behaviours of doctors, their patients, and colleagues appear to reinforce these expectations; generating gender differences that may create longer consultation times and lower clinical activity rates amongst female hospital consultants. These forces are varied in nature and range from factors at a personal level, such as doctors’ working hours or experiences of work-life conflict; to external factors, such as experiences of gender discrimination or the level of cooperation received from colleagues.

Understanding the complexity of sources of gender differences in doctors' working lives is important as this knowledge may provide the opportunity to tackle these variations, ultimately affecting the quality and quantity of care provided. Policy makers and medical educators should consider these findings and their implications, particularly as the gender composition of the medical workforce rapidly approaches parity.

Appendices

Chapter 4

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Appendix 4.1: Search strategies

MEDLINE(OVID Sp) – 1950 to September Week 3 2010

1. exp Health Personnel/
2. exp Physicians/
3. (doctor$ or physician$ or medical student$ or medic or (general adj practitioner$) or GP$ or consultant$).mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]
4. or/1-3
5. (patient$ or user$ or client$ or consumer$).mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]
6. Sex/
7. Men/
8. Women/
9. exp Sex Factors/
10. gender.mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]
11. or/6-10
12. Communication/
13. exp Physician-Patient Relations/
14. exp Patient Participation/
15. exp Cooperative Behavior/
16. exp Patient-Centered Care/
17. Nonverbal Communication/
18. Verbal Behavior/
19. "Attitude of Health Personnel"/
20. (communicat$ or interact$ or (patient adj participation) or (cooperative adj behavio?r$) or collaboration$ or (compliant adj behavio?r$) or (social adj behavio?r$) or (non adj verbal adj communicat$) or (non-verbal adj communicat$) or (verbal adj communicat$) or (verbal adj behavio?r$)).mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]
21. or/12-20
22. 4 and 5 and 11 and 21
23. 22 not nurs$.mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]
24. 23 not midwif$.mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier]

PsycINFO (OVID Sp) – 1967 to September Week 4 2010

1. exp Health Personnel/
2. exp Physicians/
3. (doctor$ or physician$ or medical student$ or medic or (general adj practitioner$) or GP$ or consultant$).mp. [mp=title, abstract, heading word, table of contents, key concepts]
4. or/1-3
5. Sex/
6. Human Males/
7. Human Females/
8. Human Sex Differences/
9. gender.mp. [mp=title, abstract, heading word, table of contents, key concepts]
10. or/5-9
11. Communication/
12. exp Client Participation/
13. exp Interpersonal Communication/
14. exp Communication Skills/
15. Nonverbal Communication/
16. Verbal Communication/
17. Interpersonal Interaction/
18. Health Personnel Attitudes/
19. exp Therapeutic Processes/
20. exp Therapeutic Alliance/
21. (communicat$ or interact$ or (patient adj participation) or (cooperative adj behavio?r$) or collaboration$ or (compliant adj behavio?r$) or (social adj behavio?r$) or (non adj verbal adj communicat$) or (non-verbal adj communicat$) or (verbal adj communicat$) or (verbal adj behavio?r$)).mp. [mp=title, abstract, heading word, table of contents, key concepts]
22. or/11-21
23. exp Medical Patients/
24. exp Patients/
25. (patient$ or user$ or client$ or consumer$).mp. [mp=title, abstract, heading word, table of contents, key concepts]
26. or/23-25
27. 4 and 10 and 22 and 26
28. 27 not nurs$.mp. [mp=title, abstract, heading word, table of contents, key concepts]
29. 28 not midwif$.mp. [mp=title, abstract, heading word, table of contents, key concepts]

EMBASE (OVID Sp) – 1980 to 2010 Week 38

1. exp health care personnel/
2. exp physician/
3. (doctor$ or physician$ or medical student$ or medic or (general adj practitioner$) or GP$ or consultant$).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]
4. or/1-3
5. exp PATIENT/
6. (patient$ or user$ or client$ or consumer$).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]
7. or/5-6
8. SEX/
9. GENDER/
10. exp sex difference/
11. gender.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]
12. or/8-10
13. interpersonal communication/
14. exp doctor patient relation/
15. nonverbal communication/
16. verbal behavior/
17. exp patient participation/
18. exp medical practice/
19. exp patient education/
20. (communicat$ or interact$ or (patient adj participation) or (cooperative adj behavio?r$) or collaboration$ or (compliant adj behavio?r$) or (social adj behavio?r$) or (non adj verbal adj communicat$) or (non-verbal adj communicat$) or (verbal adj communicat$) or (verbal adj behavio?r$)).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]
21. or/13-20
22. 4 and 7 and 12 and 21
23. 22 not nurs$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]
24. 23 not midwif$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer]

CINAHL (Ebsco) – 1982 to September 2010

1. (MH "Health Personnel+")
2. (MH "Physicians+")
3. doctor* or physician* or medical student* or medic or (general N practitioner*) or GP* or consultant*
4. S1 or S2 or S3
5. patient* or user* or client* or consumer*
6. (MH "Sex+")
7. (MH "Sex Factors")
8. (MH "Men")
9. (MH "Women")
10. (MH "Gender Bias")
11. (MH "Gender Identity+")
12. gender
13. S6 or S7 or S8 or S9 or S10 or S11 or S12
14. (MH "Communication")
15. (MH "Physician-Patient Relations")
16. (MH "Social Behavior+")
17. (MH "Patient Centered Care")
18. (MH "Communication Skills") OR (MH "Nonverbal Communication")
19. (MH "Attitude of Health Personnel")
20. (MH "Patient Education+")
21. (MH "Consumer Participation")
22. (MH "Cooperative Behavior")
23. communicat* or interact* or (patient N participation) or (cooperative N behavio*r*) or collaboration* or (compliant N behavio*r*) or (social N behavio*r*) or (non N verbal N communicat*) or (non-verbal N communicat*) or (verbal N communicat*) or (verbal N behavio*r*)
24. S14 or S15 or S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23
25. S4 and S5 and S13 and S24
26. S25 not nurs?
27. S26 not midwif?

Health Management Information Consortium (OVID SP) - September 2010

1. exp MEDICAL STAFF/
2. exp HEALTH PROFESSIONALS/
3. (doctor* or physician* or medical student* or medic or (medical adj professional) or (health* adj professional) or (general adj practitioner*) or (health* adj provider) or (health* adj personnel) or GP* or consultant*).mp. [mp=title, other title, abstract, heading words]
4. or/1-3
5. exp PATIENTS/
6. (patient* or user* or client* or consumer*).mp. [mp=title, other title, abstract, heading words]
7. 5 or 6
8. exp SEX DIFFERENCES/ or exp SEX DIFFERENTIATION/
9. exp GENDER FACTORS/
10. exp MEN/
11. exp WOMEN/
12. gender.mp. [mp=title, other title, abstract, heading words]
13. or/8-12
14. exp COMMUNICATION/
15. exp PATIENT MEDICAL STAFF RELATIONS/
16. exp PATIENT MEDICAL STAFF COMMUNICATION/
17. exp PATIENT PARTICIPATION/
18. exp PATIENT CENTRED CARE/
19. (communicat* or interact* or (patient adj participation) or (cooperative adj behavio?r*) or collaboration* or (compliant adj behavio?r*) or (social adj behavio?r*) or (non adj verbal adj communicat*) or (non-verbal adj communicat*) or (verbal adj communicat*) or (verbal adj behavio?r*)).mp. [mp=title, other title, abstract, heading words]
20. or/14-19
21. 4 and 7 and 13 and 20
22. 21 not nurs?.mp. [mp=title, other title, abstract, heading words]
23. 22 not midwif?.mp. [mp=title, other title, abstract, heading words]

Web of Science (ISI Web of Knowledge) – 1900 to September 2010

1. Topic=("patient*" or "user*" or "client*" or "consumer*")
2. Topic=("gender") OR Topic=(sex SAME difference*) OR Topic=(gender SAME difference*)
3. Topic=(gender SAME factor*) OR Topic=(sex SAME factor*)
4. #3 OR #2
5. Topic=(communicat* or interact* or relations*) OR Topic=(patient SAME participation) OR Topic=(cooperative SAME behavio*r*)
6. Topic=(collaboration*) OR Topic=(compliant SAME behavio*r*) OR Topic=(social SAME behavio*r*)
7. Topic=(non SAME verbal SAME communicat*) OR Topic=(non-verbal SAME communicat*) OR Topic=(verbal SAME communicat*)
8. Topic=(verbal SAME behavio*r*) OR Topic=(patient SAME centred)
9. #8 OR #7 OR #6 OR #5
10. Topic=(("doctor*" or "physician*" or "medical student*" or "medic" or "GP*" or "consultant*") NOT nurs* or midwif*) OR Topic=((medical SAME professional*) not nurs* or midwif*) OR Topic=((health* SAME professional*) not nurs* or midwif*)
11. Topic=((general SAME practitioner*) NOT nurs* or midwif*) OR Topic=((health* SAME provider*) not nurs* or midwif*) OR Topic=((health* SAME personnel) not nurs* or midwif*)
12. #11 OR #10
13. #12 AND #9 AND #4 AND #1

ASSIA (CSA Illuminia) – 1987 to September 2010

1. (DE=(doctors or physicians)
2. (doctor* or physician* or (medical WITHIN 3 student*) or (medic or (medical WITHIN 3 professional*) or (health* WITHIN 3 professional*) or (general WITHIN 3 practitioner*) or(health* WITHIN 3 provider*) or (health* WITHIN 3 personnel*) or (GP* or consultant*)
3. (#1 and #2) not (nurs* or midwif*)
4. (DE=(patients or clients)
5. (patient* or client* or consumer*) or user*)
6. #4 or #5
7. (DE=(sex) or (gender) or (gender differences) or (gender aspects)
8. (DE= (communication or interactions or (nonverbal communication) or(doctor-patient communication) or (patient centredness) or (patient participation))
9. (communicat* or interact* or (patient WITHIN 3 participation)) or ((cooperative WITHIN 3 behavio?r*) or collaborat* or (compliant WITHIN 3 behavio?r*)) or (social WITHIN 3 behavio?r*) or (non WITHIN 3 verbal WITHIN 3 communicat*) or (non-verbal WITHIN 3 communicat*) or (verbal WITHIN 3 communicat*) or (verbal WITHIN 3 behavio?r*))
10. #8 or #9
11. #3 and #6 and #7 and #10

Appendix 4.2: Screening tool

- Does not study psychiatric medical visits or psychotherapy treatment visits
- Studies doctors or doctors in training. Medical students are excluded.
- Studies actual patients. Standardised/simulated patients are excluded.
- Measures communication using neutral observers (including standardised patients as observers), audiotape or videotape. Physician-reported length of medical visit is excluded.
- Tests for an association between doctors' gender and at least 1 interpretable communication variable
- Original data is presented and analysed (descriptive studies, studies that do not present actual, interpretable data and systematic reviews are excluded)

Appendix 4.3: Data extraction tool (page 1)

Study Title		
Author		
Year		
Journal		
Study design		
Communication Analysis Method		
Location		
Type of healthcare provider (e.g. public/private)		
Specialty and patient group		
Country		
Doctor sample characteristics		Was the variable comparable across M/F doctors? Or controlled in analyses?
Number identified	Male =	Female =
Age		
Ethnicity		
Experience / years since graduating		
Patient sample characteristics		Was the variable comparable across M/F doctors? Or controlled in analyses?
Number identified		
Age		
Gender		
Ethnicity		
Socioeconomic status		
Health status		
Repeat visits or first visits?		

Appendix 4.3: Data extraction tool (page 2)

Effect of gender		
Communication variable	Results (record descriptive results, unadjusted effect estimates, adjusted effect estimates and CI/SE/SD)	Conceptual communication grouping (see Roter et al (2002)

Appendix 4.4: Quality assessment tool (page 1)

Study author:

Year:

Reviewer:

A) Selection bias

1) Are the individuals selected to participate in the study likely to be representative of the target population?

    1) Very likely
    2) Somewhat likely
    3) Not likely
    4) Can't tell

Global rating

1) Strong – the selected individuals are very likely to be representative of the target population
2) Moderate – The selected individuals are at least somewhat likely to be representative of the target population
3) Weak – The selected individuals are not likely to be representative of the target population or the selection is not described

B) Study Design

Indicate the study design

1. Randomised controlled trial
2. Controlled clinical trial
3. Cohort analytic (two group pre + post)
4. Case-control
5. Cohort (one group pre + post (before and after))
6. Interrupted time series
7. Other, specify _____
8. Can't tell

Was the study described as randomised? If NO, go to Global Rating

No Yes

If Yes, was the method of randomisation described?

No Yes

Was the method appropriate?

No Yes

Global rating

1) Strong – will be assigned to those articles that described RCTs and CCTs
2) Moderate – will be assigned to those articles that described a cohort analytic study, a case control study, a cohort design or an interrupted time series
3) Weak – will be assigned to those that used any other method or did not state the method used

Appendix 4.4: Quality assessment tool (page 2)

C) Confounders

1) Were there important differences between groups prior to the intervention?

    1. Yes
    2. No
    3. Can't tell

The following are examples for confounders:

1. Patient sex
2. Patient race
3. Patient age
4. Patient health Status
5. Patient SES (income or class)
6. Education of patient
7. Doctor age

2) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?

    1. 80 – 100%
    2. 60 – 79%
    3. Less than 60%
    4. Can't tell

Global rating

1) Strong – will be assigned to those articles that controlled for at least 80% of relevant confounders
2) Moderate – will be assigned to those articles that controlled for 60 – 79% of relevant confounders
3) Weak – will be assigned when less than 60% of relevant confounders were controlled or confounders were not described

D) Blinding

1) Was (were) the outcome assessor(s) aware of the doctor's gender?

    1. Yes
    2. No
    3. Can't tell

2) Were the study participants aware of the research question?

    1. Yes
    2. No
    3. Can't tell

Global rating

1) Strong – the outcome assessor is not aware of the doctor's gender (Q1 is 2) **and** the study participants are not aware of the research question (Q2 is 2)
2) Moderate – the outcome assessor is not aware of the doctor's gender (Q1 is 2) **or** the study participants are not aware of the research question (Q2 is 2) **or** blinding is not described (Q 1 is 3 and Q2 is 3)
3) Weak – the outcome assessor is aware of the doctor's gender (Q1 is 1) **and** the study participants are aware of the research question (Q2 is 1)

Appendix 4.4: Quality assessment tool (page 3)

E) Data collection methods

1) Were data collection tools shown to be valid?
    1. Yes
    2. No
    3. Can't tell
2) Were data collection tools shown to be reliable?
    1. Yes
    2. No
    3. Can't tell

Global rating

1) Strong – the data collection tools have been shown to be valid (Q1 is 1) **and** the data collection tools have been shown to be reliable (Q2 is 1)
2) Moderate – the data collection tools have been shown to be valid (Q1 is 1) **and** the data collection tools have NOT been shown to be reliable (Q2 is 2) **or** reliability is not described (Q2 is 3)
3) Weak – the data collection tools have not been shown to be valid (Q1 is 2) **or** both the reliability and the validity are not described (Q1 is 3 and Q2 is 3)

Global rating for this paper (circle one)

1. Strong (three STRONG ratings with no WEAK ratings)
2. Moderate (less than four STRONG ratings and one WEAK rating)
3. Weak (two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there any discrepancy between the two reviewers with respect to the component (A-E) ratings?

No Yes

If yes, indicate the reason for the discrepancy

1. Oversight
2. Differences in interpretation of the criteria
3. Differences in interpretation of the study

Final decision of both reviewers (circle one)

1. Strong 2. Moderate 3. Weak

Final decision of both reviewers (circle one)

1. Strong 2. Moderate 3. Weak

Appendix 4.5: Characteristics of included studies

Article	Author, year	Title	Country	Sample size (doctors)	Setting	Patient group	Communication instrument
1	Ainsworth-Vaughn (1992)	Topic transitions in physician-patient interviews: Power, gender, and discourse change	USA	6	Private practice, various settings	Various	No tool described, a form of discourse analysis
2	Anderson, L. A. and M. A. Zimmerman (1993)	Patient and physician perceptions of their relationship and patient satisfaction: a study of chronic disease management	USA	13	Veteran Affairs Centres	Diabetes patients	Time
3	Beaudoin, C., M. T. Lussier, et al. (2001)	Discussion of lifestyle-related issues in family practice during visits with general medical examination as the main reason for encounter: an exploratory study of content and determinants	Canada	35	Family practice clinics (12 private and 2 teaching clinics)	Various	A form of content analysis, tool not stated
4	Bernzweig, J., J. I. Takayama, et al. (1997)	Gender differences in physician-patient communication. Evidence from pediatric visits	USA	64	Primary care university clinic	Paediatric patients	A form of content analysis, tool not stated
5	Bertakis, K. D., P. et al (1995)	The influence of gender on physician practice style	USA	81	Primary care	Various	Davis observation code
6	Bertakis, K. D., P. Franks, et al. (2003)	Effects of physician gender on patient satisfaction	USA	105	Primary care, university medical centre outpatient facility	Various	Davis observation code
7	Brown, T.N et al (2007)	Communication patterns in medical encounters for the treatment of child psychosocial problems: Does paediatrician-parent concordance matter?	USA	21	Private practice	Paediatric patients	Roter Interaction Analysis System (RIAS)
8	Bylund, C. L. and G. Makoul (2002)	Empathic communication and gender in the physician-patient encounter	USA	20	Not specified	Not specified	Empathic communication coding system (ECCS)
9	Carr-Hill, R., S. Jenkins-Clarke, et al. (1998)	Do minutes count? Consultation lengths in general practice... including commentary by Howie J	UK	51	National Health Service, general practice	Various	Time
10	Cox, E. D., M. A. Smith, et al. (2007)	Effect of gender and visit length on participation in pediatric visits	USA	15	Setting not specified	Paediatric patients	Roter Interaction Analysis System (RIAS)
11	Fraenkel, DL (1986)	The ins and outs of medical encounters: an interactional analysis of empathy, patient satisfaction, and information exchange	USA	19	Family practice	Various	The Fraenkel-Franks Index of Shared Behaviours (FFISB) and ratings of information giving
12	Hall, J. A., J. T. Irish, et al. (1994)	Gender in medical encounters: an analysis of physician and patient communication in a primary care setting	USA	50	Ambulatory care centre in a teaching hospital	Various	Roter Interaction Analysis

							System (RIAS)
13	Hampson, S. E., H. G. McKay, et al. (1996)	Patient-physician interactions in diabetes management: consistencies and variation in the structure and content of two consultations	USA	2	Primary care	Diabetes patients	Modified Roter Interaction Analysis System (RIAS)
14	Irish, J. T. and J. A. Hall (1995)	Interruptive patterns in medical visits: the effects of role, status and gender	USA	50	Ambulatory care centre in a teaching hospital	Various	Interruption Coding System (ICS)
15	Law, S. A. T. and N. Britten (1995)	Factors that influence the patient-centredness of a consultation	UK	41	National Health Service and Armed Forces, general practice	Various	Henbest and Stewart's Patient-centeredness tool
16	Lunn, S., S. Williams, et al. (1998)	The effects of gender upon doctor-patient interaction	UK	15	National Health Service, general practice	Various	Butler and Cox coding method
17	Meeuwesen, L., C. Schaap, et al. (1991)	Verbal analysis of doctor-patient communication	Netherlands	10	General practice	Various	Stiles' verbal response mode (VRM) tool
18	Pahal, J. S. and H. Z. Li (2006)	The dynamics of resident-patient communication: data from Canada	Canada	9	University family practice clinic	Various	Roter Interaction Analysis System (RIAS)
19	Roter, D., M. Lipkin, Jr., et al. (1991)	Sex differences in patients' and physicians' communication during primary care medical visits	USA	127	Primary care, numerous settings	Various	Time and Roter Interaction Analysis System (RIAS)
20	Roter, D. L., G. Geller, et al. (1999)	Effects of obstetrician gender on communication and patient satisfaction	USA	21	Setting not specified	Obstetrics patients	Roter Interaction Analysis System (RIAS)
21	Shapiro, J. (1999)	Correlates of family-oriented physician communications	USA	38	Community family practice clinic	Various	Shapiro interaction analysis instrument

22	Skelton, J. R. and F. D. Hobbs (1999)	Descriptive study of cooperative language in primary care consultations by male and female doctors	UK	40	National Health Service, general practice	Various	A form of content analysis, tool not stated
23	Sleath, B. and R. H. Rubin (2002)	Gender, ethnicity, and physician-patient communication about depression and anxiety in primary care	USA	27	University general medicine and family practice clinics	Various	A form of content analysis, tool not stated
24	Street Jr, R. L., E. Krupat, et al. (2003)	Beliefs about control in the physician-patient relationship: Effect on communication in medical encounters	USA	20	Hospital setting	Various	Street's coding system
25	Street Jr, R. L., H. S. Gordon, et al. (2005)	Patient participation in medical consultations: Why some patients are more involved than others	USA	49	Hospital setting	Various	Street's coding system
26	Tai-Seale, M., T. G. McGuire, et al. (2007)	Time allocation in primary care office visits	USA	35	Multiple settings, primary care	Various	Time and multi-dimensional interaction analysis system (MDIA)
27	Van den Brink Muinen, A., J. M. Bensing, et al. (1998)	Gender and communication style in general practice: differences between women's healthcare and regular healthcare	Netherlands	20	General practice	Various	Roter Interaction Analysis System (RIAS)
28	van den Brink-Muinen, A., S. van Dulmen, et al. (2002)	Do gender-dyads have different communication patterns? A comparative study in Western-European general practices	Belgium, Germany, Netherlands,Spain, Switzerland, UK	190	General practices across 6 countries	Various	Roter Interaction Analysis System (RIAS)
29	van Dulmen, A. M. and J. M. Bensing (2000)	Gender differences in gynecologist communication	Netherlands	21	Setting not specified	Gynaecology patients	Roter Interaction Analysis System (RIAS)
30	Wasserman RC, Unui TS, Barriatua RD, Carter WB, Lippincott P (1984)	Paediatric clinicians' support for parents makes a difference: an outcome-based analysis of clinician-parent interaction	USA	9	University hospital	Paediatric patients	Resource exchange analysis

31	West, C. (1984)	When the doctor is a "lady": Power, status and gender in physician-patient encounters	USA	21	Family practice centre	Various	A form of content analysis, tool not stated
32	Wolfensberger, JA (1997)	The impact of gender, gender attitudes and communication on patient satisfaction during medical visits	USA	30	Family practice centre	Various	Roter Interaction Analysis System (RIAS)
33	Zandbelt, L. C., E. M. Smets, et al.(2006)	Determinants of physicians' patient-centred behaviour in the medical specialist encounter	Netherlands	30	Outpatient clinic in a teaching hospital	Internal medicine patients	Patient-centred behaviour coding instrument

Appendix 4.6: Individual study results

Article	Author, year	Results
1	Ainsworth-Vaughn (1992)	**Partnership building and affective behaviour** Male doctors were more dominant in patient interactions.
2	Anderson, L. A. and M. A. Zimmerman (1993)	**Visit length** There was no difference in length of visit between male and female doctors.
3	Beaudoin, C., M. T. Lussier, et al. (2001)	**Question asking** Female doctors discussed more lifestyle related issues and spent longer discussing lifestyle issues (e.g. sexuality and STDs) compared to males.
4	Bernzweig, J., J. I. Takayama, et al. (1997)	**Visit length** Female doctors spent 29% more time with patients compared to male doctors (p<0.001). **Information giving** Female doctors also communicated more medical information to their patients, such as explaining the nature and history of the illness (P<0.01). **Partnership building and affective behaviour** After adjusting for reason for visit, rapport building (e.g. social exchange, reassurance, encouragement) was higher for female doctors than males.
5	Bertakis, K.D. et al (1995)	**Visit length** There was no statistically significantly difference in length of visit for male and female doctors (p=0.55). **Information giving** There were mixed findings in terms of the effect of doctor gender on the biomedical information discussed during consultations. Female doctors spent statistically significantly more time discussing preventative services (p=0.04) and information about family history (p=0.02), compared to male doctors. Meanwhile, male doctors spent longer on the history taking part of consultations (p=0.0001).
6	Bertakis, K. D., P. Franks, et al. (2003)	**Visit length** There was no statistically significantly difference in length of visit for male and female doctors (p=0.84). **Information giving** Female doctors spent a greater proportion of the visit on providing information about preventative services (p=0.04) and counselling (p=0.02). Male doctors spent statistically significantly greater proportion of the visit on technical practice behaviours such as history taking (p=0.02) and discussing addiction (p=0.02). There was no difference in the proportion of visit spent discussing health behaviours or 'patient activation' (chatting).

7	Brown, T.N et al (2007)	*Additional information provided by personal communication with study author:* **Information giving and question asking** Male doctors were statistically significantly more likely to give biomedical information (p=0.03) and statistically significantly less likely to ask psychosocial questions (p=0.002). There were no differences in the amount of biomedical question asking by doctor gender. **Partnership building and affective behaviour** There were no statistically significant differences in aspects of partnership building (such as concern expression or doctor laughing).
8	Bylund, C. L. and G. Makoul (2002)	**Partnership building and affective behaviour** Female doctors showed statistically significantly more empathy than male doctors (p<0.01).
9	Carr-Hill, R., S. Jenkins-Clarke, et al. (1998)	**Visit length** Female doctors tended to spend longer with patients, but this was not statistically significant. However, there was an interaction effect between female patients and female doctors, which added approximately one minute to the average consultation.
10	Cox, E. D., M. A. Smith, et al. (2007)	**Information giving and question asking** After adjusting for potential confounders, female doctors provided 29% less information to patients than male doctors (p<0.05). There was no statistically significant difference in the amount of information gathering undertaken by male and female doctors. **Partnership building and affective behaviour** There was no statistically significant difference in the amount of relationship building undertaken by male and female doctors.
11	Fraenkel, DL (1986)	**Information giving** There were no differences in the amount of information provided by male and female doctors. There were also no gender differences in non-verbal behaviours that were associated with information giving, such as synchrony and echoing during the medical consultation.
12	Hall, J. A., J. T. Irish, et al. (1994)	**Visit length and Amount of talk** Female doctors had statistically significantly longer visits (p<0.03); made more utterances (p<0.05) and had more utterances made to them (p=0.01). **Information giving and question asking** There was no difference in the amount of biomedical or psychosocial information given by male and female doctors. Female doctors asked more biomedical questions (p<0.003) and psychosocial questions (p<0.002) during consultations compared to male doctors. **Partnership building and affective behaviour** Female doctors also made more partnership statements (p<0.0001); used more positive talk (p<0.002); made more back-channel responses (p=0.001) and displayed more smiling and nodding in their consultations (p=0.01 and p<0.03). Towards the end of consultations female doctors began to show more submissiveness in their voice quality compared to male doctors (p<0.02). Male doctors were rated as more calm than female doctors (p<0.0001) and had less interested voices (p<0.0001). There was no difference in the amount of 'friendliness of voice' in early voice recording clips, although later recordings showed greater friendliness in male doctors than female doctors.

13	Hampson, S. E., H. G. McKay, et al. (1996)	**Visit length and Amount of talk** The female doctor (in this sample of 2) spoke more than the male doctor ($p<0.001$), although visits with the male doctor lasted longer ($p<0.01$). **Question asking** The female doctor undertook less question asking than the male doctor in this small sample of 2 ($p<0.001$). **Partnership building and affective behaviour** The female doctor made more positive statements ($p<0.001$) than the male doctor.
14	Irish, J. T. and J. A. Hall (1995)	**Question asking** Female doctors used more partially successful interruptions to ask patients questions, compared to male doctors ($p<0.01$).
15	Law, S. A. T. and N. Britten (1995)	**Partnership building and affective behaviour** Female doctors had higher patient-centredness scores than male doctors, which related to use of more open questions and greater attention to information provided by patients. **Visit length** The study states that length of visit was not statistically significantly different between male and female doctors, although no data is presented.
16	Lunn, S., S. Williams, et al. (1998)	**Amount of talk** There were no statistically significant differences in the number of words spoken; proportion of doctor dialogue; interaction frequency; or initiations of male and female doctors. **Partnership building and affective behaviour** Patients were statistically significantly more likely to return to their emotional agenda when consulting a female doctor ($p<0.01$). Patient returns to physical and social agendas were no different for male and female doctors.
17	Meeuwesen, L., C. Schaap, et al. (1991)	**Visit length** Consultations with female doctors were statistically significantly longer than male doctors ($p<0.05$). **Information giving** Male doctors provided more interpretation ($p<0.05$) and advise to patients ($p<0.05$) compared to female doctors. **Partnership building and affective behaviour** Female doctors were less imposing throughout the medical consultation; less directive ($p<0.05$); gave more disclosures (such as sharing feelings and sympathising) ($p<0.05$); and acknowledged patient more during the consultation, although this was not statistically significant.
18	Pahal, J. S. and H. Z. Li (2006)	**Visit length and Amount of talk** There was no statistically significant difference in length of visit for male and female doctors, although men used more words during consultations ($p<0.05$). **Information giving** Male doctors also used more psychosocial statements than female doctors ($p<0.05$).

		Patient participation Patients of male doctors were statistically significantly more likely to ask open ended questions compared to female doctors ($p<0.05$)
19	Roter, D., M. Lipkin, Jr., et al. (1991)	**Visit length and Amount of talk** Female doctors undertook longer consultations with patients ($p<0.005$) and talked more throughout the consultation ($p<0.0001$). **Information giving and question asking** Female doctors gave more biomedical ($p=0.000$) and psychosocial ($p=0.06$) information. Women asked more closed questions ($p=0.001$), There were no statistically significant differences in the amount of open questions used by male and female doctors. **Partnership building and affective behaviour** Women also displayed more partnership building behaviours ($P=0.004$) and positive talk ($p=0.000$). There were no statistically significant differences in the amount of social talk; negative talk; emotional responsiveness; or counselling talk across male and female doctors. **Patient participation** Patient talk was higher with female doctors than male doctors, on all but one category (social talk), in particular the amount of psychosocial talk displayed by patients of female doctors was almost twice that of male doctors ($p=0.001$).
20	Roter, D. L., G. Geller, et al. (1999)	**Visit length and Amount of talk** Male doctors conducted statistically significantly longer visits ($p<0.05$) and made more statements ($p<0.05$) than female doctors. The ratio of doctor/patient talk was similar for male and female doctors. **Information giving and question asking** There were no statistically significant differences in the biomedical and psychosocial information giving elements to the consultation, nor in the types of questions asked (i.e. open/closed). **Partnership building and affective behaviour** Male doctors displayed more concern ($p<0.05$); engaged in more partnership talk ($p<0.05$); gave more orientation information to patients than female doctors ($p<0.01$) and made more checks of patient's understanding ($p<0.01$). Female doctors displayed more socio-emotional behaviours such as making jokes/laughter ($p<0.05$); giving agreement ($p<0.05$) and giving disagreement ($p<0.05$). There was no statistically significant difference in the amount of social talk; approvals; reassurance or empathy given by male and female doctors.
21	Shapiro, J. (1999)	**Partnership building and affective behaviour** Female doctors engaged in more partnership building behaviours such as self-disclosure ($p=0.03$); active listening ($p=0.001$) and eliciting the patient's agenda ($p=0.04$) compared to male doctors.

22	Skelton, J. R. and F. D. Hobbs (1999)	**Amount of talk** Male doctors used more words in their consultations, although this was not statistically significant (p=0.75). Female doctors engaged in more facilitative phrases such as 'isn't it?' and 'didn't you,' although only the latter showed a statistically significant difference (p=0.03)
23	Sleath, B. and R. H. Rubin (2002)	**Partnership building and affective behaviour** Female doctors were statistically significantly more likely to provide counselling to patients about depression or anxiety (p<0.05). **Question asking** There were no statistically significant differences in the psychosocial question asking by male and female doctors, nor were there any differences in the use of open or closed questions.
24	Street Jr, R. L., E. Krupat, et al. (2003)	**Patient participation and partnership building** Active patient participation in the medical consultation was not related to doctors gender (p=0.28), neither was physician partnership building (p=0.87).
25	Street Jr, R. L., H. S. Gordon, et al. (2005)	**Partnership building and affective behaviour** Female doctors used statistically significantly more supportive talk with patients than male doctors (p<0.01). There were no physician gender differences in other partnership building behaviours or patient participation aspects of the consultation.
26	Tai-Seale, M., T. G. McGuire, et al. (2007)	**Visit length and Amount of talk** There was no statistically significant difference in the visit length of male and female doctors. The amount of physician and patient talk did not differ by doctor gender.
27	Van den Brink Muinen, A., J. M. Bensing, et al. (1998)	**Visit length and amount of talk** Patients of female doctors talked for a greater proportion of the consultation compared to patients of male doctors (<0.05) There were no statistically significant differences in consultation length or proportion of doctor talk. **Partnership building and affective behaviour** In most aspects, female doctors showed more communicative behaviour than male doctors, although none of these differences were statistically significant. For example, women showed more positive affect ratings (e.g. warmth/kindness); more affective behaviours (e.g. social behaviour, showing concern) **Information giving and question asking** Female doctors also showed more instrumental behaviours during consultations compared to male doctors (e.g. giving biomedical information, asking questions), although these differences were not statistically significant.
28	van den Brink-Muinen, A., S. van Dulmen, et al. (2002)	*Additional information provided by personal communication with study author:* **Partnership building and affective behaviour** After adjustment for potential confounders, female doctors were associated with greater partnership building and rapport and more agreement giving by the patient at

		the 0.05 level of statistical significance. Female doctors also showed more empathy, concern, reassurance and encouragement and checked patients understanding more often than their male counterparts. **Information giving and question asking** Doctor's gender was not statistically significantly associated with instrumental behaviours such as question asking, information giving, biomedical talk or psychosocial talk.
29	van Dulmen, A. M. and J. M. Bensing (2000)	**Visit length** After adjustment for potential confounders, the length of physical examinations was longer with female doctors than males ($p<0.05$). **Question asking** Male doctors tended to ask more medical questions than female doctors, and this was statistically significant ($p<0.05$). **Partnership building and affective behaviour** Although not statistically significant, female doctors displayed more affective communication during consultations.
30	Wasserman RC, Unui TS, Barriatua RD, Carter WB, Lippincott P (1984)	**Partnership building and affective behaviour** Female doctors displayed more empathy than male doctors during the medical visit ($p=0.04$).
31	West, C. (1984)	**Patient participation** Patients interrupted female doctors more than the female doctors interrupted patients, and the reverse was true for male doctors, who were interrupted less by patients. No statistical testing was carried out to test this finding empirically.
32	Wolfensberger, JA (1996)	**Information giving and question asking** There were no statistically significant differences in the biomedical question asking by doctor gender. Female doctors gave more psychosocial information, although this difference was not statistically significant. **Partnership building and affective behaviour** Female doctors were more likely to align themselves with patients ($p=0.05$); compliment others (not the patient)($p<0.05$) and male doctors were more likely to show disapproval compared to female doctors ($p<0.05$). Female doctors also showed more partnership building behaviours and more positive talk although these differences were not statistically significant.
33	Zandbelt, L. C., E. M. Smets, et al. (2006)	**Partnership building and affective behaviour** Female doctors displayed statistically significantly more facilitating behaviours (e.g. encouragement, attentive silence, expressions of respect or praise) compared to male doctors ($p=0.02$).

Appendix 5.1: Participant Information Sheet

(Version 2.0 (01/09/2010))

THE UNIVERSITY of York

Participant Information Sheet

Exploring the working lives of hospital consultants

We would like to invite you to take part in a research study. Before you decide, it is important for you to understand why this research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

What is the purpose of the study?

Health professionals are in high demand and under increasing pressure to meet targets and cope with financial constraints in the NHS. Over recent years there has been a move towards greater management of the NHS consultant workforce in order to maximise clinical activity. Evidence suggests that the working and personal lives of men and women consultants may differ. A recent report by the Royal College of Physicians suggests that potential variations in working preferences and working lives may have profound implications for future service provision and management. However, there is currently little in depth knowledge about consultants working lives and potential differences.

The National Institute of Health Research has funded the University of York to carry out an in-depth study of consultants working lives. The study will collect different types of data using interviews and observations. During the first brief interview a researcher from the University of York will ask background questions about you and arrange the observation periods. We will then shadow you as you go about your day to day work to record information about your working day and interactions with colleagues and patients. There will then be a final more in-depth interview which will be used to explore your feelings about your workload, work/life balance and perceived differences between men and women consultants' working styles.

This study is being undertaken as part of a PhD project at the University of York. Ms Dennis, a PhD student, will conduct interviews and observations. Dr Bloor, a researcher at the University of York and student supervisor, will also conduct observations.

Why am I being asked to take part?

The hospital that you work in has been sampled for the study and we are interested in gaining insight into the working lives of hospital consultants. You have been selected to represent one of these consultants.

Do I have to take part?

No, it is entirely up to you to decide whether you would like to take part. If you have any questions about taking part you can talk to a member of the research team. Even if you have agreed to take part, you are free to withdraw from the study at any time, without giving a reason. This would not affect your legal rights in any way.

What will happen to me if I take part?

If you decide that you would like to take part in the study you will be asked to sign a consent form. The research will include three stages of the study: an initial brief interview, some periods of observation and then a final more in-depth interview.

A researcher will approach you to arrange a time and location to conduct the first interview that best suits you. The first interview will last approximately 20 minutes and will be used to find out more information about you and arrange times for the shadowing periods. The interview will be tape recorded with your permission and transcribed so that we can analyse the discussion.

For the observation stage we will shadow you for approximately 4 hours at a time and this will take place over 5 periods during your working week. During this time the researcher will record information about what you are doing and how you go about your working day using structured observation schedules. We are interested in recording the amount of time you spend on different activities (such as direct patient care) and interactions that take place during your working day.

The second interview will last approximately 1 hour and will be used to find out more information about how you feel you cope with your workload, how you balance home and work life and your thoughts about differences between men and women consultants' working styles. The interview will be tape recorded with your permission and transcribed so that we can analyse the discussion.

You will be given a unique study number for the duration of the study so that your name is not recorded on any data that the observation sheet. This will ensure that the data collected remains anonymous.

What are the possible benefits of taking part?

Whilst there are no personal benefits to you for taking part, the findings of this study will develop a better understanding of the working lives of hospital consultants. We hope that the study will be able to offer recommendations to policy makers, organisations and individuals about factors that affect the working lives of hospital consultants.

Expenses and payments

This study is funded by the National Institute of Health Research and we will arrange interviews at times and places convenient to you so that no costs will be associated with you taking part in the study. Thus, no participant expenses have been allocated for this study.

What will happen to data that are collected about me?

All data that are collected will be confidential and anonymous. We will remove all names and other identifying information before the data are analysed and results presented to the medical community.

The data will be held in accordance with the data protection act, which means that it will be stored in a locked filing cabinet at the University of York. Only researchers that are part of the research team in York will have access to the data and the researchers are not employed by your Trust.

If you decide to change your mind about taking part in the study, you can request that the data collected be destroyed. Following this, your data will not be analysed or used in the report of the findings.

If during the observation period or interviews the researcher observes any activity which they consider potentially threatens patient safety then we would need to report this information via routine incident reporting mechanisms.

Who has reviewed this study?

This study has been reviewed by the Derby Research Ethics Proportionate Review Sub-Committee. In addition, this study has been reviewed by the University of York Health Sciences Research Governance Committee.

Who is organising and funding this research.

The research is funded by the Department of Health via the National Institute for Health Research Fellowship scheme. The research funding covers only the costs of undertaking the research; researchers will not receive payment for conducting the study.

Who can I contact for more information?

If you have any queries or concerns please feel free to contact:

Laura Dennis (Chief Investigator and Health Sciences PhD student)
Department of Health Sciences
2nd Floor Postgraduate Area
ARRC Building
University of York
Heslington
York YO10 5DD

Email: ld132@york.ac.uk
Telephone: 07764755150

If at any point during this research study you would like to make a complaint about the conduct of this research please contact Denise Shingler by telephone on 01904 321303 or via email denise.shingler@york.ac.uk
Thank you for reading this information sheet and for considering whether to take part in this study.

Appendix 5.2: Participant questionnaire

Please complete this brief questionnaire that will provide us with some background information about you.

Age: _____

Gender: _____

Job title: _____

Working hours (please circle one) full-time / part-time

Total number of programmed activities per week: _____

Number of programmed activities on direct clinical care per week: _____

Years in current position: _____

Year completed specialist training: _____

Year graduated from medical school: _____

Where did you graduate from medical school: _____

Appendix 5.3: Topic guide one

Version 3.0 (23/02/2011)

THE UNIVERSITY of York

TOPIC GUIDE ONE: Initial interview with consultant

Introduction

Thank you for making the time to see me today to take part in this initial interview. My name is *Laura Dennis / Karen Bloor* and I am a *PhD student / researcher* at the University of York.
This research study has been commissioned by the National Institute for Health Research and the purpose of this interview is to gain more information about the structure of your working week. This will then help us to schedule and undertake the observations.

Some quick housekeeping issues:

- The interview will be tape recorded and transcribed verbatim following the interview.
- Direct quotations may be used in publications but will not identify you in any way.
- Do you have any questions?
- Do you still have approximately half an hour to spend with me today?
- Are you happy for us to continue with the interview?

Schedule

- Can you describe a 'typical' week for me please?
- What do your non-clinical programmed activities entail?
- Are there any extra responsibilities that are not captured in your job plan?
    - Prompt teaching, training or unexpected activities that take up their time.

Team

- Can you describe the team that you work with on a daily basis so that I can have a better picture of who we may bump into during the shadowing sessions?
    - Ask them to sketch this out by level, with names and job titles

Shadowing periods

- We've talked a bit about how your working week varies, and I hope to run the shadowing sessions so that we can capture this variation in both clinical and non-clinical activities.
- With this in mind, are there any days that you think would be best for me to shadow you?

End of the interview

Is there anything else you think I should know before I come along to shadow you?
Confirm times for shadowing or arrangements to follow up about shadowing times.

Do you have any questions?

Appendix 5.4: Topic guide two

Version 3.0 (23/02/2011)

THE UNIVERSITY of York

TOPIC GUIDE TWO: Second interview with consultant

Introduction

- Thank you again for making the time to see me today to take part in this final interview, which should last approximately one hour.
- This research study has been commissioned by the National Institute for Health Research and the purpose of this interview is to gain greater understanding of your attitudes towards work and your workload, other responsibilities that you feel may impact on your work and to explore whether you think there are any differences between your working style and that of your colleagues.
- There are no right or wrong answers - we are only interested in knowing more about your thoughts and experiences. If there is anything that you feel you don't want to answer then that is not a problem.

Some quick housekeeping issues:

- The interview will be audio recorded and transcribed verbatim following the interview.
- Direct quotations may be used in publications but will not identify you in any way.
- Do you have any questions?
- Do you still have approximately one hour to spend with me today?
- Are you happy for us to continue with the interview?

Managing workload

- Thank you again for allowing me to shadow you [*last week*]. Would you say the days that I shadowed you were typical of a working day for you?

Possible prompts:

- How do you manage competing demands during your day? (Clarify how regularly these competing responsibilities occur)
- Are there some days that you find it difficult to manage competing responsibilities?
- Is there anything in particular that helps or hinders you in your day to day working life?
- (If stress is mentioned, probe more about what things make them feel this way, what things help?)

Approach to work

- We've talked a little about competing demands on your time, in an ideal world, how would you like to approach your work?

Possible prompts:

- Organisation of work
- Prioritisation
- Interactions with colleagues and patients
- How do you feel about your work?

Other responsibilities

- Outside of work, are there any other commitments that affect your day to day work?

Possible prompts

- Is there anything in the past that has?
- How well supported do you feel with these other commitments, and where do you draw your support from?
- (Ask them to provide examples)

Team

- Can you describe your working team and what influence do they have on your workload?

- e.g. Delegating work or does this increase responsibility/workload

Perceived gender differences

- Do you think that your approach to work is similar to your colleagues?

- There is some research evidence that men and women work differently, for example, there are differences in the average number of patients seen by men and women doctors. Do you think you work differently to your [*male/female*] colleagues?

End of the interview

- Do you think that the culture in medicine has changed at all over time?
- Looking to the future, do you think that there are any challenges that face the medical profession in general?
- Is there anything else that you would like to discuss?

Thank you for taking part in this study. The information that you have given will be treated confidentially and kept anonymous.

Do you have any questions?

Appendix 5.5: Observation Framework

Version 2.0 (19/01/2010)

THE UNIVERSITY of York

Observation framework

Setting: Clinic / Ward / Theatre

Date: _____

Time: from _____ until _____

Number of patients seen: _____

Consultant: _____

Interactions with patients

Consider the following aspects:

- Information seeking (nature and style)
- Information giving (nature and style)
- Partnership building and patient-centredness
- Socio-emotional behaviour
- Balance – proportion of doctor/patient talk
- Non-verbal communication (e.g. body language and gesturing)

Interactions with other staff

- Actors
- Nature
- Duration
- Interruptions

Activities between seeing patients

- Nature
- Duration
- Other actors

Overall reflection

How were you treated during observations?

- Was your presence questioned?
- Were you introduced to other members of staff and patients?
- How much interaction did you have with staff and patients (e.g. greeting patients)?
- Did you feel like they were intruding?

Appendix 5.6: Consent Form

Version 2.0 (01/09/2010)

CONSENT FORM

Participant Identification Number: | | | | |

Title of study: Exploring the working lives of hospital consultants

Name of Person taking consent:

Please initial the boxes

1. I confirm that I have read and understand the information sheet version [2] dated [01/09/10] for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving reason, without my legal rights being affected. ☐

3. I agree to this consent form and other data collected as part of this research study being kept at the University of York. ☐

4. I understand that relevant sections of data collected during the study may be looked at by individuals from the University of York, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records. ☐

5. I understand that if at any time the researcher is made aware of any activity which they consider potentially threatens patient safety then we would need to report this information via routine incident reporting mechanisms. ☐

6. I agree to the interviews being tape recorded and transcribed. ☐

7. I understand that direct quotations may be used in publications but no information will be released or printed that would identify me. ☐

8. I agree to take part in the above study. ☐

Name of participant (please print)	Date	Signature
Name of person taking consent (please print)	Date	Signature

Appendix 5.7: Ethics approval letter

NHS
National Research Ethics Service
Derbyshire Research Ethics Committee
1 Standard Court
Park Row
Nottingham
NG1 6GN

Telephone: 0115 8839435
Facsimile: 0115 9123300

09 September 2010

Ms Laura Dennis
PhD Student
Department of Health Sciences
2nd Floor Postgraduate Area
ARRC Building, University of York
YO10 5DD

Dear Ms Dennis

Study Title: **Exploring the working lives of hospital consultants**
REC reference number: **10/H0401/76**

Thank you for your letter of 07 September 2010, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where the only involvement of the NHS organisation is as a Participant Identification Centre (PIC), management permission for research is not required but the R&D office should be notified of the study and agree to the organisation's involvement. Guidance on procedures

for PICs is available in IRAS. Further advice should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Investigator CV		30 June 2010
Investigator CV		
Protocol	1.0	29 June 2010
Observation Framework	1.0	26 May 2010
Response to No Opinion Letter		17 August 2010
Observations Information Poster		
Topic Guide One	2.0	01 September 2010
REC application	53839/133340/1/622	05 July 2010
Covering Letter		06 July 2010
Covering Letter		07 September 2010
Letter from Sponsor		30 June 2010
Interview Schedules/Topic Guides	1.0	26 May 2010
Participant Information Sheet	2.0	01 September 2010
Response to Request for Further Information		07 September 2010
Participant Consent Form	2.0	01 September 2010
Evidence of insurance or indemnity		01 August 2010

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

10/H0401/76	**Please quote this number on all correspondence**

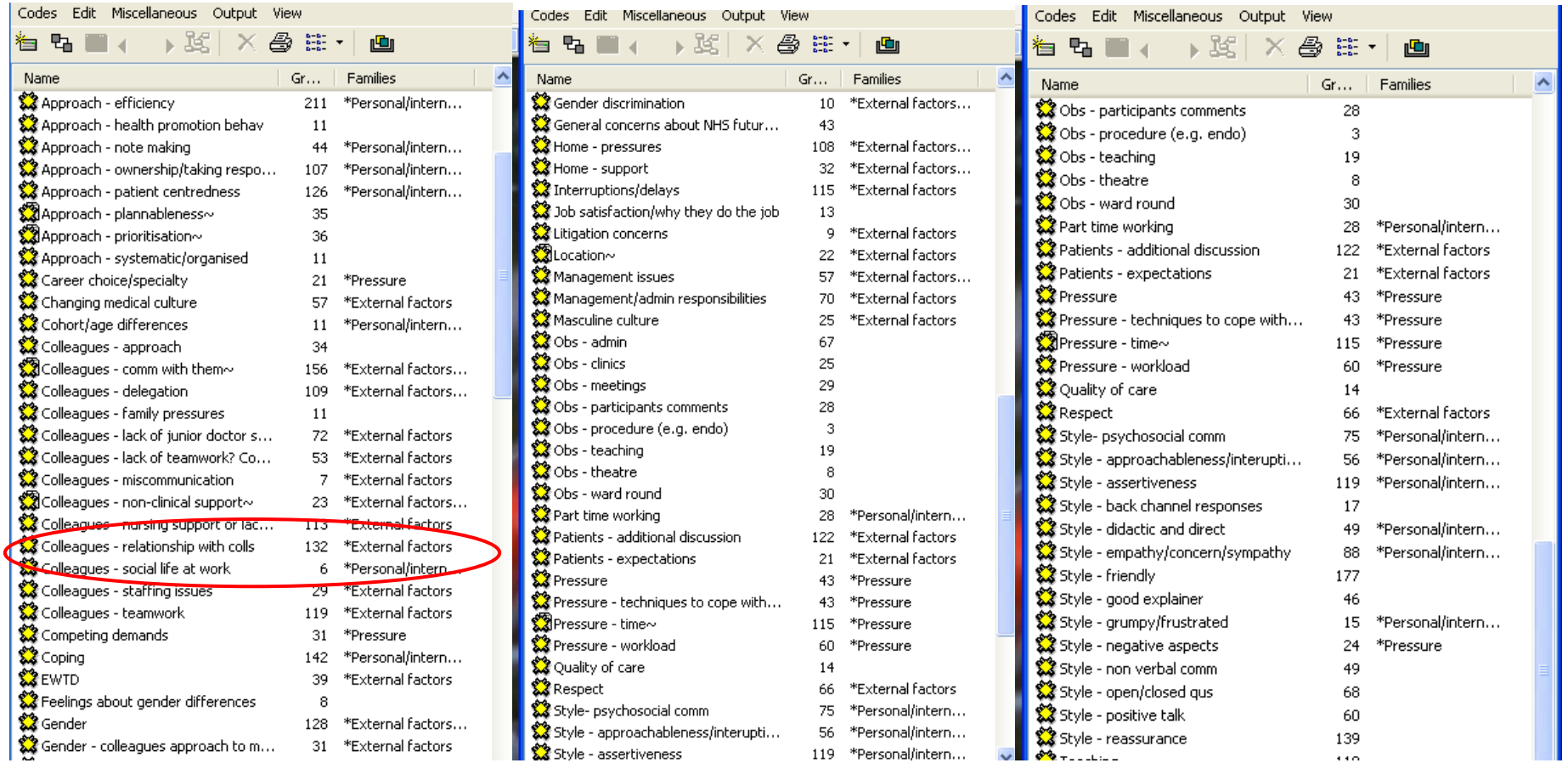
Yours sincerely

Mr Phil Hopkinson
Chair

Email: lisa.gregory@nottspct.nhs.uk

Enclosures: "After ethical review – guidance for researchers" *SL- AR2*
Copy to: *Sue Final, University of York*
R&D office for NHS care organisation at lead site – York Hospitals NHS trust

Appendix 5.8: Screenshots of coding used in analysis



Name	Gr...	Families
Approach - efficiency	211	*Personal/intern...
Approach - health promotion behav	11	
Approach - note making	44	*Personal/intern...
Approach - ownership/taking respo...	107	*Personal/intern...
Approach - patient centredness	126	*Personal/intern...
Approach - plannableness~	35	
Approach - prioritisation~	36	
Approach - systematic/organised	11	
Career choice/specialty	21	*Pressure
Changing medical culture	57	*External factors
Cohort/age differences	11	*Personal/intern...
Colleagues - approach	34	
Colleagues - comm with them~	156	*External factors...
Colleagues - delegation	109	*External factors...
Colleagues - family pressures	11	
Colleagues - lack of junior doctor s...	72	*External factors
Colleagues - lack of teamwork? Co...	53	*External factors
Colleagues - miscommunication	7	*External factors
Colleagues - non-clinical support~	23	*External factors...
Colleagues - nursing support or lac...	113	*External factors
Colleagues - relationship with colls	132	*External factors
Colleagues - social life at work	6	*Personal/intern...
Colleagues - staffing issues	29	*External factors
Colleagues - teamwork	119	*External factors
Competing demands	31	*Pressure
Coping	142	*Personal/intern...
EWTD	39	*External factors
Feelings about gender differences	8	
Gender	128	*External factors...
Gender - colleagues approach to m...	31	*External factors

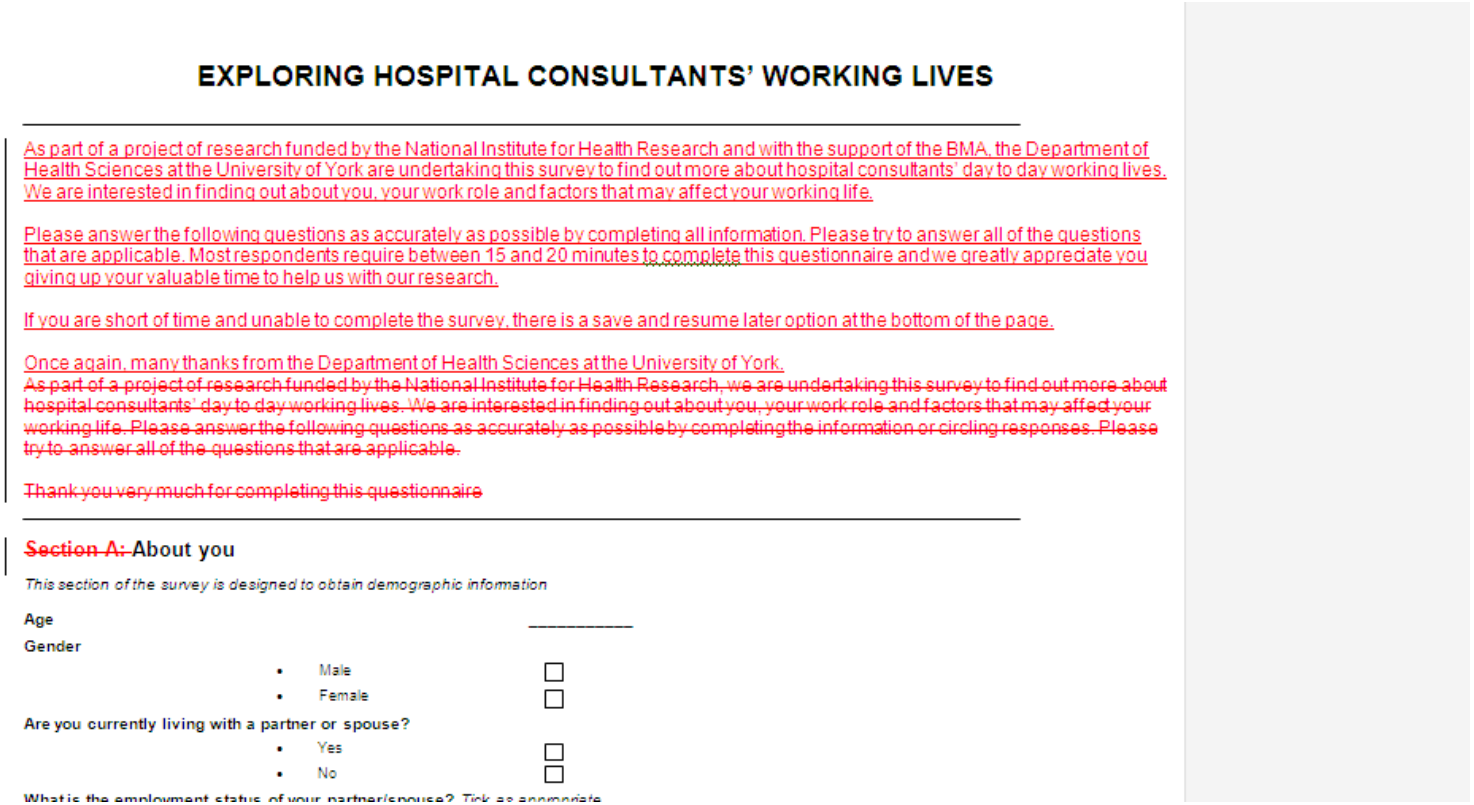
Name	Gr...	Families
Gender discrimination	10	*External factors...
General concerns about NHS futur...	43	
Home - pressures	108	*External factors...
Home - support	32	*External factors...
Interruptions/delays	115	*External factors
Job satisfaction/why they do the job	13	
Litigation concerns	9	*External factors
Location~	22	*External factors
Management issues	57	*External factors...
Management/admin responsibilities	70	*External factors
Masculine culture	25	*External factors
Obs - admin	67	
Obs - clinics	25	
Obs - meetings	29	
Obs - participants comments	28	
Obs - procedure (e.g. endo)	3	
Obs - teaching	19	
Obs - theatre	8	
Obs - ward round	30	
Part time working	28	*Personal/intern...
Patients - additional discussion	122	*External factors
Patients - expectations	21	*External factors
Pressure	43	*Pressure
Pressure - techniques to cope with...	43	*Pressure
Pressure - time~	115	*Pressure
Pressure - workload	60	*Pressure
Quality of care	14	
Respect	66	*External factors
Style- psychosocial comm	75	*Personal/intern...
Style - approachableness/interupti...	56	*Personal/intern...
Style - assertiveness	119	*Personal/intern...

Name	Gr...	Families
Obs - participants comments	28	
Obs - procedure (e.g. endo)	3	
Obs - teaching	19	
Obs - theatre	8	
Obs - ward round	30	
Part time working	28	*Personal/intern...
Patients - additional discussion	122	*External factors
Patients - expectations	21	*External factors
Pressure	43	*Pressure
Pressure - techniques to cope with...	43	*Pressure
Pressure - time~	115	*Pressure
Pressure - workload	60	*Pressure
Quality of care	14	
Respect	66	*External factors
Style- psychosocial comm	75	*Personal/intern...
Style - approachableness/interupti...	56	*Personal/intern...
Style - assertiveness	119	*Personal/intern...
Style - back channel responses	17	
Style - didactic and direct	49	*Personal/intern...
Style - empathy/concern/sympathy	88	*Personal/intern...
Style - friendly	177	
Style - good explainer	46	
Style - grumpy/frustrated	15	*Personal/intern...
Style - negative aspects	24	*Pressure
Style - non verbal comm	49	
Style - open/closed qus	68	
Style - positive talk	60	
Style - reassurance	139	

Appendix 5.9 Example of count data used in data analysis

'External' Codes	Number of quotations	
	Female	Male
Career choice/specialty	15	6
Changing medical culture	37	20
Competing demands	18	13
Colleagues - communication with them	70	86
Colleagues - delegation	69	40
Colleagues - lack of junior doctor support/competence	39	33
Colleagues - lack of teamwork? Cooperation?	30	23
Colleagues - miscommunication	6	1
Colleagues - non-clinical support	8	15
Colleagues - nursing support or lack of support	56	57
Colleagues - relationship with colleagues	75	57
Colleagues - social life at work	3	3
Colleagues - staffing issues	18	11
Colleagues - teamwork	67	52
EWTD	25	14
Gender	81	47
Gender - colleagues approach to men/women	27	4
Gender - patient contact	25	8
Gender discrimination	9	1
Home - pressures	79	29
Home - support	25	7
Interruptions/delays	65	50
Litigation concerns	8	1
Location	15	7
Management issues	39	18
Management/admin responsibilities	29	41
Masculine culture	21	4
Patients - additional discussion	63	59
Patients - expectations	15	6
Pressure - techniques to cope with time pressure	24	19
Pressure - time	55	60
Pressure - workload	36	24
Respect	43	23
Technological problems	9	8
Work life balance	27	19
'Internal Codes'	**Female**	**Male**
Approach - efficiency	89	122
Approach - note making	25	19
Approach - ownership/taking responsibility	37	70
Approach – patient-centredness	74	52
Cohort/age differences	6	5
Coping	106	36
Gender	81	47
Part-time working	21	7
Style- psychosocial communication	47	28
Style - approachableness/interruptions	44	12
Style - assertiveness	65	54
Style - didactic and direct	11	38
Style - empathy/concern/sympathy	60	28
Style - grumpy/frustrated	2	13

Appendix 8.1 Changes to questionnaire following 'think aloud' process



EXPLORING HOSPITAL CONSULTANTS' WORKING LIVES

As part of a project of research funded by the National Institute for Health Research and with the support of the BMA, the Department of Health Sciences at the University of York are undertaking this survey to find out more about hospital consultants' day to day working lives. We are interested in finding out about you, your work role and factors that may affect your working life.

Please answer the following questions as accurately as possible by completing all information. Please try to answer all of the questions that are applicable. Most respondents require between 15 and 20 minutes to complete this questionnaire and we greatly appreciate you giving up your valuable time to help us with our research.

If you are short of time and unable to complete the survey, there is a save and resume later option at the bottom of the page.

Once again, many thanks from the Department of Health Sciences at the University of York.

~~As part of a project of research funded by the National Institute for Health Research, we are undertaking this survey to find out more about hospital consultants' day to day working lives. We are interested in finding out about you, your work role and factors that may affect your working life. Please answer the following questions as accurately as possible by completing the information or circling responses. Please try to answer all of the questions that are applicable.~~

~~Thank you very much for completing this questionnaire~~

~~Section A:~~ About you

This section of the survey is designed to obtain demographic information

Age _____

Gender

- Male ☐
- Female ☐

Are you currently living with a partner or spouse?

- Yes ☐
- No ☐

What is the employment status of your partner/spouse? *Tick as appropriate*

If so, are they:

- A medical doctor ☐
- A nurse ☐
- Other ☐

Do you provide care or special help for anyone (excluding your own children)? This could include people living with you or not. *Please exclude any caring you do as part of paid work.* ~~**Is there anyone (excluding children) living with you OR not living with you, who you provide care for or special help?** *Please exclude any caring you do as part of paid work.*~~

- Yes ☐
- No ☐

Do you have any children? *If no then please move to Section B*

- Yes ☐
- No ☐

In what age group(s) are your children? *Please tick all that apply*

- Under 5 ☐
- 5-11 ☐
- 11-16 ☐
- Over 16 ☐

And which of the following forms of childcare do you use for your children? *Please tick all that apply*

- Relatives or friends ☐
- Nannies ☐
- Childcare at partners' work ☐
- Childcare at my workplace ☐
- Other day care (childcare centre etc) ☐
- After school clubs ☐
- Not applicable ☐

What type of school do your children attend?

- State school ☐
- Private school (non-boarding) ☐
- Private school (boarding) ☐
- Not applicable ☐

~~Section B:~~ About your medical career

This section of the survey explores the details and characteristics of your work.

In which year did you complete your undergraduate medical training? _____

~~Where d~~Did you complete your undergraduate medical training ~~outside of Europe?~~?

- A medical school within the United Kingdom ☐
- A medical school within the European Economic Area ☐
- A medical school outside the European Economic Area ☐

In which year did you complete your specialist training? _____

In which year did you first take up a substantive consultant post? _____

What is the specialty in which you practice? _____

Comment [l1]: Participant suggested doctors may work as locums before taking up a substantive consultant post so this was made more specific

Comment [l2]: A drop down box was provided so that respondents to the final questionnaire could only answer with their primary specialty

Options included:

Anaesthesia
Cardiology
Emergency Medicine
Gastroenterology
General Medicine
General Surgery
Geriatric Medicine
Obstetrics and Gynaecology
Oncology
Ophthalmology
Otolaryngology
Paediatrics
Palliative Medicine
Psychiatry
Radiology
Trauma and Orthopaedics
Urology
Other

~~Section C:~~ Working teams

*This section of the survey asks about the interactions you have with the various colleagues that you may work with on a day to day basis. Please indicate the degree to which you agree or disagree with the following statements. *Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

In general, the following colleagues are cooperative and help me in my day to day work:

Consultants from outside of my specialty	strongly disagree	disagree	neutral	agree	stro
Consultants from within my specialty	strongly disagree	disagree	neutral	agree	stro
Senior grade non-training doctors*	strongly disagree	disagree	neutral	agree	stro
Junior doctor colleagues	strongly disagree	disagree	neutral	agree	stro
Nursing colleagues from outside my specialty	strongly disagree	disagree	neutral	agree	stro
Nursing colleagues within my specialty	strongly disagree	disagree	neutral	agree	stro
Secretarial colleagues	strongly disagree	disagree	neutral	agree	stro

In general, I find that I am able to delegate tasks to:

	strongly disagree	disagree	neutral	agree	strongly agree
	strongly disagree	disagree	neutral	agree	stro
Senior grade non-training doctors*	strongly disagree	disagree	neutral	agree	stro
Junior doctor colleagues	strongly disagree	disagree	neutral	agree	stro
Nursing colleagues from outside my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Secretarial colleagues	strongly disagree	disagree	neutral	agree	strongly agree

In general, when I ask something to be done it is usually carried out appropriately by:

Consultants from outside of my specialty	strongly disagree	disagree	neutral	agree	strongly agree

Comment [I3]: Additional categories of colleagues were added to questions in this section to include:
- Medical managers (e.g. your clinical lead or medical director)
- Non-medical managers

And secretarial colleagues was changed to include:
- Medical secretaries
- Other administrative staff

Comment [I4]: These were deleted as think aloud participants felt the word delegate was confusing in reference to consultant colleagues.

~~Section D:~~ Gender in medicine

This section of the survey is concerned with exploring your attitudes and beliefs about the impact doctors' gendermay have on their day to day work. Please indicate the which you agree or disagree with the following statements

In general, I feel that men and women are treated differently in medicine	strongly disagree	disagree	Neutral	agree	stro	
I have experienced discrimination because of my gender	strongly disagree	disagree	neutral	agree	[illegible]	
I feel that my gender has been a barrier in my career progression	strongly disagree	disagree	neutral	agree	strongly agree	
I feel that I am treated differently by my colleagues because of my gender	strongly disagree	disagree	neutral	agree	strongly agree	
I feel that I am treated differently by patients because of my gender	strongly disagree	disagree	neutral	agree	strongly agree	

Comment [I5]: The order of questions was changed in this section so that it starts with more general questions and moves gradually onto the more controversial question about gender discrimination

~~Section E:~~ Consulting style

This section of the questionnaire explores your experiences and aspects of your approach. Please indicate the degree to which you agree or disagree with the following statements

I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
I feel it is important to engage in psychosocial conversation with patients as well as discussing their medical condition	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
When I am short of time I feel comfortable about reducing the amount of time I spend on psychosocial communication with patients	strongly disagree	disagree	neutral	agree	stro	
When under time pressure I feel able to complete a consultation quickly if it is appropriate to do so.	strongly disagree	disagree	neutral	agree	stro	

Comment [I6]: One participant in the think aloud process misread 'uncomfortable' as 'comfortable' and so it was decided that this read better as 'comfortable'

~~Section F:~~ Workload

Consultants often manage high workloads in the NHS. This section of the survey explores your experiences and feelings towards your workload. Please indicate the degree to which you agree or disagree with the following statements

I find it difficult to take time off work when I WANT to (e.g. for holidays)	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to meet the conflicting demands on my time at work	strongly disagree	disagree	neutral	agree	strongly agree
I regularly take work home with me in order to stay on top of things	strongly disagree	disagree	neutral	agree	strongly agree
My workload is adversely affecting my health	strongly disagree	disagree	neutral	agree	strongly agree
Overall, I am satisfied with my level of workload	strongly disagree	disagree	neutral	agree	strongly agree

Comment [I7]: This question was reworded as participants in the think aloud process answered this incorrectly at times. For example they agreed that they took meal breaks if they had a sandwich at their desks whilst doing admin, but this was not strictly a 'break'

~~Section G:~~ Work-life balance

There is increasing emphasis placed on individuals achieving the right balance between their work and home lives. These questions explore your general feelings about work-life balance and potential 'spillover' you may experience from your home to work life and from your work to home life. Please indicate the degree to which you agree or disagree with the following statements

Generally, I perceive my life to be stressful	strongly disagree	disagree	neutral	agree	strongly agree	
I have hobbies and leisure interests outside of work	strongly disagree	disagree	neutral	agree	strongly agree	
It is challenging to manage competing responsibilities at home and at work	strongly disagree	disagree	neutral	agree	strongly agree	
I manage to maintain the balance between my personal and professional commitments	strongly disagree	disagree	neutral	agree	strongly agree	
I feel that my responsibilities at home put pressure on me when I am at work	strongly disagree	disagree	neutral	agree	strongly agree	
I feel that my work regularly suffers because of my commitments at home	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
I find it difficult to manage the effect work has on my home life	strongly disagree	disagree	neutral	agree	strongly agree	
I find that I am able to switch off from work when I leave	strongly disagree	disagree	neutral	agree	strongly agree	
I feel well supported at home	strongly disagree	disagree	neutral	agree	strongly agree	
Pressure at work, now or in the past means that I have considered delaying or not having children	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
I feel that my home life regularly suffers because of my work commitments	strongly disagree	disagree	neutral	agree	strongly agree	
I feel that I am missing out on important events outside of work						

Section H: Effect of work on family life

This section of the survey explores the impact your work may have on your home life

I feel as if I am missing out on important aspects of my children's life	strongly disagree	disagree	neutral	agree	strongly agree
I have difficulty with the practical arrangements of childcare	strongly disagree	disagree	neutral	agree	strongly agree

Comment [I8]: This section was broken into two sections: 'work-life balance' which related to various aspects of life in general, whereas the section 'effect of work on family life' was added to encompass questions specific to the impact work has on their family lives, and this was only populated for respondents who had previously answered 'yes' they do have children.

Comment [I9]: Changed to improve relevance to respondents who don't have children

Comment [I10]: Changed to improve relevance to respondents who don't have children

Comment [I11]: Changed to improve relevance to respondents who don't have children

Section I~~H~~: Characteristics of your work

This section of the survey aims to find out specific details of how your working week is planned.

In your agreed contract~~job plan~~, how many programmed activities (PAs) do you spend on the following?

Total contracted ~~agreed number of~~ PAs per week	☐
Total PAs per week on direct clinical care (e.g. patient consultations)	☐
Total PAs per week on supporting professional activity (e.g. CPD, audit, teaching)	☐
Total PAs per week on additional NHS responsibilities (e.g. clinical director, committee membership)	☐
Total PAs per week on external duties (e.g. Royal College examiner, GMC assessor)	☐
Total PAs per week on clinical academic activity (work employed by a university)	☐

Do you have a managerial responsibility in your organisation?

- Yes ☐
- No ☐

Have you had a job plan agreed in the past 12 months?

- Yes ☐
- No ☐

If ~~so~~, is your job plan a reasonably accurate reflection of your workload?

- Yes ☐
- No ☐

If you generally work more than your agreed number of hours per week, how many additional hours (including time working from home) do you estimate you work in a typical week?

- Less than 2 hours ☐
- 2-3 hours ☐
- 4-5 hours ☐
- 6-7 hours ☐
- More than 8 hours ☐

In the following questions we are interested in the time and patients seen in your own outpatient clinics. Please provide detail of your own clinics, not those of

Comment [I12]: Altered to improve relevance for respondents that may not have a job plan

In the following questions we are interested in the time and patients seen in your own outpatient clinics. Please provide detail of your own clinics, not those of your colleagues or any junior doctors under your supervision

Thinking about *new* patients that you see in your outpatient clinic

Approximately how much time is scheduled for your standard outpatient clinic (mins)	
Approximately how much time does your standard outpatient clinic actually take (mins)	
Approximately how many patients are you scheduled to see during your standard outpatient clinic (no. of patients)	
Approximately how many patients do you actually see during your standard outpatient clinic (no. of patients)	

Thinking about *follow up* patients that you see in your outpatient clinic

Approximately how much time is scheduled for your standard outpatient clinic (mins)	
Approximately how much time does your standard outpatient clinic actually take (mins)	
Approximately how many patients are you scheduled to see during your standard outpatient clinic (no. of patients)	
Approximately how many patients do you actually see during your standard outpatient clinic (no. of patients)	

~~Approximately how long is your standard outpatient clinic?~~

~~*Please give duration to the closest quarter hour* _____~~

~~*Not applicable*~~

~~Approximately how many patients do you see during your standard outpatient clinic? _____ *Not applicable*~~

~~How often do you find that your outpatient clinics overrun~~

- ~~Almost always~~ ☐
- ~~Often~~ ☐
- ~~Occasionally~~ ☐
- ~~Very rarely)~~ ☐
- ~~Hardly ever~~ ☐

If you work in an operating theatre or carry out other interventions/investigations, how often do you find that your ~~theatre~~ sessions overrun?

- A~~lmost a~~lways ☐
- Mostly~~Often~~ ☐
- Occasionally ☐
- R~~Very r~~arely ☐
- N~~Hardly e~~ver ☐

Comment [l13]: These questions were tabulated in order to identify variations in time and patients (allocated and actual) in clinics for both new and follow-up patients

Comment [l14]: This question was altered in order to account for other types of procedures that consultants may undertake in a operating theatre other than surgery e.g. endoscopy

Responses were also altered following advice from the BMA

If you work in the private sector, aApproximately how many HOURS in an average week do you work ~~in the private sector~~?

- Less than 4 ☐
- 4-8 ☐
- 8-12 ☐
- ~~More than~~ 12+ ☐
- Not applicable ☐

If you work on call, what is the category and frequency of your on call arrangements? For example, if it is 1 in 8, write 8 in the box corresponding to the on call category in which you work. If you do not undertake on call in one or either of these categories then please answer 0.

	~~1:1 to 1:4~~	~~1:5 to 1:8~~	~~1:9 or more~~
Category A *(applies when you are typically required to return immediately to site when called or to undertake interventions with a similar level of complexity to those that would normally be carried out on site, such as telemedicine or complex telephone consultations)*	☐	☐	☐
Category B *(applies when you typically respond by giving telephone advice and/or by returning to work later)*	(☐)	☐	☐

Comment [I15]: These categories were removed so that respondents could enter their own frequency of on call as "1 in: ..."

Please indicate which of the following colleagues you regularly have access to AND/OR regularly use in the following settings. *Please tick all that apply*

**Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

Outpatient clinics			
• Specialist nurses	Regular access to	Regularly use	Not applicable
• Other nurses	Regular access to	Regularly use	Not applicable
• Junior doctors	Regular access to	Regularly use	Not applicable
• Senior grade non-training doctors*	Regular access to	Regularly use	Not applicable
Wards			
• Nurses	Regular access to	Regularly use	Not applicable
• Junior doctors	Regular access to	Regularly use	Not applicable
• Senior grade non-training doctors*	Regular access to	Regularly use	Not applicable
• Fellow consultants	Regular access to	Regularly use	Not applicable
Theatres			
• Nurses	Regular access to	Regularly use	Not applicable
• Operating department practitioners	Regular access to	Regularly use	Not applicable
• Junior doctors	Regular access to	Regularly use	Not applicable
• Senior grade non-training doctors*	Regular access to	Regularly use	Not applicable
• Fellow consultants	Regular access to	Regularly use	Not applicable

call as "1 in: ..."

Comment [l16]: These questions were simplified and theatre sessions removed

~~Section I:~~ Overall satisfaction

For the following two questions, please indicate the degree to which you feel satisfied or dissatisfied using the scale below, where 1 signifies complete dissatisfaction and 10 signifies complete satisfaction

	Completely dissatisfied									Completely satisfied
All things considered, how satisfied are you with life in general?	1	2	3	4	5	6	7	8	9	10
All things considered, how satisfied are you with your choice of career?	1	2	3	4	5	6	7	8	9	10

Further feedback

If there are any question that you feel you would like to expand upon, please write them in the box below:

We would also value your views on this questionnaire. If you do have any additional comments please write them in the box below:

Thank you very much for taking the time to complete this survey. Please click the **Submit Answers** button to send us your response.

Comment [l17]: This section was added in order to allow respondents to expand upon points if necessary.

Appendix 8.2 Participant invitation email

Dear Dr [surname]

In an effort to find out more about the working lives of hospital consultants in the NHS, researchers in the Department of Health Sciences at the University of York are conducting a study, funded by the National Institute of Health Research and supported by the British Medical Association. As a valued member of the BMA's online research panel, we would like to invite you to take part in a pilot survey to help shape this research, which we anticipate will take around 15-20 minutes to complete. The survey contains questions about you, your role, workload, work-life balance and experiences as an NHS consultant.

Please click on the link: [surveylink]

We would very much appreciate your response by the closing date, Wednesday 24 October.

As a gesture of appreciation, if you would like to leave your contact details we will enter all respondents into a prize draw for an iPad 2. As we have invited only 400 of you to participate, completing the survey will give you a great chance of winning the prize!

Your views are very important to us and will be kept strictly confidential and used only for the purposes of this research study. Analysis of the data will be in aggregate form only and will not be used in any way that allows individuals to be identified. If you have any questions please contact Dr Karen Bloor on 01904 321369 or email karen.bloor@york.ac.uk.

With many thanks.

Yours sincerely

Karen Bloor
Senior Research Fellow
University of York

We have invited you to participate in this survey as a member of our BMA online research panel. If you no longer wish to be a part of this panel please click on the following link and follow the instructions:
[unsubscribelink].

The prize draw will take place on or around 25 October 2012 and will include all those who complete the survey by submitting their contact details. The winners will be notified by email on or around 25 October 2012. The prizes are as stated and are non-transferable. No cash alternative will be offered and no correspondence will be entered into.

Don't miss out! Ensure our BMA Panel emails reach your inbox by adding bma@panelwise.com to your address book or safe list (to help ensure our emails don't get added to your junk email folder).

Important Note: This email was sent from a notification-only email address that cannot accept incoming email. Please do not reply directly to this message.

Appendix 8.3 Questionnaire

EXPLORING HOSPITAL CONSULTANTS' WORKING LIVES

As part of a project of research funded by the National Institute for Health Research and with the support of the BMA, the Department of Health Sciences at the University of York are undertaking this survey to find out more about hospital consultants' day to day working lives. We are interested in finding out about you, your work role and factors that may affect your working life.

Please answer the following questions as accurately as possible by completing all information. Please try to answer all of the questions that are applicable. Most respondents require between 15 and 20 minutes to complete this questionnaire and we greatly appreciate you giving up your valuable time to help us with our research.

If you are short of time and unable to complete the survey, there is a save and resume later option at the bottom of the page.

Once again, many thanks from the Department of Health Sciences at the University of York.

About you

Gender

- Male ☐
- Female ☐

Age _____

Are you currently living with a partner or spouse?

- Yes ☐
- No ☐

What is the employment status of your partner/spouse? *Tick as appropriate*

- Not in paid work ☐
- Currently seeking work ☐
- Full-time employment ☐
- Part-time employment ☐
- Not applicable ☐

Is your partner/spouse a health professional?

- Yes ☐
- No ☐

If so, are they:

- A medical doctor ☐
- A nurse ☐
- Other ☐

Do you provide care or special help for anyone (excluding your own children)? This could include people living with you or not. *Please exclude any caring you do as part of paid work*

- Yes ☐
- No ☐

Do you have any children?

- Yes ☐
- No ☐

In what age group(s) are your children? *Please tick all that apply*

- Under 5 ☐
- 5-11 ☐
- 11-16 ☐
- Over 16 ☐

And which of the following forms of childcare do you use for your children? *Please tick all that apply*

- Relatives or friends ☐
- Nannies ☐
- Childcare at partners' work ☐
- Childcare at my workplace ☐
- Other day care (childcare centre etc) ☐
- After school clubs ☐

What type of school do your children attend?

- State school ☐
- Private school (non-boarding) ☐
- Private school (boarding) ☐

About your medical career

This section of the survey explores the details and characteristics of your work.

In which year did you complete your undergraduate medical training? _____

Where did you complete your undergraduate medical training?

- A medical school within the United Kingdom ☐
- A medical school within the European Economic Area ☐
- A medical school outside the European Economic Area ☐

In which year did you complete your specialist training? _____

In which year did you first take up a substantive consultant post? _____

What is the specialty in which you practice?

- Anaesthesia
- Cardiology
- Emergency Medicine
- Gastroenterology
- General Medicine
- General Surgery
- Geriatric Medicine
- Obstetrics and Gynaecology
- Oncology
- Ophthalmology
- Otolaryngology
- Paediatrics
- Palliative Medicine
- Psychiatry
- Radiology
- Trauma and Orthopaedics
- Urology
- Other

Working teams

*This section of the survey asks about the interactions you have with the various colleagues that you may work with on a day to day basis. Please indicate the degree to which you agree or disagree with the following statements. *Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

In general, the following colleagues are cooperative and help me in my day to day work:					
Medical managers (e.g. your clinical lead or medical director)	strongly disagree	disagree	neutral	agree	strongly agree
Non-medical managers	strongly disagree	disagree	neutral	agree	strongly agree
Consultants from outside of my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Consultants from within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Senior grade non-training doctors*	strongly disagree	disagree	neutral	agree	strongly agree
Junior doctor colleagues	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues from outside my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Medical secretaries	strongly disagree	disagree	neutral	agree	strongly agree
In general, I find that I am able to delegate tasks to:					
Senior grade non-training doctors*	strongly disagree	disagree	neutral	agree	strongly agree
Junior doctor colleagues	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues from outside my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Medical secretaries	strongly disagree	disagree	neutral	agree	strongly agree
Other administrative staff	strongly disagree	disagree	neutral	agree	strongly agree

In general, when I ask for something to be done it is usually carried out appropriately by:					
Consultants from outside of my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Consultants from within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Senior grade non-training doctors*	strongly disagree	disagree	neutral	agree	strongly agree
Junior doctor colleagues	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues from outside my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Nursing colleagues within my specialty	strongly disagree	disagree	neutral	agree	strongly agree
Medical secretaries	strongly disagree	disagree	neutral	agree	strongly agree
Other administrative staff	strongly disagree	disagree	neutral	agree	strongly agree
I feel comfortable being assertive when necessary with colleagues	strongly disagree	disagree	neutral	agree	strongly agree
I'm often asked to do things because I'm more approachable than my colleagues	strongly disagree	disagree	neutral	agree	strongly agree
I feel well supported at work	strongly disagree	disagree	neutral	agree	strongly agree
On the whole, relationships in my workplace are strained	strongly disagree	disagree	neutral	agree	strongly agree
In general, I find that I am able to ask for input from fellow consultants	strongly disagree	disagree	neutral	agree	strongly agree
Generally, I am confident in the competency of the junior doctors that I work with	strongly disagree	disagree	neutral	agree	strongly agree
My concerns about juniors' competence mean that I do not delegate as much as I'd like to	strongly disagree	disagree	neutral	agree	strongly agree
I share my admin workload with the junior doctors in my specialty	strongly disagree	disagree	neutral	agree	strongly agree
I feel that the junior doctor role is important for service provision and is not just a learning role	strongly disagree	disagree	neutral	agree	strongly agree

Gender in medicine

This section of the survey is concerned with exploring your attitudes and beliefs about the impact doctors' gender may have on their day to day work. Please indicate the degree to which you agree or disagree with the following statements

In general, I feel that men and women are treated differently in medicine	strongly disagree	disagree	neutral	agree	strongly agree
I feel that I am treated differently by my colleagues because of my gender	strongly disagree	disagree	neutral	agree	strongly agree
I feel that I am treated differently by patients because of my gender	strongly disagree	disagree	neutral	agree	strongly agree
I feel that my gender has been a barrier in my career progression	strongly disagree	disagree	neutral	agree	strongly agree
I have experienced discrimination because of my gender	strongly disagree	disagree	neutral	agree	strongly agree

Consulting style

This section of the survey explores your experiences and aspects of your approach to communicating with patients. Please indicate the degree to which you agree or disagree with the following statements.

I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
I feel it is important to engage in psychosocial conversation with patients as well as discussing their medical condition	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
When I am short of time I feel comfortable about reducing the amount of time I spend on psychosocial communication with patients	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
When under time pressure I feel able to complete a consultation quickly if it is appropriate to do so.	strongly disagree	disagree	neutral	agree	strongly agree	not applicable

Workload

Consultants often manage high workloads in the NHS. This section of the survey explores your experiences and feelings towards your workload. Please indicate the degree to which you agree or disagree with the following statements

I find it difficult to take time off work when I WANT to (e.g. for holidays)	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to meet the conflicting demands on my time at work	strongly disagree	disagree	neutral	agree	strongly agree
I regularly take work home with me in order to stay on top of things	strongly disagree	disagree	neutral	agree	strongly agree
My workload is adversely affecting my health	strongly disagree	disagree	neutral	agree	strongly agree
Overall, I am satisfied with my level of workload	strongly disagree	disagree	neutral	agree	strongly agree

Work-life balance

There is increasing emphasis placed on individuals achieving the right balance between their work and home lives. These questions explore your general feelings about work-life balance and potential 'spillover' you may experience from your home to work life and from your work to home life. Please indicate the degree to which you agree or disagree with the following statements

Generally, I perceive my life to be stressful	strongly disagree	disagree	neutral	agree	strongly agree
I have hobbies and leisure interests outside of work	strongly disagree	disagree	neutral	agree	strongly agree
It is challenging to manage competing responsibilities at home and at work	strongly disagree	disagree	neutral	agree	strongly agree
I manage to maintain the balance between my personal and professional commitments	strongly disagree	disagree	neutral	agree	strongly agree
I feel that my responsibilities at home put pressure on me when I am at work	strongly disagree	disagree	neutral	agree	strongly agree
I feel that my work regularly suffers because of my commitments at home	strongly disagree	disagree	neutral	agree	strongly agree
I find it difficult to manage the effect work has on my home life	strongly disagree	disagree	neutral	agree	strongly agree
I find that I am able to switch off from work when I leave	strongly disagree	disagree	neutral	agree	strongly agree
I feel well supported at home	strongly disagree	disagree	neutral	agree	strongly agree
Pressure at work, now or in the past, means that I have considered delaying or not having children	strongly disagree	disagree	neutral	agree	strongly agree
I feel that my home life regularly suffers because of my work commitments	strongly disagree	disagree	neutral	agree	strongly agree
I feel as if I am missing out on important events outside of work	strongly disagree	disagree	neutral	agree	strongly agree

Effect of work on family life

This section of the survey explores the impact your work may have on your home life.

I feel as if I am missing out on important aspects of my children's life	strongly disagree	disagree	neutral	agree	strongly agree	
I have difficulty with the practical arrangements of childcare	strongly disagree	disagree	neutral	agree	strongly agree	
When arranging maternity / paternity leave I felt guilty informing my colleagues that I would need to take time out	strongly disagree	disagree	neutral	agree	strongly agree	
I have experienced difficulty trying to arrange maternity cover in the past	strongly disagree	disagree	neutral	agree	strongly agree	not applicable
I have experienced difficulty trying to arrange paternity cover in the past	strongly disagree	disagree	neutral	agree	strongly agree	not applicable

Characteristics of your work

This section of the survey aims to find out specific details of how your working week is planned.

In your agreed contract, how many programmed activities (PAs) do you spend on the following?

Total contracted PAs per week	
Total PAs per week on direct clinical care (e.g. patient consultations)	
Total PAs per week on supporting professional activity (e.g. CPD, audit, teaching)	
Total PAs per week on additional NHS responsibilities (e.g. clinical director, committee membership)	
Total PAs per week on external duties (e.g. Royal College examiner, GMC assessor)	
Total PAs per week on clinical academic activity (work employed by a university)	

Do you have a managerial responsibility in your organisation?

- Yes ☐
- No ☐

Have you had a job plan agreed in the past 12 months?

- Yes ☐
- No ☐

If so, is your job plan a reasonably accurate reflection of your workload?

- Yes ☐
- No ☐

If you generally work more than your agreed number of hours per week, how many additional hours (including time working from home) do you estimate you work in a typical week?

- Less than 2 hours ☐
- 2-3 hours ☐
- 4-5 hours ☐
- 6-7 hours ☐
- More than 8 hours ☐

In the following questions we are interested in the time and patients seen in your own outpatient clinics. Please provide detail of your own clinics, not those of your colleagues or any junior doctors under your supervision

Thinking about *new* patients that you see in your outpatient clinic

Approximately how much time is scheduled for your standard outpatient clinic (mins) ☐

Approximately how much time does your standard outpatient clinic actually take (mins) ☐

Approximately how many patients are you scheduled to see during your standard outpatient clinic (no. of patients) ☐

Approximately how many patients do you actually see during your standard outpatient clinic (no. of patients) ☐

Thinking about *follow up* patients that you see in your outpatient clinic

Approximately how much time is scheduled for your standard outpatient clinic (mins) ☐

Approximately how much time does your standard outpatient clinic actually take (mins) ☐

Approximately how many patients are you scheduled to see during your standard outpatient clinic (no. of patients) ☐

Approximately how many patients do you actually see during your standard outpatient clinic (no. of patients) ☐

If you work in an operating theatre or carry out other interventions/investigations, how often do you find that your sessions overrun?

- Always ☐
- Mostly ☐
- Occasionally ☐
- Rarely ☐
- Never ☐

If you work in the private sector, approximately how many HOURS in an average week do you work?

- Less than 4 ☐
- 4-8 ☐
- 8-12 ☐
- 12+ ☐
- Not applicable ☐

If you work on call, what is the category and frequency of your on call arrangements?For example, if it is 1 in 8, write 8 in the box corresponding to the on call category in which you work. If you do not undertake on call in one or either of these categories then please answer 0.

- **Category A** *(applies when you are typically required to return immediately to site when called or to undertake interventions with a similar level of complexity to those that would normally be carried out on site, such as telemedicine or complex telephone consultations)* ☐
- **Category B** *(applies when you typically respond by giving telephone advice and/or by returning to work later)* ☐

In the following settings, please indicate which of the following colleagues you have access to AND/OR regularly use. *Please tick ALL that apply.*

**Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

	Clinics	**Wards**
I have access to:		
Specialist nurses		
Other nurses		
Junior doctors		
Senior grade non-training doctors*		
Fellow consultants		
Other		
I regularly use:		
Specialist nurses		
Other nurses		
Junior doctors		
Senior grade non-training doctors*		
Fellow consultants		
Other		

Overall satisfaction

For the following two questions, please indicate the degree to which you feel satisfied or dissatisfied using the scale below, where 1 signifies complete dissatisfaction and 10 signifies complete satisfaction

	Completely dissatisfied									**Completely satisfied**
All things considered, how satisfied are you with life in general?	1	2	3	4	5	6	7	8	9	10
All things considered, how satisfied are you with your choice of career?	1	2	3	4	5	6	7	8	9	10

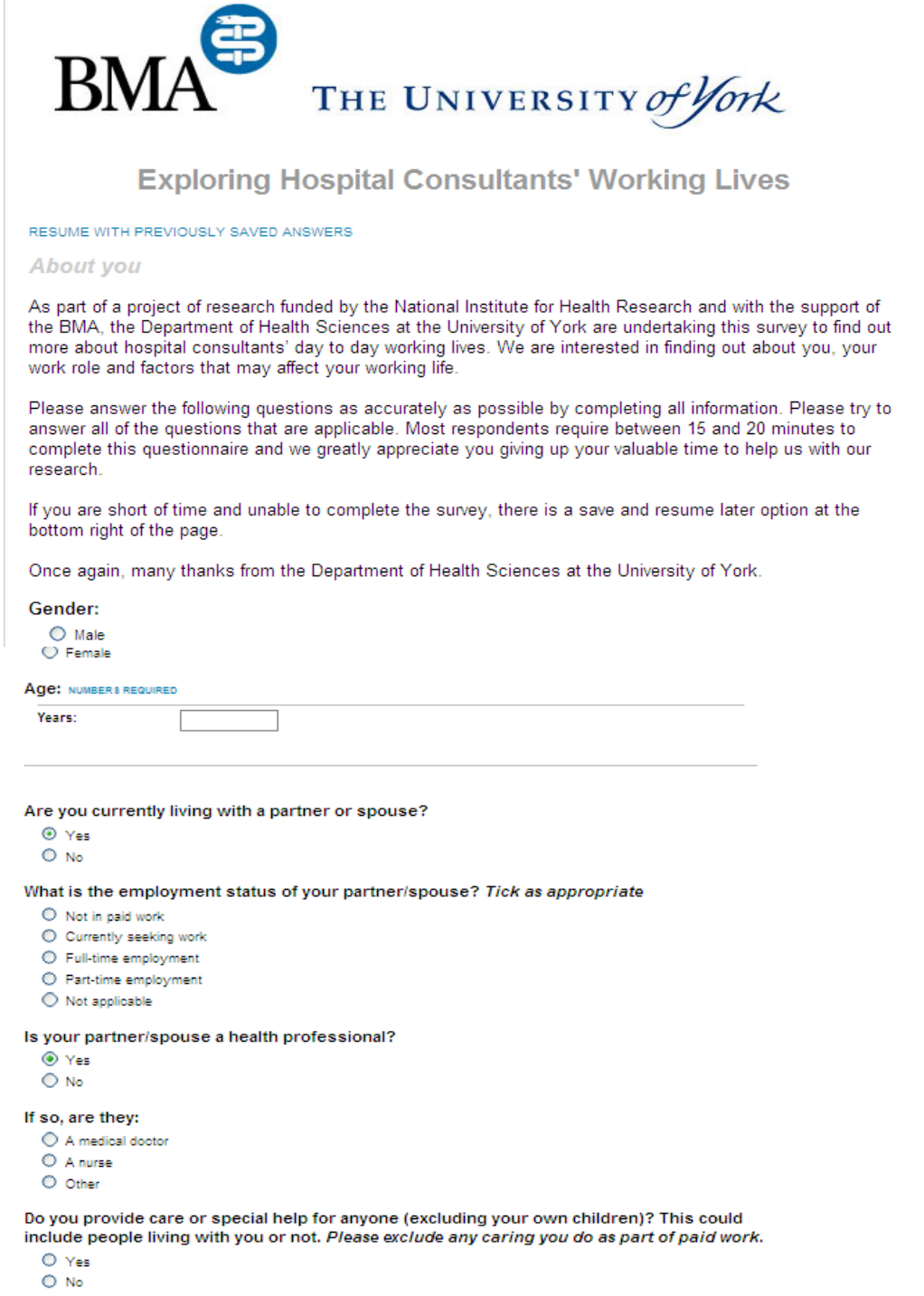
Further feedback

If there are any question that you feel you would like to expand upon, please write them in the box below:

We would also value your views on this questionnaire. If you do have any additional comments please write them in the box below:

Thank you very much for taking the time to complete this survey. Please click the **Submit Answers** button to send us your response.

Appendix 8.4 Internet version of questionnaire (screenshots)



BMA THE UNIVERSITY of York

Exploring Hospital Consultants' Working Lives

RESUME WITH PREVIOUSLY SAVED ANSWERS

About you

As part of a project of research funded by the National Institute for Health Research and with the support of the BMA, the Department of Health Sciences at the University of York are undertaking this survey to find out more about hospital consultants' day to day working lives. We are interested in finding out about you, your work role and factors that may affect your working life.

Please answer the following questions as accurately as possible by completing all information. Please try to answer all of the questions that are applicable. Most respondents require between 15 and 20 minutes to complete this questionnaire and we greatly appreciate you giving up your valuable time to help us with our research.

If you are short of time and unable to complete the survey, there is a save and resume later option at the bottom right of the page.

Once again, many thanks from the Department of Health Sciences at the University of York.

Gender:

- ○ Male
- ○ Female

Age: NUMBERS REQUIRED

Years: [ ]

Are you currently living with a partner or spouse?

- ◉ Yes
- ○ No

What is the employment status of your partner/spouse? *Tick as appropriate*

- ○ Not in paid work
- ○ Currently seeking work
- ○ Full-time employment
- ○ Part-time employment
- ○ Not applicable

Is your partner/spouse a health professional?

- ◉ Yes
- ○ No

If so, are they:

- ○ A medical doctor
- ○ A nurse
- ○ Other

Do you provide care or special help for anyone (excluding your own children)? This could include people living with you or not. *Please exclude any caring you do as part of paid work.*

- ○ Yes
- ○ No

Do you have any children?

- (•) Yes
- ( ) No

In what age group(s) are your children? *Please tick all that apply.*

- [ ] Under 5
- [ ] 5 to <11
- [ ] 11 to <16
- [ ] 16 +

And which of the following forms of childcare do you use for your children? *Please tick all that apply.*

- [ ] Relatives or friends
- [ ] Nannies
- [ ] Childcare at partner's work
- [ ] Childcare at my workplace
- [ ] Other day care (childcare centre etc)
- [ ] After school clubs

What type of school do your children attend?

- [ ] State school
- [ ] Private school (non-boarding)
- [ ] Private school (boarding)

Survey 0% complete

Next >

About your medical career

This section of the survey explores the details and characteristics of your work.

In which year did you complete your undergraduate medical training? NUMBER S REQUIRED

Year: [ ]

Where did you complete your undergraduate medical training?

- ( ) A medical school within the United Kingdom
- ( ) A medical school within the European Economic Area
- ( ) A medical school outside the European Economic Area

In which year did you complete your specialist training? NUMBER S REQUIRED

Year: [ ]

In which year did you first take up a substantive consultant post? NUMBER S REQUIRED

Year: [ ]

What is the specialty in which you practice?

[Please select an answer]

< Previous

Survey 6% complete

Next >

SAVE YOUR ANSWERS TO RESUME LATER

Working teams

This section of the survey asks about the interactions you have with the various colleagues that you may work with on a day to day basis. Please indicate the degree to which you agree or disagree with the following statements. **Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

In general, the following colleagues are cooperative and help me in my day to day work:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Medical managers (e.g. your clinical lead or medical director)	○	○	○	○	○
Non-medical managers	○	○	○	○	○
Consultants from outside of my specialty	○	○	○	○	○
Consultants from within my specialty	○	○	○	○	○
Senior grade non-training doctors*	○	○	○	○	○
Junior doctor colleagues	○	○	○	○	○
Nursing colleagues from outside my specialty	○	○	○	○	○
Nursing colleagues within my specialty	○	○	○	○	○
Medical secretaries	○	○	○	○	○

In general, I find that I am able to delegate tasks to:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Senior grade non-training doctors*	○	○	○	○	○
Junior doctor colleagues	○	○	○	○	○
Nursing colleagues from outside my specialty	○	○	○	○	○
Nursing colleagues within my specialty	○	○	○	○	○
Medical secretaries	○	○	○	○	○
Other administrative staff	○	○	○	○	○

In general, when I ask for something to be done it is usually carried out appropriately by:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Consultants from outside of my specialty	○	○	○	○	○
Consultants from within my specialty	○	○	○	○	○
Senior grade non-training doctors*	○	○	○	○	○
Junior doctor colleagues	○	○	○	○	○
Nursing colleagues from outside my specialty	○	○	○	○	○
Nursing colleagues within my specialty	○	○	○	○	○
Medical secretaries	○	○	○	○	○
Other administrative staff	○	○	○	○	○

< Previous Survey 18% complete Next >

SAVE YOUR ANSWERS TO RESUME LATER

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel comfortable being assertive when necessary with colleagues	○	○	○	○	○
I'm often asked to do things because I'm more approachable than my colleagues	○	○	○	○	○
I feel well supported at work	○	○	○	○	○
On the whole, relationships in my workplace are strained	○	○	○	○	○
In general, I find that I am able to ask for input from fellow consultants	○	○	○	○	○
Generally, I am confident in the competency of the junior doctors that I work with	○	○	○	○	○
My concerns about juniors' competence mean that I do not delegate as much as I'd like to	○	○	○	○	○

I share my admin workload with the junior doctors in my specialty	○	○	○	○	○
I feel that the junior doctor role is important for service provision and is not just a learning role	○	○	○	○	○

< Previous | Survey 25% complete | Next >

SAVE YOUR ANSWERS TO RESUME LATER

Gender in medicine

This section of the survey is concerned with exploring your attitudes and beliefs about the impact doctors' gender may have on their day to day work.

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In general, I feel that men and women are treated differently in medicine	○	○	○	○	○
I feel that I am treated differently by my colleagues because of my gender	○	○	○	○	○
I feel that I am treated differently by patients because of my gender	○	○	○	○	○
I feel that my gender has been a barrier in my career progression	○	○	○	○	○
I have experienced discrimination because of my gender	○	○	○	○	○

< Previous | Survey 31% complete | Next >

SAVE YOUR ANSWERS TO RESUME LATER

Consulting style

This section of the survey explores your experiences and aspects of your approach to communicating with patients.

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)	○	○	○	○	○	○
I feel it is important to engage in psychological and social conversation with patients as well as discussing their medical condition	○	○	○	○	○	○
When I am short of time I feel comfortable about reducing the amount of time I spend on psychological and social communication with patients	○	○	○	○	○	○
When under time pressure I feel able to complete a consultation quickly if it is appropriate to do so	○	○	○	○	○	○

< Previous | Survey 37% complete | Next >

Workload

Consultants often manage high workloads in the NHS. This section of the survey explores your experiences and feelings towards your workload.

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I find it difficult to take time off work when I WANT to (e.g. for holidays)	○	○	○	○	○
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	○	○	○	○	○
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	○	○	○	○	○
I find it difficult to meet the conflicting demands on my time at work	○	○	○	○	○
I regularly take work home with me in order to stay on top of things	○	○	○	○	○
My workload is adversely affecting my health	○	○	○	○	○
Overall, I am satisfied with my level of workload	○	○	○	○	○

Work-life balance

There is increasing emphasis placed on individuals achieving the right balance between their work and home lives. These questions explore your general feelings about work-life balance and potential 'spillover' you may experience from your home to work life and from your work to home life.

Please indicate the degree to which you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Generally, I perceive my life to be stressful	○	○	○	○	○
I have hobbies and leisure interests outside of work	○	○	○	○	○
It is challenging to manage competing responsibilities at home and at work	○	○	○	○	○
I manage to maintain the balance between my personal and professional commitments	○	○	○	○	○
I feel that my responsibilities at home put pressure on me when I am at work	○	○	○	○	○
I feel that my work regularly suffers because of my commitments at home	○	○	○	○	○
I find it difficult to manage the effect work has on my home life	○	○	○	○	○
I find that I am able to switch off from work when I leave	○	○	○	○	○
I feel well supported at home	○	○	○	○	○
Pressure at work, now or in the past, means that I have considered delaying or not having children	○	○	○	○	○
I feel that my home life regularly suffers because of my work commitments	○	○	○	○	○
I feel as if I am missing out on important events outside of work	○	○	○	○	○

< Previous

Survey 50% complete

Next >

Effect of work on family life

This section of the survey explores the impact your work may have on your home life.

Please indicate the degree to which you agree or disagree with the following statement:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel as if I am missing out on important aspects of my children's life	○	○	○	○	○
I have difficulty with the practical arrangements of childcare	○	○	○	○	○
When arranging maternity / paternity leave I felt guilty informing my colleagues that I would need to take time out	○	○	○	○	○

Please indicate the degree to which you agree or disagree with the following statement:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
I have experienced difficulty trying to arrange maternity cover in the past	○	○	○	○	○	○
I have experienced difficulty trying to arrange paternity cover in the past	○	○	○	○	○	○

< *Previous* Survey 56% complete *Next* >

SAVE YOUR ANSWERS TO RESUME LATE

Characteristics of your work

This section of the survey aims to find out specific details of how your working week is planned.

In your agreed contract, how many programmed activities (PAs) do you spend on the following?

NUMBERS REQUIRED

Total contracted PAs per week	
Total PAs per week on direct clinical care (e.g. patient consultations)	
Total PAs per week on supporting professional activity (e.g. CPD, audit, teaching)	
Total PAs per week on additional NHS responsibilities (e.g. clinical director, committee membership)	
Total PAs per week on external duties (e.g. Royal College examiner, GMC assessor)	
Total PAs per week on clinical academic activity (work employed by a university)	

Do you have a managerial responsibility in your organisation?

- ○ Yes
- ○ No

Have you had a job plan agreed in the past 12 months?

- ◉ Yes
- ○ No

If so, is your job plan a reasonably accurate reflection of your workload?

- ○ Yes
- ○ No

< *Previous* Survey 62% complete *Next* >

SAVE YOUR ANSWERS TO RESUME LATER

If you generally work more than your agreed number of hours per week, how many additional hours (including time working from home) do you estimate you work in a typical week?

[Please select an answer]

In the following questions we are interested in the time and patients seen in your own outpatient clinics. Please provide details of your own clinics, not those of your colleagues or any junior doctors under your supervision.

Thinking about *new patients* that you see in your outpatients clinic: NUMBERS REQUIRED

Approximately how much time is scheduled for your standard outpatient clinic **(mins)**	
Approximately how much time does your standard outpatient clinic actually take **(mins)**	
Approximately how many patients are you scheduled to see during your standard outpatient clinic **(no. of patients)**	
Approximately how many patients do you actually see during your standard outpatient clinic **(no. of patients)**	

Thinking about the *follow up patients* that you see in your outpatients clinic: NUMBERS REQUIRED

Approximately how much time is scheduled for your standard outpatient clinic **(mins)**	
Approximately how much time does your standard outpatient clinic actually take **(mins)**	
Approximately how many patients are you scheduled to see during your standard outpatient clinic **(no. of patients)**	
Approximately how many patients do you actually see during your standard outpatient clinic **(no.of patients)**	

If you work in an operating theatre or carry out other interventions/investigations, how often do you find that your sessions overrun?

[Please select an answer]

< Previous Survey 68% complete Next >

SAVE YOUR ANSWERS TO RESUME LATER

If you work in the private sector, approximately how many HOURS in an average week do you work in the private sector?

- ○ Less than 4
- ○ 4 to <8
- ○ 8 to <12
- ○ 12 +
- ○ Not applicable

If you work on call, what is the category and frequency of your on call arrangements? *For example if it is 1 in 8, write 8 in the box corresponding to the on call category in which you work*. If you do no undertake on call in one or either of these categories then please answer 0. NUMBERS REQUIRED

Category A: Applies when you are typically required to return immediately to site when called or to undertake interventions with a similar level of complexity to those that would normally be carried out on site, such as telemedicine or complex telephone consultations)	
Category B: Applies when you typically respond by giving telephone advice and/or by returning to work later)	

In the following settings, please indicate which of the following colleagues you have access to AND/OR regularly use. Please tick ALL that apply.
**Senior grade doctors, also called Staff and Associate Specialist (SAS) doctors are those that are no longer in training but are not consultants.*

I have access to:

	Clinics	Ward
Specialist nurses	☐	☐
Other nurses	☐	☐
Junior doctors	☐	☐
Senior grade non-training doctors*	☐	☐
Fellow consultants	☐	☐
Other	☐	☐

I regularly use:

	Clinics	Ward
Specialist nurses	☐	☐

Overall satisfaction

For the following two questions, please indicate the degree to which you feel satisfied or dissatisfied using the scale below, where 1 signifies complete dissatisfaction and 10 signifies complete satisfaction

All things considered, how satisfied are you with life in general?

- 1=Completely dissatisfied
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10=Completely satisfied

All things considered, how satisfied are you with your choice of career?

- 1=Completely dissatisfied
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10=Completely satisfied

< Previous | Survey 87% complete | Next >

Further feedback

If there are any questions that you feel you would like to expand upon, please write them in the box below:

[Type your answer here]

We would also value your views on this questionnaire. If you do have any additional comments please write them in the box below:

[Type your answer here]

Thank you very much for taking the time to complete this survey. Please click the Submit Answers button to send us your response.

< Previous | Survey 93% complete | Submit Answers

Appendix 8.5: Mean item scores and responses to attitudinal items

Item	Mean score (SD)	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
In general, the following colleagues are cooperative and help me in my day to day work:						
Medical managers (e.g. clinic leads)	3.59 (1.08)	7 (4.5)	23 (14.6)	25 (15.9)	75 (47.8)	27 (17.2)
Non-medical managers	2.99 (1.09)	15 (9.6)	44 (28.0)	31 (19.7)	63 (40.1)	4 (2.5)
Consultants from outside my specialty	3.78 (0.78)	3 (1.9)	6 (3.8)	33 (21.2)	95 (60.9)	19 (12.2)
Consultants within my specialty	4.32 (0.75)	1 (0.6)	1 (0.6)	18 (11.5)	63 (40.4)	73 (46.8)
Senior grade non-training doctors	3.92 (0.91)	3 (2.0)	8 (5.2)	29 (19.0)	73 (47.7)	40 (26.1)
Junior doctor colleagues	3.95 (0.85)	3 (1.9)	8 (5.2)	18 (11.6)	92 (59.4)	34 (21.9)
Nursing colleagues from outside my specialty	3.24 (0.89)	7 (4.5)	16 (10.2)	76 (48.4)	48 (30.6)	10 (6.4)
Nursing colleagues within my specialty	4.28 (0.68)	0 (0)	3 (1.9)	11 (7.0)	82 (52.2)	61 (38.9)
Medical secretaries	4.43 (0.80)	3 (1.9)	2 (1.3)	7 (4.5)	58 (37.2)	86 (55.1)
Other administrative staff	3.72 (0.92)	5 (3.2)	9 (5.7)	38 (24.2)	80 (51.0)	25 (15.9)
In general, I find that I am able to delegate tasks to:						
Senior grade non-training doctors	3.40 (1.11)	13 (8.4)	15 (9.7)	47 (30.5)	57 (37.0)	22 (14.3)
Junior doctor colleagues	3.66 (1.02)	7 (4.5)	17 (10.9)	23 (14.7)	84 (53.8)	25 (16.0)
Nursing colleagues from outside my specialty	2.56 (1.01)	26 (17.2)	46 (30.5)	49 (32.5)	29 (19.2)	1 (0.7)
Nursing colleagues within my specialty	3.92 (0.84)	1 (0.6)	10 (6.4)	26 (16.7)	82 (52.6)	37 (23.7)
Medical secretaries	4.04 (0.85)	2 (1.3)	6 (3.8)	23 (14.7)	78 (50.0)	47 (30.1)
Other administrative staff	3.31 (0.91)	6 (3.8)	19 (12.2)	63 (40.4)	57 (36.5)	11 (7.1)
In general, when I ask for something to be done it is usually carried out appropriately by:						
Consultants from outside my specialty	3.62 (0.89)	6 (3.9)	8 (5.2)	42 (27.1)	82 (52.9)	17 (11.0)
Consultants within my specialty	4.15 (0.75)	1 (0.6)	5 (3.2)	12 (7.7)	88 (56.8)	49 (31.6)
Senior grade non-training doctors	3.79 (0.89)	4 (2.6)	6 (3.9)	37 (24.3)	76 (50.0)	29 (19.1)
Junior doctor colleagues	3.87 (0.82)	5 (3.2)	2 (1.3)	28 (17.9)	94 (60.3)	27 (17.3)
Nursing colleagues from outside my specialty	3.14 (0.90)	9 (5.8)	20 (13.0)	72 (46.8)	47 (30.5)	6 (3.9)
Nursing colleagues within my specialty	4.11 (0.70)	1 (0.6)	2 (1.3)	19 (12.1)	92 (58.6)	43 (27.4)
Medical secretaries	4.24 (0.77)	2 (1.3)	3 (1.9)	11 (7.0)	80 (51.0)	61 (38.9)

Other administrative staff	3.56 (0.91)	5 (3.2)	13 (8.4)	45 (29.0)	75 (48.4)	17 (11.0)
I feel comfortable being assertive when necessary with colleagues	3.70 (0.87)	0 (0)	21 (13.4)	28 (17.8)	86 (54.8)	22 (14.0)
I'm often asked to do things because I'm more approachable than my colleagues	4.18 (0.73)	0 (0)	3 (1.9)	21 (13.5)	76 (48.7)	56 (35.9)
I feel well supported at work	3.28 (1.04)	10 (6.4)	26 (16.7)	43 (27.6)	66 (42.3)	11 (7.1)
On the whole, relationships in my workplace are strained	2.47 (1.18)	31 (19.7)	68 (43.3)	25 (15.9)	20 (12.7)	13 (8.3)
In general, I find that I am able to ask for input from fellow consultants	4.11 (0.79)	0 (0)	8 (5.2)	17 (11.0)	80 (51.6)	50 (32.3)
Generally, I am confident in the competency of the junior doctors that I work with	3.33 (0.93)	5 (3.2)	25 (16.1)	50 (32.3)	65 (41.9)	10 (6.5)
My concerns about juniors' competence mean that I do not delegate as much as I'd like to	3.14 (1.07)	8 (5.1)	44 (28.2)	32 (20.5)	61 (39.1)	11 (7.1)
I share my admin workload with the junior doctors in my specialty	2.21 (1.07)	45 (29.2)	61 (39.6)	23 (14.9)	23 (14.9)	2 (1.3)
I feel that the junior doctor role is important for service provision and is not just a learning role	4.00 (0.93)	4 (2.5)	8 (5.1)	17 (10.8)	81 (51.6)	47 (29.9)
In general, I feel that men and women are treated differently in medicine	2.83 (1.13)	17 (10.8)	58 (36.9)	25 (15.9)	50 (31.8)	7 (4.5)
I feel that I am treated differently by my colleagues because of my gender	2.25 (1.12)	44 (28.2)	62 (39.7)	21 (13.5)	24 (15.4)	5 (3.2)
I feel that I am treated differently by patients because of my gender	2.44 (1.14)	38 (24.2)	53 (33.8)	28 (17.8)	35 (22.3)	3 (1.9)
I feel that my gender has been a barrier in my career progression	1.75 (0.87)	72 (45.9)	63 (40.1)	15 (9.6)	4 (2.5)	3 (1.9)
I have experienced discrimination because of my gender	1.94 (1.11)	68 (43.3)	57 (36.3)	14 (8.9)	10 (6.4)	8 (5.1)
I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)*	4.24 (0.75)	4 (2.5)	14 (8.9)	83 (52.9)	52 (33.1)	4 (2.5)
I feel it is important to engage in psychosocial conversation with patients as well as discussing	4.49 (0.78)	1 (0.6)	4 (2.6)	6 (3.8)	56 (35.9)	85 (54.5)

their medical condition*						
When I am short of time I feel uncomfortable about reducing the amount of time I spend on psychosocial communication with patients*	2.91 (1.25)	18 (11.5)	55 (35.3)	22 (14.1)	46 (29.5)	13 (8.3)
When under time pressure I feel able to complete a consultation quickly, if it is appropriate to do so*	3.73 (1.04)	6 (3.9)	16 (10.3)	24 (15.5)	80 (51.6)	26 (16.8)
I find it difficult to take time off work when I WANT to (e.g. for holidays)	2.97 (1.24)	20 (12.7)	49 (31.2)	18 (11.5)	56 (35.7)	14 (8.9)
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	2.97 (1.24)	18 (11.5)	52 (33.3)	24 (15.4)	47 (30.1)	15 (9.6)
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	3.83 (1.19)	6 (3.8)	26 (16.7)	11 (7.1)	58 (37.2)	55 (35.3)
I find it difficult to meet the conflicting demands on my time at work	3.79 (1.06)	3 (1.9)	24 (15.3)	18 (11.5)	70 (44.6)	42 (26.8)
I regularly take work home with me in order to stay on top of things	3.89 (1.14)	7 (4.5)	19 (12.1)	13 (8.3)	63 (40.1)	55 (35.0)
My workload is adversely affecting my health	3.02 (1.14)	12 (7.7)	46 (29.5)	40 (25.6)	42 (26.9)	16 (10.3)
Overall, I am satisfied with my level of workload	2.75 (1.13)	18 (11.5)	60 (38.2)	35 (22.3)	32 (20.4)	12 (7.6)
Generally, I perceive my life to be stressful	3.55 (1.03)	4 (2.6)	28 (17.9)	22 (14.1)	80 (51.3)	22 (14.1)
I have hobbies and leisure interests outside of work	3.94 (1.02)	5 (3.2)	15 (9.6)	12 (7.6)	78 (49.7)	47 (29.9)
It is challenging to manage competing responsibilities at home and at work	3.95 (0.89)	1 (0.6)	14 (8.9)	18 (11.5)	82 (52.2)	42 (26.8)
I manage to maintain the balance between my personal and professional commitments	3.13 (1.09)	11 (7.1)	37 (23.7)	42 (26.9)	52 (33.3)	14 (9.0)
I feel that my responsibilities at home put pressure on me when I am at work	2.71 (1.10)	15 (9.7)	69 (44.5)	29 (18.7)	32 (20.6)	10 (6.5)
I feel that my work regularly suffers because of my commitments at home	1.89 (0.76)	49 (31.2)	82 (52.2)	22 (14.0)	3 (1.9)	1 (0.6)
I find it difficult to manage the effect work has on my home life	3.04 (1.13)	11 (7.2)	46 (30.1)	38 (24.8)	43 (28.1)	15 (9.8)
I find that I am able to switch off from work when I leave	3.00 (1.16)	14 (8.9)	49 (31.2)	32 (20.4)	48 (30.6)	14 (8.9)

I feel well supported at home	4.19 (1.01)	4 (2.6)	9 (5.8)	16 (10.3)	52 (33.3)	75 (48.1)
Pressure at work, now or in the past, means that I have considered delaying or not having children	2.55 (1.41)	50 (32.7)	32 (20.9)	27 (17.6)	25 (16.3)	19 (12.4)
I feel that my home life regularly suffers because of my work commitments	3.48 (1.24)	12 (7.8)	28 (18.2)	23 (14.9)	56 (36.4)	35 (22.7)
I feel as if I am missing out on important events outside of work	3.54 (1.20)	9 (5.8)	30 (19.4)	18 (11.6)	63 (40.6)	35 (22.6)
I feel as if I am missing out on important aspects of my children's life	3.42 (1.23)	10 (7.7)	26 (20.0)	20 (15.4)	48 (36.9)	26 (20.0)
I have difficulty with the practical arrangements of childcare	2.67 (1.14)	18 (14.4)	45 (36.0)	31 (24.8)	22 (17.6)	9 (7.2)
I have experienced difficulty trying to arrange maternity cover in the past*	4.50 (1.83)	8 (6.3)	20 (15.7)	17 (13.4)	7 (5.5)	6 (4.7)
I have experienced difficulty trying to arrange paternity cover in the past*	3.92 (1.79)	10 (7.7)	26 (20.0)	29 (22.3)	11 (8.5)	8 (6.2)
When arranging maternity/paternity leave I felt guilty informing my colleagues that I would need to take time out	2.79 (1.18)	21 (16.7)	31 (24.6)	38 (30.2)	26 (20.6)	10 (7.9)

Appendix 8.6: Item responses by gender

Item	Men					Women				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In general, the following colleagues are cooperative and help me in my day to day work:										
Medical managers (e.g. clinic leads)	4 (3.4)	15 (12.9)	19 (16.4)	59 (50.9)	19 (16.4)	3 (7.3)	8 (19.5)	6 (14.6)	19 (39.0)	8 (19.5)
Non-medical managers	10 (8.6)	29 (25.0)	24 (20.7)	49 (42.2)	4 (3.4)	5 (12.2)	15 (36.6)	7 (17.1)	14 (34.1)	0 (0.0)
Consultants from outside my specialty	2 (1.7)	5 (4.3)	26 (22.6)	67 (58.3)	15 (13.0)	1 (2.4)	1 (2.4)	7 (17.1)	28 (68.3)	4 (9.8)
Consultants within my specialty	1 (0.9)	1 (0.9)	13 (11.3)	44 (38.3)	56 (48.7)	0 (0)	0 (0)	5 (12.2)	19 (46.3)	17 (41.5)
Senior grade non-training doctors	3 (2.6)	5 (4.4)	19 (16.7)	63 (55.3)	24 (21.1)	0 (0)	3 (7.7)	10 (25.6)	10 (25.6)	16 (41.0)
Junior doctor colleagues	3 (2.6)	6 (5.2)	14 (12.2)	67 (58.3)	25 (21.7)	0 (0)	2 (5.0)	4 (10.0)	25 (62.5)	9 (22.5)
Nursing colleagues from outside my specialty	5 (4.3)	13 (11.2)	57 (49.1)	33 (28.4)	8 (6.9)	2 (4.9)	3 (7.3)	19 (46.3)	15 (36.6)	2 (4.9)
Nursing colleagues within my specialty	0 (0)	1 (0.9)	8 (6.9)	63 (54.3)	44 (37.9)	0 (0)	2 (4.9)	3 (7.3)	19 (46.3)	17 (41.5)
Medical secretaries	1 (0.9)	2 (1.7)	5 (4.3)	43 (37.4)	64 (55.7)	2 (4.9)	0 (0)	2 (4.9)	15 (36.6)	22 (53.7)
Other administrative staff	5 (4.3)	5 (4.3)	27 (23.3)	60 (51.7)	19 (16.4)	0 (0)	4 (9.8)	11 (26.8)	20 (48.8)	6 (14.6)
In general, I find that I am able to delegate tasks to:										
Senior grade non-training doctors	11 (9.6)	10 (8.7)	33 (28.7)	43 (37.4)	18 (15.7)	2 (5.1)	5 (12.8)	14 (35.9)	14 (35.9)	4 (10.3)

Junior doctor colleagues	6 (5.2)	13 (11.2)	16 (13.8)	60 (51.7)	21 (18.1)	1 (2.5)	4 (10.0)	7 (17.5)	24 (60.0)	4 (10.0)
Nursing colleagues from outside my specialty	20 (17.7)	31 (27.4)	35 (31.0)	26 (23.0)	1 (0.9)	6 (15.8)	15 (39.5)	14 (36.8)	3 (7.9)	0 (0)
Nursing colleagues within my specialty	0 (0)	8 (7.0)	18 (15.7)	60 (52.2)	29 (25.2)	1 (2.4)	2 (4.9)	8 (19.5)	22 (53.7)	8 (19.5)
Medical secretaries	1 (0.9)	3 (2.6)	17 (14.8)	57 (49.6)	37 (32.2)	1 (2.4)	3 (7.3)	6 (14.6)	21 (51.2)	10 (24.4)
Other administrative staff	5 (4.3)	12 (10.4)	45 (39.1)	45 (39.1)	8 (7.0)	1 (2.4)	7 (17.1)	18 (43.9)	12 (29.3)	3 (7.3)
In general, when I ask for something to be done it is usually carried out appropriately by:										
Consultants from outside my specialty	5 (4.3)	7 (6.0)	29 (25.0)	62 (53.4)	13 (11.2)	1 (2.6)	1 (2.6)	13 (33.3)	20 (51.3)	4 (10.3)
Consultants within my specialty	0 (0)	5 (4.4)	9 (7.9)	64 (56.1)	36 (31.6)	1 (2.4)	0 (0)	3 (7.3)	24 (58.5)	13 (31.7)
Senior grade non-training doctors	3 (2.6)	6 (5.3)	25 (21.9)	57 (50.0)	23 (20.2)	1 (2.6)	0 (0)	12 (31.6)	19 (50.0)	6 (15.8)
Junior doctor colleagues	4 (3.4)	2 (1.7)	18 (15.5)	69 (59.5)	23 (19.8)	1 (2.5)	0 (0)	10 (25.0)	25 (62.5)	4 (10.0)
Nursing colleagues from outside my specialty	7 (6.1)	16 (14.0)	47 (41.2)	38 (33.3)	6 (5.3)	2 (5.0)	4 (10.0)	25 (62.5)	9 (22.5)	0 (0)
Nursing colleagues within my specialty	0 (0)	2 (1.7)	13 (11.2)	68 (58.6)	33 (28.4)	1 (2.4)	0 (0)	6 (14.6)	24 (58.5)	10 (24.4)
Medical secretaries	1 (0.9)	1 (0.9)	7 (6.0)	61 (52.6)	46 (39.7)	1 (2.4)	2 (4.9)	4 (9.8)	19 (46.3)	15 (36.6)
Other administrative staff	5 (4.3)	6 (5.2)	35 (30.4)	57 (49.6)	12 (10.4)	0 (0)	7 (17.5)	10 (25.0)	18 (45.0)	5 (12.5)
I feel comfortable being assertive when necessary with colleagues	0 (0.0)	16 (13.8)	19 (16.4)	63 (54.3)	18 (15.5)	0 (0.0)	5 (12.2)	9 (22.0)	23 (56.1)	4 (9.8)
I'm often asked to do things because I'm more approachable than my colleagues	0 (0.0)	3 (2.6)	18 (15.5)	55 (47.4)	40 (34.5)	0 (0.0)	0 (0.0)	3 (7.5)	21 (52.5)	16 (40.0)

I feel well supported at work	7 (6.1)	17 (14.8)	28 (24.3)	54 (47.0)	9 (7.8)	3 (7.3)	9 (22.0)	15 (36.6)	12 (29.3)	2 (4.9)
On the whole, relationships in my workplace are strained	21 (18.1)	52 (44.8)	18 (15.5)	17 (14.7)	8 (6.9)	10 (24.4)	16 (39.0)	7 (17.1)	3 (7.3)	5 (12.2)
In general, I find that I am able to ask for input from fellow consultants	0 (0.0)	6 (5.2)	15 (13.0)	56 (48.7)	38 (33.0)	0 (0.0)	2 (5.0)	2 (5.0)	24 (60.0)	12 (30.0)
Generally, I am confident in the competency of the junior doctors that I work with	5 (4.3)	17 (14.8)	38 (33.0)	47 (40.9)	8 (7.0)	0 (0.0)	8 (20.0)	12 (30.0)	18 (45.0)	2 (5.0)
My concerns about juniors' competence mean that I do not delegate as much as I'd like to	8 (6.9)	33 (28.4)	22 (19.0)	44 (37.9)	9 (7.8)	0 (0.0)	11 (27.5)	10 (25.0)	17 (42.5)	2 (5.0)
I share my admin workload with the junior doctors in my specialty	32 (27.8)	44 (38.3)	18 (15.7)	19 (16.5)	2 (1.7)	13 (33.3)	17 (43.6)	5 (12.8)	4 (10.3)	0 (0)
I feel that the junior doctor role is important for service provision and is not just a learning role	2 (1.7)	6 (5.2)	13 (11.2)	58 (50.0)	37 (31.9)	2 (4.9)	2 (4.9)	4 (9.8)	23 (56.1)	10 (24.4)
In general, I feel that men and women are treated differently in medicine	15 (12.9)	46 (39.7)	19 (16.4)	33 (28.4)	3 (2.6)	2 (4.9)	12 (29.3)	6 (14.6)	17 (41.5)	4 (9.8)
I feel that I am treated differently by my colleagues because of my gender	39 (33.6)	47 (40.5)	16 (13.8)	13 (11.2)	1 (0.9)	5 (12.5)	15 (37.5)	5 (12.5)	11 (27.5)	4 (10.0)
I feel that I am treated differently by patients because of my gender	32 (27.6)	40 (34.5)	21 (18.1)	22 (19.0)	1 (0.9)	6 (14.6)	13 (31.7)	7 (17.1)	13 (31.7)	2 (4.9)
I feel that my gender has been a barrier in my career	61 (52.6)	45 (38.8)	8 (6.9)	2 (1.7)	0 (0.0)	11 (26.8)	18 (43.9)	7 (17.1)	2 (4.9)	3 (7.3)

progression										
I have experienced discrimination because of my gender	59 (50.9)	41 (35.3)	10 (8.6)	3 (2.6)	3 (2.6)	9 (22.0)	16 (39.0)	4 (9.8)	7 (17.1)	5 (12.2)
I feel comfortable being assertive, when necessary, with patients (for example when redirecting their conversation back onto my line of enquiry)*	3 (2.6)	11 (9.5)	59 (50.9)	40 (34.5)	3 (2.6)	1 (2.4)	3 (7.3)	24 (58.5)	12 (29.3)	1 (2.4)
I feel it is important to engage in psychosocial conversation with patients as well as discussing their medical condition*	1 (0.9)	4 (3.4)	6 (5.2)	42 (36.2)	60 (51.7)	0 (0.0)	0 (0.0)	0 (0.0)	14 (35.0)	25 (62.5)
When I am short of time I feel uncomfortable about reducing the amount of time I spend on psychosocial communication with patients*	13 (11.3)	34 (29.6)	18 (15.7)	37 (32.2)	12 (10.4)	5 (12.2)	21 (51.2)	4 (9.8)	9 (22.0)	1 (2.4)
When under time pressure I feel able to complete a consultation quickly, if it is appropriate to do so*	4 (3.5)	12 (10.4)	18 (15.7)	58 (50.4)	21 (18.3)	2 (5.0)	4 (10.0)	6 (15.0)	22 (55.0)	5 (12.5)
I find it difficult to take time off work when I WANT to (e.g. for holidays)	15 (12.9)	33 (28.4)	15 (12.9)	42 (36.2)	11 (9.5)	5 (12.2)	16 (39.0)	3 (7.3)	14 (34.1)	3 (7.3)
I find it difficult to take time off work when I NEED to (e.g. for family commitments or illness)	15 (13.0)	41 (35.7)	20 (17.4)	33 (28.7)	6 (5.2)	3 (7.3)	11 (26.8)	4 (9.8)	14 (34.1)	9 (22.0)
I find it difficult to take breaks away from my work (e.g. for meals) during my working day	5 (4.3)	20 (17.4)	9 (7.8)	44 (38.3)	37 (32.2)	1 (2.4)	6 (14.6)	2 (4.9)	14 (34.1)	18 (43.9)

I find it difficult to meet the conflicting demands on my time at work	2 (1.7)	18 (15.5)	15 (12.9)	52 (44.8)	29 (25.0)	1 (2.4)	6 (14.6)	3 (7.3)	18 (43.9)	13 (31.7)
I regularly take work home with me in order to stay on top of things	3 (2.6)	15 (12.9)	10 (8.6)	48 (41.4)	40 (34.5)	4 (9.8)	4 (9.8)	3 (7.3)	15 (36.6)	15 (36.6)
My workload is adversely affecting my health	10 (8.7)	29 (25.2)	33 (28.7)	33 (28.7)	10 (8.7)	2 (4.9)	17 (41.5)	7 (17.1)	9 (22.0)	6 (14.6)
Overall, I am satisfied with my level of workload	13 (11.2)	43 (37.1)	27 (23.3)	25 (21.6)	8 (6.9)	5 (12.2)	17 (41.5)	8 (19.5)	7 (17.1)	4 (9.8)
Generally, I perceive my life to be stressful	3 (2.6)	21 (18.3)	15 (13.0)	59 (51.3)	17 (14.8)	1 (2.4)	7 (17.1)	7 (17.1)	21 (51.2)	5 (12.2)
I have hobbies and leisure interests outside of work	4 (3.4)	13 (11.2)	10 (8.6)	58 (50.0)	31 (26.7)	1 (2.4)	2 (4.9)	2 (4.9)	20 (48.8)	16 (39.0)
It is challenging to manage competing responsibilities at home and at work	1 (0.9)	10 (8.6)	14 (12.1)	65 (56.0)	26 (22.4)	0 (0)	4 (9.8)	4 (9.8)	17 (41.5)	16 (39.0)
I manage to maintain the balance between my personal and professional commitments	7 (6.0)	30 (25.9)	29 (25.0)	41 (35.3)	9 (7.8)	4 (10.0)	7 (17.5)	13 (32.5)	11(27.5)	5 (12.5)
I feel that my responsibilities at home put pressure on me when I am at work	13 (11.3)	53 (46.1)	20 (17.4)	24 (20.9)	5 (4.3)	2 (5.0)	16 (40.0)	9 (22.5)	8 (20.0)	5 (12.5)
I feel that my work regularly suffers because of my commitments at home	35 (30.2)	63 (54.3)	15 (12.9)	2 (1.7)	1 (0.9)	14 (34.1)	19 (46.3)	7 (17.1)	1 (2.4)	0 (0)
I find it difficult to manage the effect work has on my home life	8 (7.0)	36 (31.3)	28 (24.3)	33 (28.7)	10 (8.7)	3 (7.9)	10 (26.3)	10 (26.3)	10 (26.3)	5 (13.2)
I find that I am able to switch off from work when I leave	10 (8.6)	39 (33.6)	21 (18.1)	35 (30.2)	11 (9.5)	4 (9.8)	10 (24.4)	11 (26.8)	13 (31.7)	3 (7.3)

I feel well supported at home	2 (1.7)	5 (4.3)	13 (11.3)	36 (31.3)	59 (51.3)	2 (4.9)	4 (9.8)	3 (7.3)	16 (39.0)	16 (39.0)
Pressure at work, now or in the past, means that I have considered delaying or not having children	41 (36.6)	24 (21.4)	23 (20.5)	12 (10.7)	12 (10.7)	9 (22.0)	8 (19.5)	4 (9.8)	13 (31.7)	7 (17.1)
I feel that my home life regularly suffers because of my work commitments	10 (8.8)	21 (18.4)	18 (15.8)	41 (36.0)	24 (21.1)	2 (5.0)	7 (17.5)	5 (12.5)	15 (37.5)	11 (27.5)
I feel as if I am missing out on important events outside of work	7 (6.1)	23 (20.0)	9 (7.8)	49 (42.6)	27 (23.5)	2 (5.0)	7 (17.5)	9 (22.5)	14 (35.0)	8 (20.0)
I feel as if I am missing out on important aspects of my children's life	7 (7.2)	21 (21.6)	11 (11.3)	38 (39.2)	20 (20.6)	3 (9.1)	5 (15.2)	9 (27.3)	10 (30.3)	6 (18.2)
I have difficulty with the practical arrangements of childcare	14 (14.9)	31 (33.0)	26 (27.7)	17 (18.0)	6 (6.4)	4 (12.9)	14 (45.2)	5 (16.1)	5 (16.1)	3 (9.7)
I have experienced difficulty trying to arrange maternity cover in the past*	3 (3.2)	8 (8.5)	14 (14.9)	0 (0)	3 (3.2)	5 (15.2)	12 (36.4)	3 (9.1)	7 (21.2)	3 (9.1)
I have experienced difficulty trying to arrange paternity cover in the past*	8 (8.2)	25 (25.8)	24 (24.7)	10 (10.3)	8 (8.2)	2 (6.1)	1 (3.0)	5 (15.2)	1 (3.0)	0 (0)
When arranging maternity/paternity leave I felt guilty informing my colleagues that I would need to take time out	16 (17.2)	22 (23.7)	34 (36.6)	13 (14.0)	8 (8.6)	5 (15.2)	9 (27.3)	4 (12.1)	13 (39.4)	2 (6.1)

Appendix 8.7: Additional information from multivariate testing

Cross-tabulation of 'specialty' and 'gender' – demonstrating low numbers in some cell combinations.

	Surgery	Medicine	Anaesthesia	Psychiatry	Radiology	Total
Male	21	47	20	20	8	116
Female	10	19	1	9	2	41
Total	31	66	21	29	10	157

Cross-tabulation of 'having children under 5' and 'gender' – demonstrating low numbers in some cell combinations.

	No children under 5	Children under 5	Total
Male	101	15	116
Female	40	1	41
Total	141	16	157

Ordinal logistic regression model results for 'feeling responsibilities at home put pressure on you when at work' – demonstrating higher error values for some covariates

	Odds ratio	Standard Error	P value	95% Confidence Intervals for OR	
				Lower	Upper
Gender *(reference group is men)*					
Women	2.31	0.90	0.03	1.08	4.94
Specialty *(reference group is surgeons)*					
Medicine	1.59	0.70	0.29	0.67	3.75
Anaesthesia	1.69	0.93	0.34	0.57	4.95
Psychiatry	0.83	0.42	0.71	0.31	2.25
Radiology	0.51	0.36	0.34	0.13	2.01
Partner's employment status *(reference group is 'not in paid work')*					
Currently seeking	1.23	1.60	0.88	0.09	15.81
Part-time	0.87	0.36	0.73	0.38	1.96
Full-time	0.75	0.32	0.51	0.32	1.74
No partner/spouse	0.44	0.28	0.19	0.13	1.50
Having children	2.59	1.22	0.04	1.03	6.50
Having children under 5	2.03	1.03	0.16	0.75	5.50
Being a carer	0.41	0.18	0.04	0.17	0.97

List of abbreviations

ASSIA	Applied Social Science Index and Abstracts
BMA	British Medical Association
CCT	Certificate of Completion of Training
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CT	Computerised Tomography
EWTD	European Working Time Directive
FCE	Finished Consultant Episode
FY1	Foundation Year One
FY2	Foundation Year Two
GMC	General Medical Council
GP	General Practitioner
HCA	Health Care Assistant
HES	Hospital Episode Statistics
HMIC	Health Management Information Consortium
HO	House Officer
MeSH	Medical Subject Heading
NHS	National Health Service
NHS IC	National Health Service Information Centre
OECD	Organisation for Economic Co-operation and Development
PA	Programmed Activity
PRHO	Pre-Registration House Officers
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PHM & CHS	Public Health Medicine and Community Health Service
QUOROM	Quality of Reporting of Meta-Analyses
RCPE	Royal College of Physicians Edinburgh
RIAS	Roter Interaction Analysis System
SAS	Staff and Associate Specialists'
SD	Standard Deviation
SHO	Senior House Officers
UCCA	Universities Central Council on Admissions
UK	United Kingdom
US	United States
WIST	Women In Surgical Training
WTE	Whole-Time Equivalents

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