The mental health and well-being of women in the UK Armed Forces

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Awarding institution:
King’s College London

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The mental health and well-being of women in the UK Armed Forces

Charlotte Woodhead

Supervised by Dr Stephani Hatch and Dr Nicola Fear

Thesis submitted for the degree of Doctor of Philosophy at King’s College London

Department of Psychological Medicine

2012
Abstract

The aims of the study were to a) estimate the prevalence of specific mental and physical health problems among female UK military personnel, b) examine their association with work, family, and interpersonal relationship stressors and protective factors, and c) explore stressors in these domains and their perceived relationship to health among serving and ex-serving women.

A mixed methods approach was used, integrating qualitative and quantitative approaches across several stages of the research. Quantitative data came from female participants (n=1185) who responded to a postal survey questionnaire as part of a cohort study of UK military personnel. This provided the sampling frame for the qualitative study, which included 41 in-depth interviews with purposefully selected participants.

While no statistical impact of deployment or parenthood on health was found overall, the interviews identified a far broader array of stressors, protective factors, and outcomes not measureable from the survey data. In particular, the importance of interpersonal factors on well-being and career intentions among women was emphasised. Sources of stress from three main domains were explored: deployment, parenthood, and integration.

The importance of including more gender-specific stressors and outcomes in understanding factors influencing women’s well-being and decisions to remain in the military was revealed. The study provides a solid basis on which to build future research, both qualitative and quantitative, to further expand and assess the generalisability of the current findings. Implications for policy interventions are discussed.
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Chapter 1  Introduction

1.1  Study background

Women constitute an increasing proportion of the UK Armed Forces - currently comprising 9.7% of the regular UK Armed Forces (9.3%, 8.2% and 13.8% of the Naval Service, Army and Royal Air Force (RAF) respectively), and approximately 12% of the reserve forces (Defence Analytical Services and Advice, DASA 2012).

This increase is partly related to a broader UK trend in which the participation of women in the labour force is growing (Hibbett & Meager 2003) and occupational segregation by gender is declining (Blackwell & Guinea-Martin 2005); an increased awareness of the need to be openly equitable towards minority groups; and, military policies aimed at increasing numbers of non-traditional recruits to make up for declining recruitment among traditional (white, male, middle class) enrollees (Dandeker & Segal 1996). Other factors which may have promoted the recruitment of women into the military include the expansion of roles available to them and an increasing reliance on technical and organisational skills for operational campaigns, rather than traditionally more physical attributes (Segal 1995; Woodward & Winter 2004).

Currently, formal segregation by gender is most evident in the current policy of exclusion from ground combat roles. UK female personnel work in all combat roles in the Royal Navy and RAF, but not in the Royal Marines or British Army. Due to concerns about cohesion and combat effectiveness, women are barred from serving in posts requiring them to engage in direct combat; overall 71%, 67% and 96% of jobs in the Naval Service, Army and RAF respectively are open to them. Females are not permitted to serve in the Royal Marines General Service (as Royal Marine Commandos), the Household Cavalry and Royal Armoured Corps, the Infantry and the Royal Air Force Regiment - except in administrative or support roles (Defence factsheet 2006).

In addition, gender segregation is apparent within the roles open to both men and women. Despite the opening of all posts in the Royal Artillery, Royal Engineers, and Royal Electrical and Mechanical Engineers to women in 1998, women in these areas still gravitate toward more technical but less physically demanding jobs; such as
driving, signalling, and technician work. Similarly, women in the RAF remain concentrated in the medical and dental, communications, and administration trades, despite being eligible for nearly all posts (Women in the Armed Forces 2002).

As of 2006, the highest-ranking females included one commodore in the Royal Navy and two Brigadiers in the Army (see Appendix A: General information, p283 for a list of ranks by service). No women occupied ranks above the level of Brigadier (OF-6 level). At OF-5 level, there were 20 Colonels in the Army and 20 Group Captains in the RAF (Defence Factsheet 2006). Promotion to the highest ranks typically depends on having experience of military operations, particularly in the combat arms, and thus it is likely to take a significant amount of time before successive cohorts of women have the chance to achieve greater levels of authority.

The military therefore remains a ‘gendered organisation’ (Acker 1990), in which there is segregation due to division of labour and the hierarchical distribution of power. Furthermore, there is a division driven by the traditionally gender-typed cultural ascription of the ‘soldier’ or ‘soldiering’ role (Carreiras 2006). This thesis does not attempt to discuss whether women should or should not serve in combat; it focuses on the experiences and well-being of women serving in their current positions.

Military personnel are exposed to a range of potential stressors. Although some of these may be experienced in certain civilian jobs, service personnel are likely to be exposed to several stressors simultaneously and for extended periods (Ridenour 1984). These include the need to regularly relocate; separation from friends and family due to training exercises, deployments, and detachments; an expectation of loyalty and commitment exceeding most civilian occupations; a hierarchical system encompassing structurally defined distinctions of power and prestige; the potential risk of injury or death; unpredictable and unsociable working hours; lack of autonomy; and, an environment in which individuals often work, live, and socially interact with each other on a daily basis. Further, female personnel are potentially exposed to an additional set of stressors, such as those related to living and working in a male-dominated environment, and to balancing the role of primary caregiver with the military lifestyle.

While a proliferation of research, particularly from the US, reflects a growing interest in this sub-group of the military population, research from the UK is sparse. Military
studies generally either exclude women due to their small numbers in study samples or include too few to report data separately by gender. Understanding the sources of stress to which female personnel are exposed, and examining protective factors previously identified in the literature (and how these impact health and well-being), is important. Such an understanding could help to improve policies aimed at the recruitment and retention of female personnel, and to assist decision-making about how best to provide support to those already serving.

This study seeks to portray the experiences, health and well-being of female personnel from enlistment onwards whether still serving or having left the military, with the aim of illustrating the changing influences of different sources of stress and protective factors throughout the course of their career and post-service lives. ‘Well-being’ is a difficult-to-define construct likely to have subjective connotations. It is used here to generally represent a concept of positive functioning encompassing aspects such as self-acceptance, personal growth, positive relations and relationships with other people, autonomy, satisfaction with life, perceived mastery of the environment, and a sense of purpose (e.g. Veit & Ware 1983; Ryff 1989; Diener et al. 1999).

1.2 Study aims

This study has three main aims relevant to the understanding of the mental health and well-being of female UK Armed Forces personnel:

1. To estimate the prevalence of specific mental and physical health problems such as PTSD and self-reported somatic symptoms.

2. To quantitatively examine the relationship between work, family, and interpersonal relationship stressors, and physical and psychological health outcomes. Protective factors against poor health outcomes, such as social support and valued social networks, will also be investigated.

3. To qualitatively explore work, family, and interpersonal relationship stressors in detail (e.g. gender discrimination experiences) and their perceived relationship to health using in-depth qualitative interviews among serving and ex-service women.
1.3 Thesis outline

A timeline highlighting key milestones in the integration of female personnel into the UK Armed Forces will be presented in chapter 2. This timeline is meant to provide the overall context of the study and to assist the reader in understanding how the research outlined in chapter three aligns chronologically to legislative changes and operational campaigns. It is also intended to provide a reference to aid understanding of the qualitative findings.

The study aims are contextualised in chapter 3, which provides an overview of key literature and theory relevant to women in the military. Work, family and interpersonal sources of stress will be described, alongside currently available research examining the prevalence and impact of each on well-being. Each area has a potentially vast literature base which exceeds the scope of this thesis, thus only research relevant to military personnel is presented in detail. Limitations of current research are presented and the study aims will be reiterated in light of gaps in the literature.

Chapter 4 introduces the methods used throughout the thesis, providing a rationale for a mixed methods approach and details about how each method was utilised. Chapters 5 and 6 present quantitative results; chapter 5 describes the socio-demographic characteristics and overall health outcomes of the female quantitative sample, and compares these to the corresponding data for male personnel and women in the general population of comparable age. Chapter 6 examines the quantitative data in more detail, exploring risk and protective factors for health outcomes in the work and family domains. Chapters 7-9 present the qualitative results; including those related to deployment (chapter 7), parenthood (chapter 8), and integration (chapter 9). Chapter 10 is a discussion of the findings and of how they are placed within the wider literature. Policy and research recommendations are also made in light of the results and discussion.
Chapter 2  Women in the UK Armed Forces 1917 – present day

The timeline presented in Figure 1 (p16) illustrates major events in the role of women in the UK Armed Forces since the First World War. Not all military operations that the UK military has been involved with since then are included, and minor regulatory amendments relevant to women - such as specifics of maternity leave and pay - have been omitted.

The first page of the time line covers milestone events occurring since the First World War, in which many women took part in the war effort in newly formed services such as the Women’s RAF and Land Army, to the late 1980’s, whence the integration of women in the military accelerated. Alongside the two World Wars during this period, the foundations were laid for full integration of services, such as normalisation of ranks and more comprehensive training for female recruits.

The second page covers a shorter time period between 1989 and the present day during which time women became fully integrated into the UK Armed Forces. Major barriers to integration, such as automatic pregnancy discharge and exclusion from certain posts, were removed, training became integrated, and women played unprecedented roles in campaigns in the Persian Gulf, the Iraq, and Afghanistan wars.

Figure 1 Timeline of major events relevant to females in the UK Armed Forces from the First World War to the present day
Removal of exclusion of women at sea.
First woman serves onboard a ship
Introduction of female aircrew
Phase out of automatic discharge for pregnancy
British Army extend employment opportunities to women from 47% to 70%
Ban on women in Royal Marines is upheld
Repeal of ban on homosexuality
UN Security Council Resolution 1325
The tri-service Equal Opportunities training centre set up
Ban on women in combat roles is upheld
Ban on women in combat roles
2nd Lieutenant Joanna Yorke Dyer and Private Dlugosz die in Iraq
Cpl Sarah Bryant dies in Afghanistan
Ban on women on submarines repealed
Women comprise 2.8% of British Forces in first Gulf War
Disbandment of WAAC, women integrated into British Army
Disbandment of WRNS, women integrated into Royal Navy
WRAC merged with RAF
Military cross awarded to Private Michelle Norris, first awarded to a woman
Flt Lt Sarah-Jayne Mckinll and SSgt Sharron Elliot die in Iraq
Service Complaints Commissioner post created amid allegations of bullying and abuse during training
Blake sport into Deepcut deaths
Ft Lt Sarah-Jayne Mckinll and Cpl Sarah Bryant die in Iraq
Capt Lisa Head dies in Afghanistan
Cal Sarah Bryant dies in Afghanistan
Ban on women in combat roles
Ban on women in combat roles
Ban on women in combat roles
Ban on women in Royal Marines is upheld
Ban on women in Royal Marines is upheld
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Notes

a The CWINF was renamed the ‘NATO Committee on Gender Perspectives (NCGP)’ in 2009. It is an advisory body to the Military Committee (MC) on gender-related policies for the Armed Forces of the NATO Alliance, which aims to promote gender mainstreaming to make women’s and men’s concerns and experiences integral to the design, implementation, monitoring, and evaluation of policies, programmes, and military operations. (http://www.nato.int/cps/en/natolive/topics_50327.htm)

b UNSCR 1325 is a landmark international legal framework that addresses, not only the inordinate impact of war on women, but also the pivotal role women play in conflict management, conflict resolution, and sustainable peace. (http://www.usip.org/gender_peacebuilding/about_UNSCR_1325#What_is_U.N._Security_Council_Resolution_1325_)

c The Commissioner post was set up in light of the Blake Report. It provides rigorous and independent oversight of the complaints system and is able to report back to Ministers and Parliament; they also provide an alternative point of contact for service members, or someone acting on their behalf to raise concerns. (http://armedforcescomplaints.independent.gov.uk/aboutus.html)
Chapter 3  Stressors affecting female personnel

This thesis aims to understand the nature and relationship of stressors in the work, family, and interpersonal domains with the mental health and well-being of female personnel in the UK Armed Forces. This chapter will identify key literature relevant to these aims, and where appropriate describe the theoretical context within which they are situated. In light of the research aims of this study, which focus on the sources and implications of stressors experienced by female personnel, it is appropriate to present the prevailing literature within the context of the stress literature, notably the stress process model outlined by Pearlin (1981).

3.1 Background: stress and the stress process

Holmes & Rahe (1967) defined the terms ‘stressor’ and ‘stress’ to denote demand from environmental, internal, or social origin which causes an individual to adapt their usual patterns of behaviour. More intuitively, Lazarus & Folkman (1984) describe the ‘stress reaction’, the physiological or emotional arousal arising as a result of perceived exposure to stress. Such stress is conceived to lead an individual to attempt to deal with this demand as well as with the emotional responses to it. Exposure to multiple stressors is proposed to precipitate the exhaustion or depletion of an individual’s resources available, in turn increasing vulnerability to ill health, both mental and physiological (e.g. Lazarus & Folkman 1984; Pearlin 1989).

In describing the sociological origins of stress, Pearlin (1981; 1989) asserts that exposure to many stressors is associated with one’s hierarchical position, embedded within a system of stratification based on social status characteristics with socio-culturally defined value, such as race, class, or gender. This is supported by a wide base of empirical research finding exposure to stress is patterned by socio-demographic characteristics (e.g. Hatch & Dohrenwend 2007). While stratification can occur on the macro-societal level, it may also be apparent on the level of the institution, occupation, and individual (Pearlin 1989). Access to resources, opportunities, and favourable evaluations is influenced by the position held in this system in a way that entrenches inequality into the wider social structure. Inequality within organisations derives from an unequal division of labour and job types as well as inequity in the procedures which distribute jobs to workers. This in turn leads to disparity in rewards and opportunities
for career progression (Baron 1984). In addition, inequality can arise due to differential performance evaluations as a result of socio-culturally defined beliefs about such aspects as gender differences in traits, capabilities, and family roles (Reskin 1993; Ridgeway 1997). A low status position (often the minority), therefore, is capable of being a risk factor for exposure to stress as a result of this disadvantage. Furthermore, inequality is itself a source of chronic stress, and is associated with a wide range of mental and physical health problems (Kessler et al. 1999; Pavalko et al. 2003; Pascoe & Richman 2009).

The stress process outlined by Pearlin et al. (1981) describes three elements of social stress: the sources of stress (including chronic life strains, self perceptions, and acute events); mediators (e.g. coping and social support), and outcomes (e.g. physical and psychological ill health). These elements are posited to interconnect; the availability of social support can impact not only upon how one deals with stress but also upon the exposure to stress in the first instance. In the same way that exposure to stress can be associated with social status, the elements making up the stress process (stressors, mediators, and outcomes) are also influenced by status position (Pearlin 1989). Studies of stress suggest that experiencing adverse psychological and/or physical health as result of exposure to stressors depends upon an individual’s perception of the stressor, and how salient the stressor is to them (Thoits 1995). These factors may also be influenced by gender, which alongside other factors such as socio-economic status, race/ethnicity, and social class, itself represents a social status position affecting other elements of the stress process.

3.1.1 Social support, cohesion and coping

As a set of interconnected relationships, social networks within the military are themselves shaped by the structural and cultural arrangements of the institution itself. One’s network may be shaped by multiple layers of classification such as service branch, cap badge, job type, rank, base location, and so on. These networks shape the opportunities and resources which personnel have materially, and also influence the nature and extent of social support which they have available. Research examining the influence of social integration and social networks on health infers that this relationship is partly mediated via their various social support functions (Berkman et al. 2000).
Social support is posited to be one of the resources available to individuals to moderate stressors by reducing their negative impact through affecting the circumstances that cause them; by reducing the relevance of the stressful situation (so it is seen as less of a threat); or, by bolstering the ability to handle the outcomes of stress (Folkman & Lazarus 1980, Pearlin & Schooler 1978). Cobb (1976: 300) defined social support as ‘information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations’. In other words, it is the perceived quality of social contacts, the ability to trust and confide in others, and the feeling that others care and are involved in one’s life (Pearlin et al. 1981). Three types of perceived social support have been described, ‘tangible’, ‘emotional’, and ‘informational’ (Schaefer et al. 1981). The aforementioned definitions most closely relate to the emotional aspect of support.

A vast literature base describes the effect of social support and social networks on health (physical and mental). Its impact is described in terms of the ‘buffering hypothesis’, such that stress will adversely impact mental well-being in the absence of support but the impact will be ameliorated amongst those with support available (Cohen & Wills 1985). Different types of support may be more or less useful; emotional support and the perceived availability of support may have a greater protective effect against the adverse psychological consequences of stress (Kessler & McLeod 1984; Turner & Turner 1999).

Social support is closely related to the concept of cohesion in the military context. Cohesion can be horizontal (peer level) and vertical (from subordinate to leadership level) and is a concept with two facets – namely, social cohesion (when members of a group like one another) and task cohesion (degree of shared commitment to a common goal) (MacCoun 1996). Cohesion is generally discussed in terms of its salience to combat effectiveness during deployment. Discussions about cohesion in the military in relation to gender are primarily concerned with the debate surrounding whether or not women should be allowed to serve in ground combat roles. Currently this exclusion is based not on physical or psychological grounds, for which the evidence does not support exclusion, rather based on concerns about the impact of mixed gender teams on cohesion under intensive combat conditions (Women in the Armed Forces 2002; Woodward & Winter 2006). While there is no intention to cover that debate in this review, the fact that the current argument rests on concerns about what impact female
personnel may have on cohesion, highlights the difficulties that may arise from working in an environment in which the pervasive view is that women are *immutably* disruptive to group cohesion.

Much research about cohesion in the military - mostly US-based - is concerned with performance and combat effectiveness; however, cohesion (particularly social cohesion) and social support are inter-related issues (Griffith & Vaitkus 1999). Both factors have been found to be protective against post-deployment psychological problems (Bliese 2006; Brailey et al. 2007). In a study of UK service personnel deployed to Iraq, Iversen et al. (2008) report that low levels of unit (social) cohesion were associated with greater risk of post-deployment post-traumatic stress symptoms, though results were not reported by gender. Evidence from the 1991 Gulf War suggests that women report lower levels of social support during deployment than their male counterparts (Rosen et al. 1999; Vogt et al. 2005). Furthermore, Vogt et al. (2005) found evidence of gender differences in the relative impact of what was referred to as ‘interpersonal stressors’ experienced during deployment, though no evidence for gender differences in the impact of combat exposure. Interpersonal stressors, which included concerns about family/relationship disruptions and low social support during deployment, demonstrated stronger associations with mental health outcomes among women than men. These findings support the assertion that studies finding gender differences in the impact of deployment on health that do not examine such interpersonal stressors may misattribute - or over-attribute - such differences to the impact of combat exposure.

In the general population, gender differences have been found to exist in the availability and utility of such protective resources; for example, research has generally found women to have larger social support systems than men (e.g. Turner 1999; Meyer et al. 2008). Due to the skewed sex ratio in the military, particularly at higher ranks, women may not have available a socially supportive peer group. Little research has been found which examines the relationship between social support and mental health among female military personnel outside of the deployment context. Leiter et al. (1994) examined survey data from Canadian servicemen and women soon after the expansion of posts available to women. They found that women experienced greater stress related to insufficient availability of support from peers, perceived less supervisory support, and less cohesion. This study reflects a period in which women were newly entering many occupational areas of the military. Social support can also be seen as a type of
coping mechanism, implying the agentic use of one’s available support to actively cope with stressful situations. In the study by Bray et al. (1999), female personnel were found to report utilising social support as a coping mechanism more commonly than men.

Like social support, coping is described in the stress literature in terms of a resource available to an individual to deal with stress or demand. Lazarus & Folkman (1984: 141) define coping as ‘constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person’. Coping strategies, or coping styles, refer to the behaviours that an individual use when faced with stressors in certain situations (Thoits 1995). These may be consistently applied to a specific situation or role domain, and may differ across different situations (Pearlin & Schooler 1978). Coping includes attempts to reduce, tolerate, accept, and avoid stressors, as well as to master them, and efforts may not necessarily work, or work equally, in all situations (Lazarus & Folkman 1984: 142). In this model, coping is seen as a dynamic process rather than a trait, such that an individual may harness different approaches depending on the specific context and on the stage of exposure to stress. Such dynamism is influenced by how individuals appraise the situation as well as independent environmental factors.

Following on from this, women in the military may need to have available, and utilise, a variety of coping strategies across various domains. There is evidence for gender differences in coping strategies, although this finding is inconsistent, and problems with the use of different conceptualisations of stress, outcomes, and coping across studies make generalisations difficult (e.g. see Thoits 1995). A more recent meta-analysis of gender differences in coping reports that women are more likely to use strategies involving verbal expressions (to others or to the self, i.e. to use positive self-talk and rumination, and to seek emotional support), than men (Tamres et al. 2002). This may be problematic for women in the military - an environment in which expressions of emotion and requests for support might be interpreted as weak (Herbert 1998).

Research examining coping in terms of strategies and styles used among female military personnel was not found. However, the literature suggests that women may employ specific coping mechanisms in response to stress associated with working in an extremely male-dominated environment. Kanter (1977) proposes that tokens respond behaviourally to the various negative effects of tokenism (performance pressures
associated with increased visibility, boundary heightening, and role entrapment). For instance, by becoming over-achievers in an attempt to prove themselves, turning against other minority members in an attempt to align themselves with the dominant group, or, playing along with stereotyped roles to avoid challenging the status quo.

**General limitations**

Identifying the nature of the relationship between social support and well-being is hampered by methodological limitations. The causal direction cannot be ascertained in cross-sectional studies since the presence of disorder may impact access to or the ability to create or maintain supportive relationships. Even in longitudinal studies, there may be unmeasured confounding variables affecting the relationship between social support and subsequent mental health problems such as differences in coping strategies or social competence (Kessler et al. 1985). Other limitations are a limited focus on the effect of social support in response to stressful life events, rather than more chronic strains, as well as possible bias resulting from the use of self-reported measures of social support, due to the presence of other stressors and/or mental health problems. Research examining other resources to deal with stress including the types of coping strategies employed by women in the Armed Forces in response to this and other types of stressor is lacking.

### 3.1.2 Other conceptualisations of stress

A systematic review of theoretic models of psychological stress is beyond the scope of this review. However, it is important to acknowledge that a variety of conceptualisations of stress exist in the literature, including a variety of models specifically examining work-related stress. While the stress process theory put forward by Pearlin (1981) represents a broad overview of the mechanisms by which stressors, mediating factors and health outcomes interact; other pertinent models of stress more specific to the examination of stress in the work environment exist. In particular, two of these, the Demands-Control model proposed by Kerasek (1979) (and amended by Johnson and Hall (1988) to include social support); and, the effort-reward imbalance model (Siegrist 1996) are briefly described. The applicability of these models to the military work environment is discussed.
The Demands-Control (and –Support) model

Kerasek (1979) proposed job demands (e.g. work pressure) and job control as two psychosocial aspects of the work environment that could interact to influence strain in the workplace. Job control encompasses both authority of decision-making over work tasks and level of skill utilisation. He identified four ‘types’ of jobs, defined by the combination of control and demands. A ‘high strain’ job comprised those in which individuals have low levels of control and high levels of demand; ‘low strain’ jobs identified those with low demands and high control; ‘active’ jobs included those with high demands and high control; and, those with low demands and low control were described as ‘passive’ jobs. In 1988, Johnson and Hall added to this model the component of social support as a buffer against the impact of strain in high demand situations. In other words, job control and social support are proposed to buffer the effects of work demands on experienced strain, and thus to reduce any ill effects on psychological well-being.

While there is support in the literature for the association between job control, demands, and support and psychological health; support for interactive effects of control and demand is mixed – with many studies concluding that these elements have additive effects on psychological health (Van de Doef and Maes 1999). Only two studies were found that examined job strain and psychological distress in the military context. Ippolito et al. (2005) utilised a sample of 638 US soldiers (3% female) before and during a six month peacekeeping deployment to examine the impact of job control on the relationship between job demands and psychological well-being, and whether or not this was influenced by coping style. They found evidence to suggest that job control did buffer the influence of job demands on well-being, but only when the soldiers used active – not passive – coping styles. In contrast, Fear et al. (2009) report that among a sample of male UK personnel, job demands and job control were both independently associated with psychological health. They found no evidence for an interaction between job demand and control on health outcomes, suggesting an additive model.

Effort-rewards imbalance (ERI) model

The ERI model (Siegrist 1996) acknowledges that endeavours in the workplace are (usually) linked to rewards - such as money, job security, and promotion. A perceived mismatch between effort and rewards is proposed to lead to experienced stress and adverse health outcomes (Peter and Siegrist 1999). Effort is said to be driven by internal
(personal motivations including tendencies for excessive work or perfectionism), and external factors (such as workload and alternative job availability as dictated by the job market).

A review of 45 studies found good support for the influence of a combination of high effort and low rewards on adverse health (including psychological well-being) (Van Vegchel et al. 2005). No studies were found that examined workplace stress in the military in terms of the efforts-rewards imbalance model.

**Limitations of the DCS and ERI models for the military context**

The DCS and ERI models have several limitations relevant to the study of workplace stress and these are described in relation to the military environment.

The models are static and ignore the changes in work environments across time and place. In the military, the degree of control and demands, and efforts and rewards are likely to change across different job types and environments (for example during deployment) and across time (as people move up the rank structure). Also, the DCS model focuses on workload as the source of work stress. In the military, workload is likely to vary greatly, particularly in relation to whether or not they are involved in operational campaigns. Workload is also likely to vary across job roles and rank. Besides workload, other sources of stress may be important for personnel, such as relocations, exposure to potentially traumatic experiences, and unpredictable working hours. In addition, the DSC model does not account for individual differences in experiences of and responses to stressors, for instance in relation to coping behaviours, personality, appraisals, and resource availability. The DCS assumes that job control is always a positive; yet, those with low levels of resources such as mastery and self-esteem may find having high amounts of autonomy distressing in and of itself. Further, in the military – even among higher ranks – personnel do not ultimately have decision-making latitude over tasks and level of skill utilisation. While the ERI model goes beyond external sources of work demand as described in the DCS model, to include individual characteristics and perceptions, it does not include other aspects of work-related stress or individual factors such as coping and resources (as outlined in the limitations for the DCS model).
Another limitation relevant to this thesis, is that the sources of stress to which military personnel may be exposed to are not restricted to those in the work domain. While workers in other occupations may also be exposed to non-work stressors at work, (such as inter-role conflict or negative interpersonal relations) military personnel may experience these differently. For example, during deployment personnel have high levels of work demands in terms of workload, working hours, work pressure and so on. In addition to these, individuals live, work and socialise in confined conditions alongside their colleagues, are separated from their family and friends, and may be limited in their opportunities for utilising some types of coping strategies. Furthermore, while women in other occupations may experience strain associated with work-family conflict, the greedy nature of the military occupation may act to intensify the experiences and consequences of such conflict. Therefore, models of workplace stress are unlikely to be able to account for the potential array of stressors outside of the work domain.

Finally, the military is an occupation, but it is also an institution (Moskos 1986). It is the way in which the military acts as an institution that limits the application of these and other types of work-stress models to this context. As an institution which can be both ‘total’ and ‘greedy’ (Coser 1974), the expectations of social integration and commitment of the military occupation surpass those of most, if not all other types of job and have consequences for relationships in the family, work and non-work social domains. Social integration is engrained in military culture by structures that promote military identity and interpersonal cohesion for the effectiveness of operations. The relevance of these additional factors in relation to the integration of female personnel is thus a pertinent dimension to the exploration of potential stressors that they may face.

Taken together, these limitations suggest that while these models of work-related stress provide a useful framework to examine mechanisms by which some aspects of work stress may influence health and well-being; the stress process model may be a broader, more dynamic and less restrictive framework within which to undertake an exploratory study of the experiences of females in the military context. While not being specific to work environments, it allows for a more generic examination of stressors from various domains as well as of individual characteristics that influence the stress pathways.
3.1.3 Gender as a status characteristic and integration

In the military there is a multi-dimensional hierarchy of status-based factors including rank, deployment experience, job specialisation, age, ethnicity, education, family, and marital status (Miller 1997). The nature and extent of stressors to which personnel are exposed to may be influenced by their position on each level of this hierarchy and it is hypothesised that these characteristics may themselves be influenced by gender. For example, one’s position as a parent differs according to the socially ascribed roles of ‘mother’ and ‘father’, or evaluation of performance of a female Officer may differ according to the stereotyped beliefs held about the capabilities and traits associated with female gender (Ridgeway 1997).

The integration of women into the military is usually discussed in terms of ‘physical’ integration, the assimilation of women into various service branches, trades, and operational campaigns (e.g. see Dandeker & Segal 1996; Dandeker 2003). In parallel to this phenomenon, is the issue of the social integration of women. Like ‘physical’ integration, social integration is partially reflective of the broader macro-social and cultural context in which the structure of the military is embedded; the entry of women into the labour force and into traditionally male-dominated occupations was both a consequence and causal factor in initiating changing attitudes towards women in the workplace. On a macro-scale, social integration represents the ‘coming together’ of different factions of society, including minorities, and embracing diversity (http://social.un.org). The military sits in a society which increasingly expects equity and has, partly in response to such pressure, removed many physical barriers to integration.

The military as a social institution is thus influenced by the wider society but also lies distinct from it, with its own enduring set of social norms, rules, class system, and behavioural expectations in which individuals are assumed to share common values and goals. These elements impose a set of cultural and structural influences upon the behaviours, beliefs, and attitudes of the individuals inside the institution which ultimately impact the lived experience of integration.

Beliefs about gender traits and gender roles are key to the experience of social integration for women. Macro-social and institutional attachment of masculine characteristics to the military role influence serve to not only emphasise differences
between men and women but also how women might proactively act to integrate in light of structural norms. Furthermore, there may be conflict between wider social and military institutional pressures to exhibit behavioural norms expected; Herbert (1998: 112-130) describes the restrictive framework within which women may need to negotiate masculinity and femininity.

The present study is concerned with the potential impact of exposure of stress associated with being a woman in the military on their health, in particular mental health, and well-being. While not all stressors are gender specific, the potential for cumulative exposure to stress may present a unique and gendered manifestation of risk. The ability to examine stress among female personnel from a life course perspective, and how military service might fit into and impact upon various trajectories, is outside the scope of this study. In the acknowledgement that cumulative stress can be experienced cross-sectionally, with one stressor building on top of another (Hatch 2005), the impact of experiencing multiple stressors in creating divergent outcomes can, however, be investigated.

This review will examine the literature examining exposure to stress in the work, family and interpersonal domains among female personnel (though these often overlap), and how the availability of mediating factors may affect the degree to which stress impacts mental health outcomes. The literature reviewed originates mainly from the US and issues of generalisation are discussed. Where appropriate, some studies will be critiqued alongside a description of their findings. To avoid repetition general limitations will be presented at the end of each section.

3.2 Work-related stress

Among the work-related stressors are those associated with workload, working hours, multiple roles, the need to be flexible, the need to relocate, and so on - as well as the requirement to deploy. Many of these factors are potentially stressful via, and because of, the influence they have upon the family and interpersonal domains, e.g. deployment may be stressful due to the consequential separation from family and friends. This section will deal with one aspect of deployment; namely, the impact of exposure to combat.
3.2.1 Combat exposure

Combat exposure is defined and measured in terms of potentially traumatic events that individuals may be exposed to while deployed on hostile operations. Examples of such events include coming under fire, experiencing an improvised explosive device (IED) strike, seeing personnel wounded or killed, handling bodies, and experiencing hostility from civilians while on tour. Most research examining the impact of deployment on post-deployment health focuses specifically on the effect of exposure to combat events to the exclusion of other potential stressors during deployment (e.g. see section 3.4.3). Research examining the impact of combat exposure on women has increased, particularly since the Vietnam War. This chapter begins with a discussion of the literature dating from the 1991 Gulf War, when the deployment of women in a far broader spectrum of roles than ever before exposed them to unprecedented levels of combat.

3.2.2 The 1991 Gulf War

US studies

Although research examining the impact of combat exposure on post-deployment health among women existed prior to the 1991 Gulf War, particularly in relation to Vietnam (Fontana et al. 1997; King et al. 1999), their limited deployment and operational roles means that the study findings may bear little resemblance to the experiences of women serving in more recent campaigns. The 1991 Gulf War marked a new era for the involvement of women in war, seeing large numbers being deployed in a greatly expanded array of occupational roles (Murdoch et al. 2006). In addition, it was the first time (particularly in the US) that mothers, including single mothers, were deployed and that many women were deployed and lived alongside their male counterparts (Vogt et al. 2005). These factors had three main implications: the range and nature of combat-related exposures experienced by women increased; stressors related to family separation may have been particularly pertinent for some women; and, the risk of sexual harassment and other interpersonal difficulties during deployment increased. These latter two implications were recognised in the literature in terms of the concern that women may face a distinct set of deployment-related stressors (Wolfe et al. 1993; Fontana et al. 1997; Vogt et al. 2005) and are discussed in the family and interpersonal sections of this chapter. Most research examining gender in this era was concerned with comparing the impact of combat exposures among men and women. Evidence for
gender differences in the impact of combat exposure during the 1991 Gulf War is mixed.

Wolfe et al. (1993) examined the impact of exposure to a range of combat and non-combat-related stressors occurring during deployment to the 1991 Gulf War on symptoms of PTSD among men and women within five days of returning. They found the prevalence of PTSD to be higher among women than men using several measures to identify probable cases, though different measures resulted in different overall prevalences (9.1% to 31.7% for women and 3.9% to 28.2% for men). No gender differences in exposure to combat-related war zone exposures were reported but there were some differences in the pattern of association between specific exposures and PTSD symptoms. For example, witnessing deaths was associated with PTSD scores among women while greater anticipatory alert was associated with PTSD scores in men, though this finding was inconsistent across measures of PTSD and combat exposure used. In addition, the data were collected very soon after return from deployment thus the long term consequences of combat exposure could not be assessed.

Vogt et al. (2005) examined a more comprehensive list of deployment and interpersonal-related stressors and their relationship with measures of post-deployment mental health, including depression, anxiety, and post-traumatic stress symptomatology among male and female Gulf War veterans. They found that men experienced greater exposure to direct combat experiences, but no difference in perceived threat, exposure to the ‘aftermath of battle’ (e.g. deaths/injuries), or in experiencing a difficult living and working environment. Unlike Wolfe et al. (1993), they reported no evidence for a gender difference in the impact of direct combat exposure on mental health; the results pertaining to other types of stressors are presented later in this chapter. This study was limited for several reasons: it included only a small sample of women (n=83); data were measured ten years after the event (increasing the likelihood of recall bias); and, low overall reported levels of combat exposure, particularly among women, may have precluded evaluation of gender differences in the impact of exposure to higher levels of combat. Neither Wolfe et al. (1993), nor Vogt et al. (2005), used data from representative samples. The former authors surveyed troops returning to a specific US location and the latter were inexplicit in their sampling procedures, thus limiting the generalisability of findings.
**UK studies**

Unwin et al. (2002) examined health outcomes among female personnel using cross-sectional data from three randomly selected stratified samples designed to be representative of UK Armed Forces personnel: those deployed to the Gulf War (the Gulf War cohort, \(n=236\)); those deployed to the Bosnian conflict (the Bosnian cohort, \(n=217\)); and those serving at the same time but not deployed (the Era cohort, \(n=192\)). As with previous findings from a similar study of men (Unwin et al. 1999), deployment to the Gulf War was associated with poor physical health symptoms and mental health outcomes among female personnel, including post-traumatic stress reaction, fatigue and general psychological distress.

The same study included a gender comparison of those deployed to the Gulf War, finding no gender differences in 32 of the 50 physical symptoms examined. Women were more likely to report six of the symptoms and men were likely to report the remaining 12. No gender differences were found in general psychological distress, post-traumatic stress reaction, fatigue or physical functioning, though women reported more positive health perceptions than men. Furthermore, the pattern of association between non-Gulf War specific combat exposures and health outcomes among women were similar to those previously found among men. This study used a robust design, and the findings support those of US studies of the same era.

The ability to compare findings from these three studies is limited by inconsistent conceptualisations of combat exposure and different measurement tools used to measure health outcomes. In addition, while the Gulf War was the first major campaign to involve women outside of administrative and medical roles, it occurred prior to many of the legislative changes affecting the integration of women into the military as a whole, and particularly into operational posts that potentially exposed them to a much greater degree of combat (see timeline in chapter two).

### 3.3 Iraq and Afghanistan

In recent years, females have comprised approximately 6.1% and 7.5% of the UK deployed force in Iraq and Afghanistan respectively (FOI request to Defence Analytical Services and Advice, DASA September 2010). While deployed to operations in Iraq and Afghanistan women have been exposed to unprecedented levels of combat, in what since the Second World War has been considered a predominantly ‘male’ arena. As a
result of the expansion of military roles available to them; such as: artillery gunners; fast jet and helicopter pilots; searchers; drivers; medics; military police, and mechanics), women have been increasingly involved in military operations. In modern campaigns characterised by having no front line, women are engaged (usually reactively) in combat while serving in many of the roles above. This is despite being excluded from ground combat roles whose primary role is to deliberately ‘close in and kill the enemy’. Women from the UK (and US) have therefore been exposed to unprecedented degrees of combat-related events while carrying out their duties. Such exposures include coming under mortar/artillery or rocket attack, seeing personnel wounded or killed, and experiencing Improvised Explosive Devices (IEDs) (Bell et al. 1998; Hoge 2007; Rona et al. 2006; Street et al. 2009).

Though relatively few overall, the majority of research examining the mental health impact of deployment to Iraq and Afghanistan among female personnel originates from the US. Studies are divided into those utilising treatment-seeking samples using data from the Department of Veterans Affairs (VA) healthcare facilities and those which utilise non-treatment-seeking samples. Research that includes small samples of women and/or relate to a specific medical centre are not discussed because of their limited statistical and geographical generalisability. Available UK data is presented.

**US studies: treatment-seeking samples**

Seal et al. (2007; 2009) examined data from a large number of US veterans of Iraq and Afghanistan, as a result of their first contact with treatment at VA facilities post-deployment (including n=13,652 and n=34,424 women respectively). The former study reported similar prevalence rates of PTSD diagnoses among men and women (13% and 11% respectively) and of at least one mental health diagnosis (26% and 25% respectively). The latter did not report prevalence rates of mental health outcomes by gender but did report that the relative risk of depression as a result of deployment was greater among women than men, though differences were only slight (adjusted rate ratio (ARR) 1.43 vs 1.41, no confidence intervals given) and vice versa for substance use (ARR 2.05 vs 2.32, no confidence intervals given). These studies are more robust than other studies, including treatment-seeking samples, as they include large numbers of personnel and are not limited to any geographical area (unlike most VA-based research). Yet, they have not examined the impact of exposure to combat on post-deployment health. Instead they use enlisted rank, active duty, and Army service as
proxy variables for combat exposure, which are unlikely to adequately capture the experience. Findings from treatment-seeking samples may overestimate the burden of disease among veterans as they may represent a biased sample. Furthermore, those seeking treatment from the VA may do so in order to gain access to healthcare and benefits they would otherwise not be eligible for. On the other hand, they may ignore others with mental health difficulties post-deployment who seek treatment at non-VA facilities or who do not seek treatment at all.

US studies: non-treatment-seeking samples

Among non-treatment-seeking samples, data from the US overall finds inconsistent evidence regarding gender differences in the impact of combat exposure on post-deployment well-being. Among 222,620 Army and Marine personnel (including 10.6% females) who completed a post-deployment assessment of mental health upon return from the Iraq War, Hoge et al. (2006) reported that some kind of mental health issue was endorsed by 24% of women and 19% of men. This study is informative due to its large sample size and non-clinical sample, but does not make any assessment of the influence of exposure to potentially traumatic events.

The US Mental Health Advisory Team (MHAT) has been dispatched to Iraq and Afghanistan by the US Army Surgeon General several times to distribute self-report surveys to male and female soldiers in Infantry and combat support roles during deployment. Their fourth report examined gender differences in exposure to combat and self-reported mental health during the Iraq War. Overall women reported fewer combat exposures than men, though women still reported significant levels of combat exposure; similar levels of PTSD were found among men and women (13% and 12% respectively). The authors examined gender differences in the prevalence of those meeting screening criteria for PTSD, anxiety, and depression across different levels of combat exposure (denoted ‘low’, ‘medium’ and ‘high’). Women were more likely to reach criteria for all three outcomes within the low exposure group, though this only reached significance when the three outcomes were grouped into ‘any mental disorder’. These differences were not present in the medium exposure group and there were insufficient numbers of women to examine differences in the high exposure group (MHAT IV 2006). This study was useful in examining gender differences in the impact of exposure to different levels of combat, though it included a small sample of deployed females (n=188); used a select sample (Infantry and combat support Army troops); and,
included deployed personnel during a very specific time period of the Iraq war (2006) - when the intensity of combat operations had significantly abated in comparison to earlier periods in the campaign.

Lapierre et al. (2007) reported findings from a two-week Army reintegration training program including active duty service personnel who had returned from Iraq or Afghanistan in the last five to eight weeks. Data were taken from a self-report survey of 4089 participants, including n=145 females deployed to Iraq and n=137 women deployed to Afghanistan. They found that gender was not related to post-traumatic stress symptoms or life satisfaction among personnel returning from Iraq or Afghanistan. Depression was associated with female gender among both groups, though this only remained among those deployed to Afghanistan after adjustment for potential confounders. While these findings corroborate those from the MHAT report using a post-deployment sample, they do not examine the impact of combat exposure over and above deployment per se. The study results must be interpreted with caution since relatively few women were included in each group and the sample is not generalisable to other branches of the military, or to reserve components.

A RAND study of 1938 personnel (n=226 females) deployed to Iraq and/or Afghanistan did adjust for self-reported combat exposures and other deployment characteristics, such as length of tour (Tanielian & Jaycox 2008). It found that after adjustment, women were more likely to screen positive for PTSD and depression (ARR 1.69; 95% CI: 1.05 – 2.72 and 2.39; 95% CI: 1.45 – 3.94 respectively), though prevalence rates were not reported. While that study did attempt to adjust for non-response to make the study population representative of the overall deployed population, the response rate was so low, ~3% (1938/70149) that the generalisability of the findings must be limited.

When analysing the impact of deployment on the mental health of female personnel, and particularly when assessing gender comparisons, potential differences in pre-deployment health should be considered. This is because both civilian and military studies have reported gender differences in lifetime diagnoses of mental health problems (Kessler et al. 1994; Hourani et al. 1999; Smith et al. 2008), and thus gender differences found in post-deployment samples must take into consideration these baseline discrepancies. Hourani et al. (1999) used data from the 1995 Perceptions of Wellness and Readiness Assessment to examine physical and mental health among a
population-based probability sample of Navy and Marine Corps men and women. They found significant gender differences in lifetime and one-year prevalence of mental health problems. Women were more likely to report phobias, depression, and PTSD, while men were more likely to report alcohol abuse and antisocial personality disorder.

One study that did aim to address these differences was conducted by Smith et al. (2008). They used data from the Millennium Cohort Study (a population-based survey of active duty and reserve/National Guard US military personnel) to examine the impact of exposure to combat on new-onset PTSD after accounting for baseline PTSD symptoms or diagnoses measured pre-deployment to Iraq and/or Afghanistan. They found that women had greater baseline levels of PTSD and that, among those without PTSD at baseline and who were deployed prior to follow up, women were more likely to report new-onset PTSD than men. While this study did include a large sample of deployed women (n=2225), it did not account for other potential gender differences in pre-deployment mental health, or risk factors that may have influenced the development of PTSD. It is also unclear whether they accounted for differences in combat exposure.

Research examining the effect of deployment tends to focus on PTSD and to a lesser extent, depression, although two studies were found that examined post-deployment alcohol misuse and disordered eating. Jacobson et al. (2009) examined the prospective association between some measures of disordered eating/weight loss and deployment using data from the Millennium Cohort study. New-onset disordered eating was not associated with deployment per se among either men or women. Among deployed women however, there was a significant relationship between self-reported exposure to combat exposures and disordered eating (adjusted OR 1.78, 95% CI: 1.02 – 3.11), and with extreme weight loss (adjusted OR 2.35, 95% CI: 1.17 – 4.70). This study is advantageous since it was able to examine new-onset disorder among those who did not report disordered eating at baseline prior to deployment. It also includes a large sample of women from a randomly selected population-based sample, and adjusts for potential demographic, behavioural, and occupational characteristics. Nonetheless, it includes only a limited measure of disordered eating and the measures of disorder and weight loss are self-reported. The measure of combat exposure used is also limited and is unlikely to adequately capture the range of potentially traumatic experiences during deployment.
Similarly, in an earlier publication using the same study sample, the authors examined the association between new-onset alcohol misuse (heavy drinking, binge drinking, and alcohol-related problems) and deployment (Jacobson et al. 2008). After adjustment, including adjustment for combat exposure, women were more likely to report new-onset heavy drinking than men (OR 1.21, 95% CI: 1.04 – 1.39), while men were more likely to report new-onset binge drinking or alcohol-related problems. Exposure to combat was associated with new-onset alcohol problems but this was not examined by gender. This study suggests that there may be gender differences in the type of disordered drinking behaviours that may not be picked up in other research using other measures of alcohol use.

**UK studies**

Gender differences in the impact of deployment to the Iraq War were examined using data from the first phase of the King’s Centre for Military Health Research (KCMHR) cohort study by Rona et al. (2006). The authors used cross-sectional data from a randomly selected, stratified sample of UK military personnel. They compared those deployed to the first phase of the Iraq War with those serving at the same time, but who were not deployed. As in the US studies examining gender differences, they found that women reported fewer combat exposures than men but nevertheless reported notable levels of exposure to a range of potentially traumatic experiences. Among the deployed sample, no gender differences were found in measures of post-traumatic stress reaction, fatigue, physical symptoms, or general health perception. Women were more likely to report general psychological distress (though of borderline significance) and men more likely to report high levels of alcohol use, although these findings were mirrored in the non-deployed group. In addition, the impact of deployment to Iraq was examined among women separately, finding no evidence for an effect on any of the health outcomes measured. This study was one of the first to examine gender differences in the impact of deployment to Iraq and used a non-treatment-seeking, randomly selected sample of serving and ex-service personnel. However, the findings refer to the impact of deployment per se rather than to the impact of exposure to potentially traumatic events during deployment.

**General limitations**

Comparisons between studies are difficult to interpret due to differences in conceptualisations, measurement tools and cut-off thresholds used to assess combat...
exposure and outcome variables as well as different sample types (e.g. local/regional vs national and treatment-seeking vs non-treatment-seeking). Studies have often been carried out years after the end of the operational campaign (e.g. Vogt et al. 2005, ten years later; Unwin et al. 2002, six years later) which increase the risk of recall bias, though this is unlikely to differ by gender.

Another consideration in extrapolating US findings is that female personnel in the US are more likely than their male counterparts to be from an ethnic minority group, and may face additional or differential stressors as a result (e.g. due to discriminating behaviours or pre-enlistment adversity). Findings that do not account for this difference may misattribute a proportion of variance in outcomes associated with differences in race or ethnicity to gender differences. In the UK as of 2009, the overall percentage of women described as ‘white’ is the same as those described as being from an ‘ethnic minority’ group (9.6% vs 9.8%, DASA 2009b), thus unlike in the US, there is not a greater proportion of ethnic minority groups among female personnel in the UK military.

In examining the mental health correlates of combat exposure, there is a preponderant emphasis on PTSD over and above other measures of psychological distress, such as substance misuse, depression, eating disorders, or anxiety. These other outcomes may manifest differently by gender in response to combat exposure, particularly in light of the gender differences in responses to stress observed in the civilian literature (e.g. Kessler et al. 1994). Furthermore, many studies do not take into account underlying differences in the distribution of risk factors for mental health problems. Women may be more likely to have experienced trauma prior to deployment and thus have a greater initial vulnerability to distress in response to combat (Engel et al. 1993; Stretch et al. 1998; King et al. 1999; Zinzow et al. 2007; 2008; Smith et al. 2008).

Research examining the impact of exposure to combat on mental health that does not account for pre-deployment health and other pre-deployment risk factors (which may infer a greater vulnerability to the effects of combat exposure), do not present a holistic view of how deployment might impact health and well-being among women. This is particularly pertinent given the potential for gender differences in exposure to non-combat-related stressors during and after deployment, and in the availability of mediating factors such as social support. While these considerations are true for both
men and women, there may be gender differences in the nature and degree of exposure to these other sources of stress. Among a stratified random sample of US soldiers deployed to the Gulf War, women were considerably more likely to report sexual harassment and assault during deployment than men, and exposure to sexual harassment was a much stronger predictor of post-deployment PTSD than exposure to combat (Kang et al. 2005). These factors have been acknowledged in the literature (Wolfe et al. 1993; Vogt et al. 2005; Street et al. 2009), though empirical investigation of their effects are limited to studies of female veterans of the Vietnam and Gulf Wars, which restrict their generalisability. As noted by Pierce (2006: 110) ‘Only when multiple health, family, and deployment factors unique to women are considered together can we begin to understand the complexity of the response to deployment and wartime stressors’.

3.3.1 Summary

Although women overall report lower levels of combat exposure that men, they nevertheless report considerable amounts of exposure to combat-related stressors despite not being employed in ground combat roles. This suggests that exposure to combat is an important source of work-related stress for deployed women, as it is for men. In response to the question of whether deployment differentially impacts men and women, the findings in relation to combat exposure are mixed. Some studies find no evidence for gender differences while others report that deployed women are at greater risk of adverse psychological health post-deployment. Despite the focus on PTSD, there is also evidence that there may be gender differences in the types of mental health outcomes that result from exposure to combat stress. As will become clear throughout this review, combat exposure is only one aspect of deployment and other factors may influence post-deployment well-being in a more consistently gender specific way.

3.4 Family-related stress

3.4.1 Role strain and work-family conflict

Stress from the family domain is described with reference to the literature on Role Theory, and in particular role strain and role conflict. A woman in the military may hold multiple, potentially conflicting roles; for example, a particular rank or job speciality, a wife or long term partner and a mother or caregiver. The roles, interpersonal relationships and interactions that occur within them may be associated with different types of strain. ‘Role overload’ describes the strain that results when the energy and
endurance required to fulfil both roles are beyond an individual’s capability.

‘Interpersonal conflict within role-sets’ describes difficulties and tensions that may arise between actors within a role, such as between relationship partners or between parent and child. ‘Inter-role conflict’ describes a situation in which the requirements of different roles are incompatible, such that meeting the demands of one compromises the ability to meet those of the other (Pearlin 1983). Specifically, inter-role conflict occurs when pressures arise from involvement in distinct roles and are incompatible with one another (Kahn et al. (in Greenhaus & Beutell 1985: 20)).

Greenhaus & Beutell (1985) described a particular type of inter-role conflict, work-family conflict (WFC), in which the incompatible roles are those in the work and family domains. The conflict was posited to manifest in three ways: 1) time-based (when time spent performing one role detracts from time spent on the other; 2) strain-based (when strain – physical and/or psychological – from one domain affects performance in the other); and, 3) behaviour-based conflict (when behavioural expectations within a role are incompatible or incoherent with those in the other) (Greenhaus & Beutell 1985).

WFC can be bi-directional (Frone et al. 1992), flowing from either domain to the other, or in both directions simultaneously (work-to-family conflict and family-to-work conflict).

The literature on WFC is vast and outside the scope of the current thesis, however recent meta-analyses have reviewed the civilian literature (Kossek & Ozeki 1998; Byron 2005; Ford et al. 2007). They report that exposure to stress in either domain increases the likelihood of WFC, which is associated with reduced job satisfaction, career intentions, and adverse mental and physical health (e.g. Frone et al. 1997; Wang et al. 2007). In line with stress process theory, resources such as social support availability have been found to mitigate the negative effects of stressors in either domain, thus reducing WFC and improving well-being (Bernas & Major 2000).

While such reviews are informative, there may be differences between the experiences of civilian and military employees. Also, stressors unique to the military population may interact additively with common civilian-military stressors to increase the burden of WFC (Adams et al. 2006). The military and family have been described as ‘greedy’ institutions that both compete for the time and energy resources of the individual, often with conflicting goals and requirements (Segal 1986). Due to the particular ‘greediness’
that family members may have for the resources of female caregivers, and the unique demands that the military place on its employees outlined in the introduction, WFC may be expected to be a prominent source of stress for female personnel.

3.4.2 Work-family-conflict and the military

As outlined in Appendix A, p287, there is currently no provision for part time work or job shares in the military. The military is also not obliged to offer flexible working hours, though individual requests are considered on a case-by-case basis so long as the request does not impact military effectiveness. Time-based conflict may therefore arise from the work role demands of training requirements, deployment, inflexible work-hours, or the need to work weekends and evenings. Furthermore, women are likely to remain the primary caregivers for their children, even when both parents are serving in the military (Booth et al. 2007). Although changes in policy, such as paternity leave allowance, aim to redress part of this difficulty, social and cultural norms within the military still dictate the primacy of the mother as caregiver (Carreiras 2006).

US data suggests that while the majority of military men tend to be in a relationship with a civilian spouse or partner, who may have more flexibility in their working arrangements, the opposite is true for female personnel (Booth et al. 2007). This means that women are more likely to be in a family in which both parents face dual pressures from the ‘greedy’ institutions of the family and the military. They may therefore be less able to rely on their partner (or ex-partner) for childcare support and need to depend more on other family members. This may be difficult since a military career is punctuated by frequent relocations, often far away from ones family. In addition, such unrest may impact the children of service members - potentially involving a change of school, separation from friendship group, and adjustment to a new environment. Military women also differ from women employed in civilian organisations in that they may be required to deploy, potentially at short notice, away from their child on exercises or military operations. Family separation is a major source of stress for military personnel (Bartone & Vaitkus 1998), the impact of work demands on family life has been identified as an important influence upon personnel’s desire to remain in the military (Defense Advisory Committee on Women in the Services, DACOWITS 2003; Carreiras 2006: 58; Armed Forces Continuous Attitude Survey, AFCAS 2009)
Strain-based conflict may occur due to lack of support from superiors, lack of unit cohesion, or lack of support from a partner or family. Behaviour-based conflict may be experienced when characteristics encouraged within the military, such as leadership, discipline, assertiveness and control, are at odds with the emotional and nurturing traits associated with the family role. Further, female personnel may experience lower levels of social support than their male colleagues (Street et al. 2009), thus may not benefit from the potential moderating effects of social support on the relationship between stressors and WFC.

Together, these factors suggest that military women may face specific challenges in balancing work and family commitments. These challenges may be intensified if the woman is a single mother, without a partner or spouse to assist with childcare support.

Empirical studies of WFC within the military context are limited and nearly all refer to men’s experiences. Studies that have examined female personnel report mixed results. Hopkins-Chadwick & Ryan-Wenger (2009) compared 50 junior enlisted active duty Air Force women with children under five years and 50 women without children, using a convenience sampling strategy of women aged 17-24 years at a certain US Air Force base. They found no differences between the two groups in terms of role strain, stress-related symptoms, health status, military resource availability, or military career intentions. These findings cannot be generalised to other service branches, to Air Force women of different age or ranks, or to different geographic locations due to the sampling strategy and small sample size in each comparison group.

Two studies that used data from a representative stratified sample of US Air Force women serving during the Gulf War period (1990 – 1991) investigated how military women balance work and family demands and the impact on mental health and functioning. Data were collected by telephone interview and self-report survey questionnaire. The first study by Vinokur et al. (1999) applied the model of WFC endorsed by Frone et al. (1992) to this sample (N=525). This integrated the separate effects of work and family stressors on health with the way in which such stressors create conflicts between the two domains (work-to-family interference and family-to-work interference), which in turn impact upon mental health via the resultant stress or strain caused. Vinokur et al. (1999) found support for this model and also extended it by distinguishing between family stress associated with parental and marital roles. Using structural equation modelling, they found that job distress (e.g. feeling intimidated),
relationship (but not parental) distress, and work-to-family conflict were all associated with depression, role, and emotional functioning; stresses in job, relationship, and parental roles were associated with distress in the corresponding domains. Job stress impacted work-to-family conflict and parental stress (but not marital stress) impacted family-to-work conflict. These results thus suggest that within the family domain there may be differences in the relative impact of strain from parental and spousal or relationship roles.

The second study was carried out by Westman & Etzion (2005), who examined a subsample of 220 US Air Force women and their spouses to investigate the impact of work and family stressors on the experience of family-to-work and work-to-family conflict. They replicated the earlier findings by Vinokur et al. (1999), but found differences in the relationships between variables between the women and their spouses. Job stress was associated with work-to-family conflict among both partners, but family stressors were only associated with family-to-work conflict among the wives. Furthermore, spousal support had a buffering effect on the association between work-to-family conflict and job stressors for wives but increased the association for husbands. Spousal support did not buffer the impact of family stress among women, but did among men. Lastly, the authors found evidence to support bidirectional crossover of work-to-family and family-to-work conflict from one spouse to the other. This highlights the existence of potential gender differences in the experiences of and risk factors for WFC, and that WFC experienced by one partner can impact the experience of WFC by another. This may be particularly relevant for women in dual-service career couples.

The finding of these two studies arise from cross-sectional data from a small sample of Air Force women who had served between 1990 and 1991, thus their experiences are not generalisable to the wider military and may not reflect those of women serving today. Also, among the sample, 59% of the women had civilian spouses. This may not reflect the military as a whole, in which female personnel are more likely to have military partners (Booth 2007), and thus the dual impact of strain from the work domain may be greater.
3.4.3 Deployment and motherhood

Most research surrounding work and family in the military is concerned with the impact of deployment on the children of deployed parents (e.g. Lincoln et al. 2008; Ternus et al. 2008). While several studies examine the impact of deployment on the serviceperson’s child, a considerably smaller body of literature examines the impact of deployment on female personnel with children. This includes a limited number of studies investigating career intentions and maternal separation anxiety among deployed US servicewomen.

Career intentions

Pierce (1998) examined factors impacting career intentions among 683 female Air Force personnel deployed or not deployed to the Gulf War, using a self-report questionnaire two years after the 1991 Gulf War ended. Deployment was not associated with career intentions, nor was being a primary caregiver; though those with more children were less likely to leave the military and to cite health care and job security as being better in military than civilian life. This suggests that the secondary benefits of the military lifestyle may for some outweigh the costs of separation and that deployment to a war zone per se was not associated with intentions to leave the military. Kelley et al. (2001) investigated factors associated with re-enlistment intentions among a convenience sample of Navy mothers facing imminent deployment (n=71) and a control group of non-deploying mothers (n=83). They report similar findings to those of Pierce et al. (1998), in that deployment did not impact the re-enlistment intentions of mothers and both groups were equally likely to cite work-family concerns as reasons to leave the military.

These studies suggest deployment does not impact upon the career intentions of military mothers, but are limited in that they include small non-representative samples of women. Also, they do not investigate other reasons why military women with children may be more likely to leave the services; focus groups with US female and male personnel across the service branches identified difficulties balancing work and family, and lack of time with family as the most important reasons for leaving the services (DACOWITS 2003).
Maternal well-being

According to Hock et al. (1989), maternal separation anxiety is ‘defined as an unpleasant emotional state tied to the separation experience: it may be evidenced by expressions of worry, sadness, or guilt’ (Hock et al. 1989: 794). Studies of maternal separation anxiety as a result of deployment on maternal well-being are not widely documented, and comparison studies of the impact on military mothers and fathers (or on primary and non-primary caregivers) are lacking.

Kelley et al. (1994) reported that among a sample of 118 Navy deploying mothers, those anticipating deployment reported more parenting stress compared to mothers who had returned from deployment. They also found that single mothers experienced greater separation anxiety than married mothers, which corresponds with findings suggesting that attrition is associated with single parenthood and the need to leave children with ex-partners (Pierce 1998). In a later study, Kelley (2002) used a similar strategy to that referred to in the 1994 study described above, to examine the mental health impact of deployment, but including a smaller sample of Navy mothers facing imminent deployment (n=48) and non-deploying controls (n=72). They also found that single deployed mothers had the greatest levels of post-deployment psychological problems, including symptoms of depression and anxiety. In addition, Kelley (2002) reported that perceived social support, marital status, duration of separation, and length of military service all predicted self-reported psychological adjustment post-deployment.

In addition to distress caused by separation, there may also be adjustment problems as a result of reintegration into the family following deployment. Coming home and returning into the motherhood role may be a source of stress in terms of re-establishing relationships and role dimensions (Street et al. 2009). No research could be found examining these issues among female personnel.

General limitations

Research examining the well-being of mothers in the military is limited and most specifically examines the impact of deployment rather than everyday difficulties. Much of the available research uses service-specific data which does not recognise inter-service differences. Further, small samples mean that the findings can only be considered exploratory and cannot be generalised to the wider military group.
Findings from the US regarding motherhood and deployment should be generalised to the UK with caution for several reasons. US personnel typically deploy for 12-15 months compared to around six months for UK personnel. Therefore the period of separation from the child(ren) is longer; there may be more anxiety about missing longer periods of a child’s life, particularly during important developmental stages; more difficulties arranging childcare, particularly if the partner or spouse is also serving; and readjusting into the role of primary caregiver may be more problematic for both parent and child.

Studies of parenthood and deployment often use data prior to the engagements in Iraq and Afghanistan, whereupon the deployment burden on service personnel rose significantly. Furthermore, the increased likelihood and anticipation of deployment during this time may have affected the views and experiences of female personnel with children.

While survey data from both the US and the UK suggests the impact of service life on family is the most salient driver of intentions to leave the military, studies investigating specifically the nature of this ‘impact’, whether different types of personnel are differentially affected, and whether current policies are effective in alleviating this burden, are not available.

3.4.4 Summary

Women in the military may be at particular risk of stress arising from conflict between the work and family roles. This risk may be greater than for women in other employment occupations, due to the unique demands of service life; and, greater than for male personnel with children, who may both be less likely to have the primary caregiver role, and less likely to be married to a serving partner. Evidence for strain arising from the routine demands of service life is lacking, although some research examines the impact of deployment on military mothers. These studies have examined the impact of deployment on career intentions and maternal separation anxiety. While women with children who deployed were not more likely to intend to leave the services, this may be an artefact of a selection process, whereby women with children or who want to have children may leave the military in anticipation of deployment. Similarly, there was some evidence for an effect of deployment on maternal well-being,
particularly among single parents, though methodological limitations make generalisations problematic.

3.5 Interpersonal stress

3.5.1 Working in a male-dominated environment

While this thesis does not aim to discuss macro-level gender issues in detail, it is impossible to separate the issue of the social construction of gender and the resultant consequences for women serving in a highly male-dominated environment, from the well-being of female personnel. Gender is a characteristic that has been endowed with social status value via its attachment to culturally engrained stereotypes, and is influential on the societal, organisational, and individual levels (for a more detailed discussion see e.g. Ridgeway 1991; 1997; 2007). The view of gender and gender roles as socially constructed concepts impacting upon the experience of women in the military has driven research in the US (Segal 1995; 1999; Iskra et al. 2002), though few have looked at the UK Armed Forces (Woodward & Winter 2004). It is particularly relevant to female personnel because femininity can be seen as antithetical to the military, traditionally a very ‘male’ arena.

Bray et al. (1999) used data from a two-stage stratified probability sample designed to be representative of all US active duty military personnel, to examine relationships between various sources of stress and substance use. They found men and women were both more likely to endorse military duty-related items as stressful than family or personal factors, though women were more likely to report stress in the latter two domains than men. Women most frequently cited being away from family, major changes in family, increases in workload, problems in work relationships, and problems with supervisors as sources of stress. Significantly, 33% of women reported a high degree of stress as a result of being a woman in the military, with which there was a significant relationship between illicit drug and tobacco use. In contrast, stress from family and work domains were not associated with illicit drug or tobacco use and heavy alcohol use was not associated with stress in any domain. Together these findings use a large representative and non-treatment-seeking sample to highlight that consideration of stressors in the interpersonal domain in relation to health and well-being for women may be incomplete without consideration of the impact of working in a male-dominated environment. However, the study does not indicate which aspects of being a woman in
the military are particularly stressful, whether any particular subgroups of women may be at more or less risk of such stress, nor whether there are differences in the perceptions of and reactions to, different aspects of being a woman in the military.

Herbert (1998: 6) and Carreiras (2006: 46) argue that the integration of women into such an environment is restricted by, not only organisational level regulatory and legislative barriers, but also by interpersonal restraints borne out by the ‘ideology of masculinity’ - such as discrimination and sexual harassment on the individual level. Today’s military presents far fewer institutional restrictions to the participation of women. An index of formalised ‘gender inclusiveness’ of NATO countries military services based on indicators such as the proportion of women in service, formal restrictions to service, hierarchical segregation, and harassment programs, places the UK Armed Forces fourth behind Canada, the US, and Norway (Carreiras 2006: 114-116). It is unclear what impact such institutional level policies have on the experience of female personnel at the interpersonal level.

Three areas that are hypothesised as sources of stress associated with being a woman in the military span the interpersonal and family domains. Namely, difficulties with integration on a psycho-social level (with implications for the availability of social support); problems with discrimination or harassment; and, as described above, difficulties balancing family roles with the military lifestyle. Some factors which might impact the experience of interpersonal stress include the type of role a woman has and the gender ratio in her immediate environment as well as characteristics such as service branch, age, and rank.

3.5.2 The influence of gender ratio
Kanter (1977) described the social interactional experiences of women in a highly male-dominated work environment and proposed that the numeric gender composition of a workplace directly influences integration. She argued that when women make up an extreme minority (a ‘skewed’ sex ratio) they are regarded as ‘tokens’. Regardless of how an individual perceives themselves in relation to others in their status group, tokens will be perceived as symbolic representatives of that group - as Kanter states, ‘as symbols rather than individuals’ (Kanter, 1977: 966). Tokens are not necessarily women but can refer to other minority groups defined by social status characteristics, such as race or age. Kanter (1977) described three phenomena relevant to tokens that can lead to
disadvantage relative to the majority group: visibility, polarisation (or boundary heightening), and assimilation.

Tokens were proposed to have increased visibility due to their relative rarity. This was hypothesised to lead to performance pressures. For instance, due to the difficulty in hiding errors, the symbolic consequences of their efforts for other women, and the need to divert attention away from ‘auxiliary traits’ associated with token status (e.g. associated with femininity) towards work performance. She proposed that women might work extra hard and/or attempt to minimise their visibility in response to such self-imposed pressure. The dominant group may also attempt to minimise similarities and maximise differences between them and the token group as a result of feeling threatened by the presence of ‘others’. These attempts to isolate the tokens may manifest in behaviours that exaggerate ‘male’ characteristics such as sexual prowess, bravado, and aggression. Tokens were hypothesised either to accept isolation from the dominant group or respond by becoming ‘insiders’ by colluding with the views of the dominant group, perhaps at the expense of other minority members. Attempts to create distance between the dominant and token group by the dominants are referred to by Kanter (1977) as ‘boundary heightening’. She also points to behaviours and perceptions of the dominant group that aim to distort the characteristics of the token to fit pre-determined stereotyped roles, such as mother or seductress. This ‘role encapsulation’ or ‘assimilation’ aims to force tokens into occupying roles that are restricted ‘caricatures’ of their status group, limiting their influence in the work force. Kanter suggested that it might be easier for tokens to play up to these roles rather than attempt to change such views. These three phenomena were proposed to put the minority group at a disadvantage and to prompt ‘coping’ behaviours to counteract these interactional behaviours in an attempt to gain parity and inclusion.

The tokenism hypothesis has been hugely influential in the examination of women in male-dominated occupations. While the nature of the social interactional issues faced by tokens seems relatively undisputed, the implication that many of the potential problems that may be faced by women may be solved by increasing the proportion of women in the workplace has been questioned. Critics of this hypothesis do not argue against the proposed effects or consequences of tokenism briefly outlined above. Rather, they suggest that problems faced by women will be worsened by increasing the numbers of tokens unless the underlying (prejudiced) attitudes of their dominant counterparts are
considered (Blalock 1967; Zimmer 1988). The emphasis on relative numbers of tokens and minorities ignores issues of differential levels of power and prestige between groups that is based on social status irrespective of relative ratios (Zimmer 1988). Furthermore, Kanter’s hypothesis was developed from observing saleswomen, at the time an occupation that deviated from what was deemed appropriate for women (Yoder et al. 1991). The importance of numerical representation therefore also ignores the influence of working in a gender-typed role, i.e. the impact of flouting socio-cultural norms about which roles are appropriate for men and women. The military is stereotypically a very ‘male’ arena, although different roles within the military may have different gendered connotations, e.g. clerk or nurse, compared to gunner or pilot roles. The views expressed by Kanter also originate in an era in which women’s widespread movement into male occupations was relatively new, and as such may not adequately reflect the experiences of women over 30 years later. Within the military organisation itself, there has been a microcosmic shift of women into male-dominated occupations which has occurred considerably more recently, with the expansion of posts becoming available to them just over a decade ago and continuing to this day (see timeline in chapter two). As such, there may be differences from the experience of women in civilian male-dominated occupations.

Evidence from military samples in support of this hypothesis is mixed. Pazy & Oron (2001) investigated the impact of gender proportion on performance evaluation among high ranking professional and administrative (non-combat) Israeli Defence Force personnel (n=2500 male, n=514 female). They found evidence to support the influence of numbers as put forward by Kanter (1977), with an interaction between gender proportion and overall performance rating. Across groups, women were given higher overall performance scores, though in groups where the proportion of women was low they were scored lower than men - and as the proportion of women increased, their overall performance scores increased to supersede those of men. In addition, women overall scored lower on ratings of advancement prospects and operational competence than men but this effect was stronger in groups with the lowest proportion of women. As this study examined high ranking (Majors and Lieutenant Colonels) Officers only, the findings cannot be generalised to lower ranking personnel, particularly those that joined up more recently. Nevertheless, they do appear to corroborate Kanter’s hypothesis and find no evidence to support the idea that greater representation will have negative consequences for a low status minority (Blalock 1967).
Two studies carried out by Rosen et al. (1996; 1997) attempted to empirically investigate the impact of gender ratio on various measures of unit functioning, particularly self-reported cohesion, with mixed results. The first study included US combat service support Army troops on an Infantry base (n=218 female, n=706 male). They found evidence to contradict Kanter’s hypothesis, in that among junior enlisted male soldiers an increasing proportion of women was associated with lower reported horizontal (peer group) cohesion and lower acceptance of women. Among women, on the other hand, an increased proportion of women in the group had no negative impact on any measure of well-being or cohesion. This seemed to support the notion that increasing numbers of minority group members may lead to increasing difficulties for the minority group due to discrimination (Blalock 1967). However, the research used data from 1988, prior to the expansion of posts available to them and prior to their involvement in the 1991 Gulf War. The potential relevance of this limitation in generalising to women’s experiences today was indicated in their second study, which included combat support and service support troops (n=939 male, n=251 female). That study found no association between gender ratio and unit cohesion using data collected seven years later (Rosen et al. 1997). Findings from either study cannot be generalised due to the limited sample and different measures used as well as the now historical nature of data collection.

Evidence to support that the proximal cause of adverse experiences associated with tokenism is absolute gender ratio is, therefore, mixed in military samples. It is perhaps more pertinent to the understanding of interpersonal stress, to discover whether there is evidence that these exclusionary experiences occur (due to high visibility, boundary heightening and role encapsulation) and adversely affect integration.

3.5.3 Discrimination and gender-based harassment

Discrimination is defined as unfair behaviour, or unequal treatment directed towards members of certain, particularly socially subordinated, groups. ‘Prejudice’ refers to negative attitudes and judgements directed towards such groups (Krieger 1999; Dion 2001). Prejudice and discrimination are often based on race/ethnicity, age, social class, sexual preference, religion, and gender differences. It may also occur in other circumstances, such as against those diagnosed with a mental disorder (Thornicroft...
2006). These phenomena can be borne out in such interactions on the individual, institutional, and societal level (Dion 2001).

Perceived discrimination and unfair treatment is a form of chronic stress that can act as a secondary stressor alongside stressful events (Wethington et al. 1995). As a source of stress, a meta-analysis by Pascoe & Richman (2009) found perceived discrimination to be consistently associated with adverse mental and physical health outcomes; these included symptoms of depression, psychological distress, and general well-being as well as specific physical illnesses, such as cardiovascular disease. Therefore, the potential experience of discrimination is an important consideration in assessing the impact of stressors on health and in understanding why higher levels of psychological distress are found among lower status groups (Thoits 1983; Kessler et al. 1999). The interactional influence of holding multiple status characteristics may also be considered; in the military a woman may be low status with regards to gender but high status with regard to rank.

The concept of gender discrimination emphasises unfair or unequal access to opportunities or resources as a result of one’s gender, i.e. when a person is disadvantaged economically, in terms of career advancement, or access to some other resource (such as health care and so on). These represent more structural level processes. The UK military has adopted several policies aiming to address gender discrimination, such as gender-neutral recruitment tests, opening up of occupational roles and participation in the NATO Committee on Gender Perspectives (which promotes gender mainstreaming). The tri-service Armed Forces Continuous Attitude Surveys include items which ask personnel about awareness of equality and discrimination policies, whether or not they feel they are treated fairly, or that there are equal opportunities for all. The results reveal that Officers have more positive views than other ranks, but do not break down results by gender. Experiences of perceived discrimination by gender among US female military personnel have been measured. Lipari et al. (2008) asked survey respondents whether they had experienced discriminatory behaviours in terms of evaluations, career advancement, or assignments that were gender-related. 13% of women (and 2% of men) reported experiencing some form of discrimination; this was more common in the Army and least common in the Air Force for women.
Gender harassment describes behaviours directed towards an individual as a result of their gender that are not sexual in nature, but are otherwise hostile or degrading. These behaviours manifest on an individual level and may influence discriminating practices in a ‘bottom-up’ process. Such experiences include being put down or undermined, being treated or evaluated differently, or receiving ‘sexist’ remarks (Fitzgerald et al. 1999). These experiences are likely to be more common for military women than sexual harassment (Rosen & Martin 1998; Lipari et al. 2008) and may form a more chronic source of stress with cumulative deleterious effects.

As suggested by Pascoe & Richman (2009), ‘although the expression of outright discrimination has been greatly reduced in recent decades, more subtle and chronic forms of discrimination are still very real for certain groups in our society’ (Pascoe & Richman 2009: 531). The experience of such subtle forms of discrimination has been documented among military samples. Miller (1997) used a range of qualitative approaches and a quantitative survey (n=4100) to examine gender harassment in a non-random quota sample of active duty Army soldiers. She termed such harassment as a form of ‘resistance’ that was enacted; for example, in the greater scrutiny of women’s work such that they have to, or perceive they have to, work harder than men to achieve the same recognition; in the spreading of rumours or gossip about female personnel, particularly of a sexual nature; and, in the reluctance to afford females in authority with the same respect and legitimacy as their male counterparts. Such behaviours were experienced on a low level and persistent day-to-day basis, acting as a chronic stressor which could enhance the impact of other sources of stress such as deployment, (Street et. al. 2009) by reducing the mediating resources of social support and cohesion.

Miller’s work provided a detailed insight into the views of both male and female personnel, but her data were limited to Army personnel and were collected between 1992 and 1994. As such the findings may not be generalisable, nor reflect the experience of military women today.

In a more recent 2006 US survey of gender relations, Lipari et al. (2008) report that 54% of women (and 22% of men) endorsed experiencing personally directed ‘sexist’ behaviours, including verbal or non-verbal conveyances of insulting, offensive or condescending attitudes based on gender. Women in the Army or Navy were more likely than women in the Air Force to report such behaviours, as were junior personnel. Higher rates (81% and 71% among women and men respectively) were reported by
Rosen & Martin (1998), who also found that gender harassment was associated with adverse psychological outcomes. However, the questions used to identify gender harassment differed from those of Lipari et al. (2008), and the sample included active duty Army personnel in combat and combat support units only. The generalisability of these findings is limited since those in the Army have been found to report increased levels of harassing behaviours. Further, combat units are more traditionally male-dominated, thus may not represent the experiences of women in other trades.

### 3.5.4 Sexual harassment and assault

Sexual harassment is legally defined as ‘unwanted verbal, non-verbal, and physical conduct of a sexual nature’, which is perceived to compromise one’s dignity, or to create a hostile, offensive, degrading or humiliating environment’ (S.4A(1)(b) of the Sex Discrimination Act 1975 as amended by (Employment Equality (Sex Discrimination) Regulations 2005). Several high profile cases of sexual harassment against women in the military have highlighted the problem in the US (Murray, 2003: 13-48) and the UK (‘Ex-RAF woman wins £30,000 for victimisation’, Telegraph 2004; ‘Armed Forces admit sex harassment’, BBC News 2005), and much research has emerged from the US examining the prevalence and mental health consequences of sexual harassment experienced during military service. Sexual harassment is not a problem uniquely directed towards women (Suris & Lind 2008), although the military environment may be conducive to the occurrence of sexual harassment towards women. This is because it is traditionally a male occupation, has a high ratio of men to women, and a preponderance of male supervisors (Gutek & Cohen 1987; Wolfe et al. 1998).

Most research from the US is concerned with the prevalence, risk factors, and mental health correlates of ‘Military Sexual Trauma’ (MST). MST is defined as ‘sexual harassment that is threatening in character or physical assault of a sexual nature that occurred while the victim was in the military regardless of geographic location of the trauma, gender of victim, or the relationship to the perpetrator’ (Suris & Lind 2008: 250). While this definition encompasses sexual harassment and assault, most studies focus on the experience of assault (unwanted sexual physical contact). A review of trauma among serving and ex-service US military personnel found a higher prevalence compared to the general population, though this was not necessarily experienced during military service (Zinzow et al. 2007). Suris & Lind (2008) reviewed the prevalence and impact of sexual assault among veterans that occurred during service in the US military,
finding reported prevalence rates ranging from 0.4% (Fontana et al. 1997) to 71% (Murdoch et al. 2004) depending on the method of data collection used. Such variation reflects different types of samples (treatment-seeking and non-treatment-seeking), different measures of sexual assault and different methods of assessing assault (e.g. survey questionnaire, face-to-face interviews etc). Studies of VA samples should be interpreted with some caution since they actively recruit patients for MST treatment (Himmelfarb et al. 2006), thus the prevalence rates are likely to overestimate the true burden of exposure.

The 2006 Gender Relations Survey of Active Duty Members was a service-wide web-based study that utilised a single stage, non-proportional stratified random sample (N=23,595) with a weighted response rate of 30%. Using these data Lipari et al. (2008) report 6.8% of women had experienced unwanted sexual contact (compared with 1.8% of men). Comparable UK data has been collected in a tri-service investigation of sexual harassment in the UK military on the behalf of the Ministry of Defence between 2005 and 2008 in response to concerns raised by the Equal Opportunities Commission. The first phase involved a mixed methods study of female servicewomen’s experiences of sexual harassment and the complaints procedure (Rutherford et al. 2006). Questionnaires were sent to all servicewomen, with a response rate of 52% (N=9384). They found that 15% reported a particularly upsetting harassing experience, of which 12.7% involved sexual assault (representing 4% of the whole sample).

When the definition of sexual harassment is extended to additionally include verbal and non-verbal conduct, the prevalence rates reported are consistently higher. Sadler et al. (2003) found that 79% of their female veteran sample reported experiencing military sexual harassment during military service. Among the non-treatment-seeking sample utilised by Lipari et al. (2008), sexually harassing behaviours (including sexist behaviour, crude and offensive behaviour, and unwanted sexual attention) were reported by 63% of women. These values are congruous with UK findings. Rutherford et al. (2006) report that an environment of sexualised behaviours in the UK Armed Forces is ubiquitous, with 99% of the sample endorsing experiences of sexualised behaviours in the last 12 months (jokes, stories, language, and material), though only half (52%) felt that these were sometimes offensive. In line with the findings of Lipari et al. (2008) from the US, 70% of respondents had also experienced sexualised behaviours directed
at them personally in the last year, ranging from unwanted comments and touching to assault.

Sadler et al. (2003) collected data by telephone interview from a randomly selected cross-sectional national sample from a historical cohort of (mainly VA treatment-seeking) female veterans (N=558). They examined environmental military factors associated with experiencing rape while controlling for pre-military trauma experiences. Experiencing rape during military service was associated with entering the military at a younger age, being of lower rank, lower educational attainment, and pre-military sexual violence experiences. The perpetrators of rape were most likely peers of similar rank to the victim and to have previously sexually harassed the victim. Similar findings were found in a national random sample of VA patients, in which younger age was significantly associated with being sexually assaulted in the military (Skinner et al. 2000). Furthermore, working in an environment in which sexually harassing behaviours are tolerated by peers and supervisors has been shown to significantly increase the likelihood of exposure to sexual harassment and challenges to sexual identity (Murdoch et al. 2009).

Among non-treatment-seeking samples, Lipari et al. (2008) reported that unwanted sexual contact was most likely to occur at a military installation and that over a third of victims reported that they had been sexually harassed prior to the incident. A third reported that alcohol was involved and over half reported the offender to be of higher rank. UK data also suggests that lower ranked and younger personnel are at greater risk of sexual harassment (Rutherford et al. 2006).

Reporting
US studies find that women may be reluctant to make formal complaints following harassment due to fears of negative repercussions and a belief that nothing would be done about their complaint (Pershing 2003; Lipari et al. 2008). UK data reveals a reluctance to complain about instances of sexual assault, a lack of belief in the complaints procedures, and a concern about negative consequences arising from a complaint. Both UK and US data suggests that the more severe the experience is, the more likely it will be viewed as harassment by the recipient and formally complained about (Rosen & Martin 1998b; Wolfe et al. 1998; Rutherford et al. 2006). Nonetheless,
UK data suggests that only 5% of the 15% who reported a particularly upsetting experience had made a formal complaint Rutherford et al. (2006).

These findings are supported by other civilian and military studies reporting that women may not consider unwanted sexualised behaviours from men as sexual harassment. This is due to a reluctance to label themselves as ‘victims’ of harassment, concerns about reprisals, or because they brush it off as a joke (Stockdale & Vaux 1993; Rosen & Martin 1998b; Magley et al. 1999; Lee 2001). Even in a study examining reporting of rape during military service (Sadler et al. 2003), a substantial majority (three quarters) of victims did not report the experience, of which one third were unsure how to and one fifth reported that rape was to be expected in the military. Some research suggests that experiencing unwanted sexualised behaviours regardless of how they are perceived is associated with negative consequences such as job dissatisfaction and psychological distress (Magley et al. 1999). Others report that adverse effects are likely to occur only if the experiences are considered as harassment (Antecol et al. 2001).

**Impact of sexual harassment on well-being**

The majority of studies examining physical and psychological correlates of sexual harassment and assault have used treatment-seeking samples of veterans receiving care at VA health facilities. In the study carried out by Sadler et al. (2003), 58% and 78% of rape victims reported physical and emotional health effects respectively, though specific disorders were not measured. Other research suggests that those experiencing rape during military service are at an increased risk of health problems including chronic illness, lower health-related quality of life, depression, anxiety, alcohol misuse, and somatic problems as well as PTSD. Other outcomes associated with rape during military service include reduced educational attainment, financial problems, and problems with social and with work activities (Butterfield et al. 1998; Sadler et al. 2000; Himmelfarb et al. 2006; Suris et al. 2007; Kimerling et al. 2007).

There is some evidence that those experiencing sexual trauma during military service may be at greater risk of adverse health compared to those experiencing trauma either before or after service. Suris et al. (2007) compared veterans with experience of MST only to those who experienced childhood sexual trauma only - and found that those exposed to MST only were more likely to endorse a variety of mental health outcomes, including symptoms of depression, anxiety, obsessive compulsive disorder, and
somatoform disorder. Similarly, Himmelfarb et al. (2006) reported that among 196 female VA treatment-seeking veterans, MST demonstrated a stronger association with PTSD than either pre-military or post-military sexual trauma. It is unclear why MST may be more harmful than other kinds of trauma. It could be speculated that victims have particular feelings of a lack of control, helplessness or threat due to the intense nature of military service in which live, work, and socialise alongside the offenders. Further, as the military relies on cohesion and ties between its members, exposure to trauma may elicit exceptional perceptions of betrayal and exclusion. These results should be treated with some caution in light of the active recruitment of sexual harassment victims at VA clinics, given that veterans with PTSD symptoms may be more likely to attend the clinic and may differentially report certain types of trauma due to the clinical setting. Usual self-selection, geographical limitation and other sample non-representiveness factors associated with VA data also apply.

Studies that examine the health correlates of harassment among non-treatment-seeking samples are less common, though report similar adverse effects. Murdoch et al. (2007) examined functioning and psychiatric symptoms related to sexual stressors in a convenience sample of active duty Army men and women via a survey questionnaire. Experiencing sexual stressors was associated with PTSD, depression, anxiety, and somatic concerns as well as poorer work, role, and social functioning. Similarly, Shipherd et al. (2009) examined health among a sample of Marines (n=226 women, n=91 men) and found symptoms of PTSD were associated with MST after accounting for pre MST health, including PTSD and current depression.

Using data from a randomly selected sample of non-treatment-seeking servicewomen, reports from both the UK and the US suggest that sexual harassment is also significantly associated with increased turnover and intentions to leave the military (Sims et al. 2005; Rutherford et al. 2006; Lipari et al. 2008). UK data on the physiological or psychological consequences of military sexual harassment or assault was not found.

**Sexual harassment during deployment**

As alluded to in the ‘work-related stress’ section, the impact of non-combat-related stressors is often ignored in studies of post-deployment mental well-being. Stressors associated with being deployed in a predominantly male environment may arise from
interpersonal conflict, including difficulties with integration, cohesion, and social support as well as exposure to harassing or discriminatory experiences. Few studies have examined gender-based or sexual harassment during deployment, which although is not necessarily limited to women, may pose a more gender specific stressor unaccounted for in many studies of post-deployment health. Those available are limited to smaller scale, less representative and/or treatment-seeking samples, thus limiting the generalisability of the findings. No UK studies are known to have investigated this phenomenon. As noted by Street et al. (2009), experiencing gender-based or sexual harassment and/or trauma during deployment may be particularly injurious for several reasons. It may increase perceived threat to life or of serious injury concurrent with other deployment and combat-related stressors and adversely affect perceived cohesion and support. In addition, deployed personnel are separated from support networks at home.

The prevalence of sexual harassment during deployment has not been well researched, although US data from the 2006 Workplace and Gender Relations Survey of Active Duty Members suggests that approximately one third of women (and over 40% of men) who report unwanted sexual contact in the last year, experienced it during deployment (Lipari et al. 2008). The low response rate (30%) and focus on sexual assault, as opposed to including more generalised environmental sexual harassment, means that this may be an under-representation.

There is some evidence that experiencing sexual harassment during deployment may have a greater impact on men than women. Vogt et al. (2005) found women reported sexual harassment experiences during deployment to the 1991 Gulf War more often than men, though prevalence rates were not reported. Sexual harassment was associated with increasing levels of depression among men but not women, and with increased levels of anxiety for both men and women (though this increase was significantly greater among men). Post-traumatic stress symptoms were associated with sexual harassment during deployment but this association was not moderated by gender. Similarly, Kang et al. (2005) examined data from a larger population-based, stratified random sample of US troops deployed to the Gulf War to investigate the association between self-reported sexual harassment or abuse during deployment and PTSD. They found 24% of females reported sexual harassment and 3% reported assault, compared to 0.6% and 0.2% for males respectively. Harassment and assault were both significantly
associated with PTSD among men and women after controlling for potential confounders including level of combat exposure, though there was a stronger effect among the male sample. However, the measure of combat exposure was very limited leaving significant potential for residual confounding. Furthermore, these studies used survey data that was collected several years after the end of the Gulf War thus results are vulnerable to recall bias. More recent data from the Millennium Cohort Study used a prospective approach to examine the impact of prior assault on development of PTSD after controlling for combat exposure and baseline PTSD (Smith et al. 2008). Unlike Vogt et al. (2005) and Kang et al. (2005), they found both men and women exposed to prior assault to be at twice the risk of post-deployment PTSD. This may reflect more comprehensive adjustment for differences in combat exposure and reasserts that examination of combat exposure alone may not adequately investigate factors affecting post-deployment well-being.

**General limitations**

Difficulties arise from operationalising the concept of sexual harassment. Different studies use contrasting approaches to the measurement of harassment which adhere to the legal definition to varying degrees. Some directly ask respondents whether they have experienced sexual harassment based on a definition of the term provided, while other studies relied on the subjective classification of an experience as harassing or not. This is likely to result in differences in responses. Furthermore, by including the term ‘sexual harassment’, bias may be introduced due to the emotive connotations of the term and differences in labelling. Other studies include a list of behaviours rather than a direct question (Chan et al. 2008), which may be more reliable. The behaviours listed may differ and not all studies ask whether they also consider the behaviours as offensive, thus reintroducing bias due to discrepancies in labelling. In addition, there is inconsistency between studies measuring sexual harassment, sexual assault, gender-based harassment or a combination of these concepts that also makes comparisons difficult.

Another complexity relates to the method of data collection, with large differences in prevalence rates reported in face-to-face interviews and self-report methods (Suris & Lind 2008). Issues with confidentiality, social desirability, and stigma may impact upon the reporting of harassment and make comparisons between studies difficult. Furthermore, findings relating to the impact and/or prevalence of military sexual
harassment or assault are likely to differ widely depending on the sample used. For example, studies examining veterans seeking care at VA health facilities for PTSD (e.g. Murdoch et al. 2004) may include an inflated number of sexual assault victims compared to veterans seeking treatment for other mental or physical health problems, or not seeking treatment at all (Suris & Lind 2008). Serving personnel may also report their experiences differently to ex-service personnel e.g. due to concerns about confidentiality and potential repercussions.

Studies examining the impact of sexual harassment on psychological and mental well-being have not generally included adjustments for other important confounders and few have accounted for pre-military trauma. Those affected by MST may be more likely to have been exposed to pre-military trauma. Further, studies of veteran personnel may be confounded by the impact of intervening non-military-related stressors and results may be particularly vulnerable to recall bias.

3.5.5 Summary

There is evidence that female personnel may experience stress simply from working in male-dominated environment. The nature of such stress is not clear, though influential work examining women’s experiences in extremely gender skewed environments suggests that some of this stress may be associated with the negative effects of being a ‘token’. These include stressors associated with increased visibility, boundary heightening and role entrapment, which in turn may evoke certain coping behaviours among the minority group. While the basis for such experiences as purely numeric is questioned, the actual experiences are supported by other research. Implications for the availability of interpersonal resources to moderate the impact of stress, including social support and cohesion, and their use as coping mechanisms further suggest that female personnel may be particularly vulnerable to interpersonal sources of stress.

Gender-based harassment of a non-sexual nature may be experienced as a chronic stressor by female personnel. Such experiences may not reach the awareness of others due to the difficulties in defining and pinpointing such insidious behaviours. Little research is available to indicate how prevalent gender-based harassment in the military may be, or on its impact on well-being.
Research indicates that a significant proportion of female personnel may be exposed to sexually harassing experiences, though may not necessarily perceive them to be offensive, or may reappraise the experience in a kind of emotion-focussed coping strategy. Even if experiences are upsetting, they may still be reluctant to report them. Limitations in research investigating the impact of sexually harassing experiences on mental health and well-being include a lack of comparability across studies due to methodological differences and a lack of information regarding the experiences of gender-based or sexual harassment during deployment to Iraq and Afghanistan, particularly from the UK.

Epidemiological investigations of the risk factors and outcomes of sexual harassment among military personnel are rare. Further, despite comparable survey data from the US and UK identifying similar overall rates of sexual assault (6.8% and 4% respectively) and unwanted sexual contact (63% and 70% respectively), the literature examining the prevalence, risk factors and mental health correlates of sexual harassment in the US continues to proliferate while is virtually non-existent in the UK.

The pathways through which social networks and social support might influence health among women in the military are poorly understood. Berkman et al. (2000) posit several courses of influence - via effects on self-esteem, self-efficacy and perceived security, via physical and emotional strain, and via health behaviours. Understanding these pathways is essential to the understanding of factors that influence the health and well-being of female personnel.

Overall, a quantitative epidemiological approach to understanding these and other questions is unlikely to be appropriate in the first instance. Without an appreciation of context-specific factors affecting the lives of women in the military, or an understanding of how such factors may differ; for example, by rank or service branch, quantitative studies are unlikely to ask the right questions. In-depth qualitative data will inform findings from the quantitative phase and in turn provide the opportunity for generating appropriate future quantitative research tools.
3.6 Research aims in context

To reiterate, the aims of this thesis are:

1. To estimate the prevalence of specific mental and physical health problems such as PTSD and self-reported somatic symptoms among UK female personnel.

2. To quantitatively examine the relationship between work, family, and interpersonal relationship stressors and physical and psychological health outcomes. Protective factors against poor health outcomes, such as social support and valued social networks will also be investigated.

3. To qualitatively explore work, family, and interpersonal relationship stressors in detail (e.g. gender discrimination experiences) and their perceived relationship to health using in-depth qualitative interviews among serving and ex-serving women.

An underlying hypothesis defining the aims of the project is that women in the military may face a plurality of stressors unique from the experience of military men or from women in other male-dominated experiences. This may have consequences for the cumulative experience of stress, in that stressors might build up on top of each other with multiplicative or additive effects; and of stress proliferation, in that exposure to one stressor may positively influence exposure to others (Pearlin 1981; Hatch 2005).

Additionally, much of the literature up until the onset of this thesis reflects data that was collected some time ago. The changing role of women in the military, particularly operationally, in terms of the number of posts available to them, means that interpersonal challenges may have changed. The military has had more time to assimilate women and successive cohorts of recruits will be more used to training alongside and reporting up to women in their chain of command, particularly as they reach higher ranks of authority. Moreover, as already mentioned, many studies examine select samples and do not acknowledge the range of experiences that a woman in the military might have. Not all women serve in male-dominated environments or in male-typed jobs - they may serve in more mixed, or even female-dominated environments. Furthermore, not all have family responsibilities or are in a deployable role. Some may live off base in a family home and commute to work five days a week in a nine-to-five
job. Such people, for example, would have a widely different experience to those who are living, working, and socialising on base with irregular working hours.

Identifying and understanding the nature and impact of stressors, of the complexities of exposure and resilience, and of the perceptions and meanings attached to various sources of stress cannot be achieved by quantitative methods alone. The rationale behind using a mixed methods approach is presented in the next chapter.

Elements of the stress process and related concepts run through all the results and discussion chapters. Although the results an discussion chapters are dissected into categories (such as deployment, parenthood and integration) and subcategories (such as support from the military and family domains), the distinctions between them are often not clear cut and many aspects significantly overlap within and between chapters.
Chapter 4  Methods

4.1  Rationale for a mixed methods approach

A mixed methods approach was used to meet the research aims for this project. The first aim was to estimate the prevalence of specific mental and physical health outcomes among female personnel using data from the KCMHR cohort study (see quantitative methods). The second aim was to examine the relationships between stressors in the work and interpersonal domains, with the health and well-being of female personnel. Quantitative methods were used to identify statistically significant relationships between specific risk factors and health outcomes, while qualitative methods were used to identify issues that were relevant from the participant’s point of view. The last aim was to explore work, family, and interpersonal stressors in detail using a qualitative approach in order to identify and understand sources of stress that were covered by the survey as well as additional sources of stress that were not. In addition, the mixed methods approach was used:

- To go beyond either a purely macro (larger scale patterns and trends examined using quantitative methods) or micro level perspective (subjective interpretations and perspectives examined with qualitative methods) to create a deeper explanation of the phenomena being studied by examining it on both scales with quantitative and qualitative approaches.

- To gain a deeper understanding of the complexities and inconsistencies that may exist for women, in particular macro level analyses are unable to identify or understand contradictions to the main trends or inconsistencies in results. Furthermore, while the results of quantitative analyses can be discussed in terms of the interpretation made by the researcher, qualitative investigation allows individuals to explain themselves in their own words and in turn improve the validity of the researcher’s interpretations.

- To identify issues not covered in the quantitative survey. Not all topic areas are easily investigated using quantitative approaches; for example, perceptions of unfair treatment are perhaps best understood from the point of view of the individual and the context within which they are perceived. The survey allowed
quantitative assessment of the prevalence of mental and physical problems among female personnel, their distribution across different demographic, deployment and social variables, and whether various socio demographic and military factors impact health outcomes. In contrast, the interviews allowed qualitative assessment of the experiences of being a mother in the military, their experiences during deployment on operational tours, their perceptions of unfair treatment, and their experiences of, and views about, support seeking. Data obtained from qualitative interviews helped to understand how and what type of factors might impact the mental health and well-being of female personnel as well as the decision whether or not to remain in the military.

- Lastly, issues arising from the qualitative data may inform the items and response categories most relevant to this specific population in future surveys of military personnel.

The quantitative and qualitative data were collected sequentially; this aspect of the thesis was imposed since the quantitative data was collected prior to the onset of the thesis. In general (except for the first research aim), qualitative data were given priority and were analysed first despite being collected after the quantitative data chronologically. Priority was largely given to the qualitative data due to the exploratory nature of the research.

Integration occurred across some but not all phases of the research study. During sample selection, qualitative data from open ended questions embedded within a quantitative survey were used to identify potential interview participants for the qualitative phase of data collection. Data collection and analysis was sequential. Lastly, qualitative and quantitative findings were integrated during the data interpretation phase, in that both forms of data were drawn upon to create overall interpretations relevant to the research aims. These qualities most closely link to the ‘sequential exploratory’ and ‘sequential explanatory’ mixed methods design outlined by Creswell (2003). The methods used in the two approaches are described in detail below.

4.2 Quantitative methods

KCMHR has to date conducted two phases of a cohort study examining the health and well-being of UK military personnel, the ‘Health & well-being survey of serving & ex-
serving members of the UK Armed Forces’. This cohort study is the largest ever study of the UK military and is representative of the Armed Forces as a whole.

The first phase was carried out after the outbreak of the Iraq war in 2003, with the initial aim of comparing the mental and physical health of UK Armed Forces personnel who had served in the first operational stage of the Iraq war (January 18 2003 to June 28 2003) with that of a comparable group of military personnel who were serving at the same time but had not been deployed to this stage of the war (Hotopf et al. 2006). The second phase was carried out in light of the continuation of the Iraq war and the ongoing hostilities in Afghanistan, and primarily aimed to examine the effect of deployment to Afghanistan and Iraq between 2003 and the end of data collection in September 2009 (Fear et al. 2010). The Iraq war is denoted with the operational designation of ‘Op TELIC’ and is referred to as TELIC, while that for Afghanistan is referred to by is operational name, ‘HERRICK’.

The operations are divided into stages, or roulements – periods of operational duty - which in the main refer to (usually) six month increments. The stages are numbered so that ‘1’ is the first six months of the campaign and sequential numbers identify subsequent periods of time so that higher numbers are more recent. For example, the first stage of the Iraq war is referred to as TELIC 1. Of note, during phase one of the cohort study, some participants in the Era group (the ‘non-deployed’ group) were deployed on later TELIC operations during the data collection period and so were reassigned to a more inclusive ‘Iraq war group’ which included personnel deployed to both TELIC 1 and 2 (June 2003 – November 2003).

Analyses carried out for the purposes of the current study use data from phase two of the cohort study. Since phase two includes follow-up participants from phase one as well as two new groups of participants, the method of data collection differs between the two phases. Therefore the details of the methods used for each phase are described separately below.

The study design and data collection was carried out under the following principal investigators: Professor Simon Wessely, Professor Matthew Hotopf, Professor Roberto Rona, Professor Christopher Dandeker, and Dr Nicola Fear (phase two). I was not involved in the design or data collection of the cohort study. I decided how to use the
quantitative data to meet the aims and objectives of my research and carried out the analysis and interpretation of the quantitative data presented in this thesis.

4.2.1 Phase one: study design

Participants were identified by the UK Ministry of Defence’s (MoD) Defence Analytical Services and Advice (DASA). A list was produced that included all personnel (except Special Forces and high security personnel as due to security restrictions) who had deployed on TELIC 1. Another list was also produced to identify the comparison group (Era), which included all UK Armed Forces personnel serving in the Armed Forces at the time who were not in the TELIC 1 group.

A random stratified sample was selected from the TELIC 1 (n=46040) and Era (n=339660) populations. Each potential participant was assigned to a stratum with a randomly generated number, the numbers were then sorted into ascending order, and then the first x potential participants were selected to meet the required sample size (x) for that stratum (total selected for TELIC 1 group n=7695; for Era group n=10003). Stratification was carried out by service type (Royal Navy including Royal Marines, Army, Royal Air Force, RAF) and by enlistment type (regular or reserve). Regular personnel are those who serve in the Armed Forces full time, while reserve personnel are voluntary members of the Armed Forces who usually have civilian jobs outside the military.

More participants were included in the Era sample to a) account for the proportion of personnel who are medically downgraded (and therefore may not be fit to deploy), approximately 10% of personnel, and b) account for the fact that individuals in the Era group may later be deployed to subsequent TELIC operations. In addition, reservists were oversampled with a ratio of 2:1 because there was a particular interest in their response to deployment and they otherwise constituted a relatively small proportion of those deployed to theatre.

4.2.2 Phase one: questionnaire

A 28-page questionnaire was designed and piloted. This survey informed participants that participation was voluntary, that all information would be confidential, that disseminated information would not be able to be traced back to an individual and that the researchers were independent of the MoD.
There were seven sections which asked for information on: demographics; service (including information about those who were no longer serving, current/last rank, and details of previous deployments); experiences prior to deployment (such as expectations and experiences of vaccinations); experiences on deployment (including role, potentially traumatic experiences, and measures of cohesion); experiences on return from deployment; current health; and background information; for example, medical history and childhood adversity. Health measures are described in more detail in the variables section below.

Those participants in the Era group were requested to fill out information about experiences before, during and after deployment if had served on one of the following major deployments since 2000: Afghanistan, Bosnia, Kosovo, Macedonia, Sierra Leone, Southern Turkey, Kuwait, Saif Sareea and Iraq (Operation TELIC 2 and onward). Participants were asked to provide information about their most recent deployment if they had been on more than one.

4.2.3 Phase one: data collection

Data were collected between June 2004 and March 2006, both by sending questionnaires out in the mail and visiting military bases. These two methods were carried out concurrently, and all potential participants were initially selected to receive either a questionnaire by post or to be visited by the research team. Visits were designated according to the distribution of the sample across military units by their postcode; those military postcodes that contained a number of personnel over a particular threshold were assigned to a visit (30 or more for Army and RAF postcodes, 10 or more for Naval Services). 50 visits to bases in the UK and Germany were carried out in total. At each base, personnel eligible to take part were assembled and asked to complete the questionnaire. Those who did not wish to participate could leave at any time. Non-attendance was usually because of work commitments, training, or courses, or because individuals had moved location, which included being deployed. Everybody else was sent a questionnaire by post; over 30,000 questionnaires were sent out in total across four attempted mail-outs.

All potential participants were sent information about the study prior to receiving the questionnaire. The study was highlighted to personnel by providing information about it
in service-related publications and websites, and by a centrally sourced letter sent to Commanding Officers (CO).

Tracing of participants was carried out using several approaches. To trace reservists, Permanent Staff Administrative Officers (PSAOs) were contacted by telephone and asked for their help. For regular service members, senior personnel at the units were directly emailed by the MoD to ask for help in giving out questionnaires and in locating personnel who were very mobile. For ex-serving participants (civilian tracing), addresses were checked against the electoral register, and telephone numbers were sought from directory enquiries and the National Strategic Tracing Service (NSTS).

150 individuals who had not responded to three contacts were randomly selected for intensive follow-up in order to assess potential non-responder bias. This sample was equally divided between the TELIC and Era cohorts, and included regulars, reservists, and ex-serving personnel. A small financial incentive was offered to ask them to complete a shorter version of the questionnaire. 71 people (47.3%) took part in the intensive follow up, there was no indication of differences in health outcomes among those who did not respond (Hotopf et al. 2006; Tate et al. 2007).

DASA provided information on a monthly basis about updates to contact details and, importantly to prevent distress to family members, whether any potential participants had died. 23 participants died before they could be sent questionnaires; 176 individuals were otherwise ineligible (no contact details available, n=41 or were not deployable, n=135). 17,499 potential participants were therefore followed up. The response rate was 58.7% (n=10,272).

4.2.4 Phase two: study design

Phase two included a follow up of those who took part in the initial phase (the ‘follow up’ group) and two additional samples (the ‘HERRICK’ and the ‘replenishment’ samples).

Follow up sample

Of the 10,272 participants who took part in phase one of the cohort study, 877 could not be followed up because they had not given consent for further contact, had died, had provided insufficient address information, had joined the Special Forces, or had
returned completed questionnaires after phase one data collection had ended. 9395 personnel were entered into the data collection for phase two of the cohort study (n=7884 regulars and n= 1511 reservists).

**HERRICK sample**

The HERRICK sample was included in phase two as a result of continuing hostilities in Afghanistan. This sample included a randomly selected sample of personnel who had deployed to Afghanistan between April 2006 and April 2007 (which included Operations HERRICK 4 and HERRICK 5) The sample contained approximately 10% of regular and 90% of reservist personnel who served on these HERRICK Operations (Operations 4 and 5, n=1491 and n=334 respectively). 36 potential participants turned out to be ineligible, so the final HERRICK sample contained 1789 individuals (n=1455 regulars and n=334 reservists).

**Replenishment sample**

The replenishment sample was included in phase two to represent personnel who had joined the UK military since the cohort was first recruited in 2003 to ensure the age and rank structure of the cohort continued to be representative of the UK Armed Forces. This group could also potentially have deployed to either Iraq (TELIC) or Afghanistan (HERRICK) during the study period. The sample was randomly drawn from personnel who joined and were trained between April 2003 and April 2007. Reservists were over-sampled at a ratio of 3:1 and to be eligible, reservists had to have received a bounty payment in 2007 and 2008 (bounty payments are made for attending a minimum number of training sessions the previous year). 7438 individuals were selected into the replenishment sample of which n=810 were ineligible due to incorrect sampling, death, or inadequate contact. The final replenishment sample included 6628 individuals (n= 5128 regulars and n=1500 reservists).

### 4.2.5 Phase two: questionnaire

The phase two questionnaire was piloted across all three services, it informed participants that taking part was voluntary, that all information would be confidential, that they were free to withdraw from the study without giving a reason, that disseminated information would not be able to be traced back to an individual and that the researchers were independent of the MoD.
There were six sections which asked for information on: demographics and service history; items relating to leaving the services and post-service life; respondent’s most recent deployment to TELIC and/or HERRICK; for example, role, cohesion, and exposure to traumatic events; current mental and physical health; and, social activities. Health measures are described in more detail later on. Participants in the two additional samples (replenishment and HERRICK) were also asked questions about childhood adversity measures of physical activity that had already been asked of the follow-up sample during phase one. The questionnaire also included several questions specific to reservists, in particular about their employment in civilian life.

4.2.6 Phase two: data collection

Data were collected between November 2007 and the end of September 2009 both by sending questionnaires out by post and visits to military bases. Initially, after sending all potential participants a letter providing information about the study, they were sent out a questionnaire by post. Potential participants were then designated to either receive a second questionnaire by post – or to be visited by the research team at a military base. To be designated a visit, personnel had to be serving and at a base that contained at least 30 other personnel also included in the sample. Over 100 bases across the UK, Germany and Cyprus were visited in total. At each base, potential participants were assembled and asked to complete the questionnaire (after informing them again that it was voluntary, confidential, that they were free to withdraw and that the research was carried out independently of the MoD). Non-attendance was usually because of work commitments, training, or courses, or because individuals had moved location, which included being deployed.

Tracing of those who did not respond to a visit or second mailing was carried out by military (for serving personnel) and civilian (for ex-service personnel) methods. For regulars, military tracing was done by requesting senior personnel to distribute questionnaires to eligible participants in their units. For reserves, the same was done via Training Majors within each unit. Ex-service personnel were traced via the electoral register, directory enquires, and the NSTS.

DASA provided information to contact all potential participants; the overall phase two sample included 17812 people. In total n=9984 responded (56%). Response rates for each sample were 68% (n=6427) for the follow-up sample, 50% (n=2663) for the
replenishment sample, and 40% (n=894) for the HERRICK sample. The overall response rate for women was higher (63.0%). Response rates among women for each sample were 76% for the follow up sample, 49% for the replenishment sample and 59% for the HERRICK sample.

Lower response was associated with younger age, being male, not being a commissioned Officer and being of reservist engagement type. As measures of mental health had been obtained at two time points from the follow-up sample, it was possible to examine whether response at phase two was associated with mental health at phase one for this group. Response bias was examined by looking at potential health differences between responders and non-responders in the follow up sample, by examining whether health status at phase one was associated with response at phase two.

No significant association between mental health and response was found (Fear et al. 2010). Non-response was accounted for analyses by the generation of response weights (see ‘statistical analyses’ below).

4.2.7 Ethics committee approvals

The study received approval from the MoD research ethics committee (MODREC) and the King’s College Hospital local research ethics committee.

4.3 Current study measures used

*Socio-demographic variables*

In the main, data from the phase two questionnaire was analysed, except where items were asked about in phase one but not repeated in phase two for the follow-up sample. This was so that the most up-to-date data was assessed. The socio-demographic variables used to describe participants are outlined in Table 1 (p75) and the health outcomes are displayed in Table 6 (p78) - Table 10 (p85). Chapter specific variables are then described where they have been generated from survey items. A copy of the survey is included in Appendix D: Quantitative study documentation (p306).
Table 1 Socio-demographic variables used in quantitative analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male, Female</td>
</tr>
<tr>
<td>Marital status</td>
<td>Single and not in long term relationship, In long term relationship (married, living with partner, or in long term relationship), Ex-relationship (widowed, separated or divorced)</td>
</tr>
<tr>
<td>Age at 12 Jan 2008</td>
<td>&lt;25, 25-29, 30-34, 35-39, 40+ years</td>
</tr>
<tr>
<td>Educational attainment</td>
<td>GCSE (or O levels/NVQ level 1-2) or equivalent, A-level (or HND/NVQ level 3/highers) or equivalent Degree (or NVQ level 4-5) or above</td>
</tr>
<tr>
<td>Rank</td>
<td>Officer, Non-Commissioned Officer (JNCO/SNCO), Other rank</td>
</tr>
<tr>
<td>Service</td>
<td>Naval Services, Army, Royal Air Force (RAF)</td>
</tr>
<tr>
<td>Enlistment status</td>
<td>Regular, Reserve</td>
</tr>
<tr>
<td>Serving status</td>
<td>Serving, Left service</td>
</tr>
<tr>
<td>Deployment status</td>
<td>Deployed (to TELIC or HERRICK), Not deployed (to TELIC or HERRICK)</td>
</tr>
</tbody>
</table>

Table 2 Items included in measures of job demand, control and work support

**Job demand**
- I have to work very hard
- I have excessive work to do

**Job control**
- I have a lot of say about what happens on the job
- I have freedom to decide how I do my work
- I have a high level of skill
- I have the chance to be creative

**Work support**
- People I work with are friendly
- People I work with are helpful in getting the job done
- My supervisor/boss is helpful in getting the job done
- I'm exposed to hostility or conflict from my immediate supervisors
**Measures of job strain**

The work attitudes of participants who were still serving in the Regular forces only, were assessed with ten items with the following stem, *‘To what extent do you agree or disagree with the following statements about your normal day-to-day work for the Armed Forces?’* For example, ‘my supervisor/boss is helpful in getting the job done’, or ‘I’m exposed to hostility or conflict from my immediate supervisors’. Response categories ranged from ‘strongly agree’ to ‘strongly disagree’ on a four-point scale. These items were grouped into ‘job demands’, ‘job control’ and ‘work support’ categories as illustrated in Table 2 (p75).

**Combat exposure**

Combat exposure was assessed using data collected on 13 specific experiences. Participants were asked to report the frequency of each experience during their most recent deployment. Possible responses ranged from ‘never’ to ‘10+ times’ on a five-point scale (scored 0-4). Scores were summed and ranged from 0-36; they were grouped into tertiles of exposure among women respondents (0-2, 3-10, 11+). No separate group for women without any combat exposure could be used in analyses due to small numbers. Variables generated from survey items used in the deployment results chapter are displayed in Table 3 (p77) and Table 4 (p77).

In addition, a question assessed deployment perceptions: ‘how often during your most recent deployment did you believe that you were in serious danger of being injured or killed?’ (responses ranged from ‘never’ to ‘many times’). The relationship between individual experiences and mental health outcomes could not be examined due to lack of statistical power, thus as in Iversen et al. (2008) and outlined in Table 3 (p77) and Table 4 (p77), combat experiences were grouped into two types: ‘risk to self’ events (e.g. coming under small arms fire, experiencing a landmine strike) and ‘trauma to others’ events (e.g. seeing personnel seriously injured or killed, having a mate hit/shot who was near them). Responses to the combat experience items were scored and summed such that a higher score reflected a greater frequency of experience or more negative perceptions about their deployment, and binary variables were created around the median score to represent ‘low’ or ‘high’ scores within each type. ‘Risk to self’ scores ranged from 0-28 and were divided into ‘low’ (0-5) and ‘high’ (6+); ‘trauma to others scores ranged from 0-16 (0-1 (low) and 2+ (high)).
Perceptions of leadership during deployment were assessed with several items prefixed with the stem, ‘during the deployment, how often did your superiors…’, for example, ‘embarrass juniors in front of others’. Response categories ranged from ‘never’ to ‘always’ on a five-point scale and were collapsed into three categories for analysis; ‘often/always’, ‘sometimes’, and ‘seldom/never’. Similarly, perceived cohesion was assessed by asking participants to endorse the extent to which they agreed with statements such as ‘I could go to anyone in my unit if I had a personal problem’. Responses ranged from ‘strongly agree’ to ‘strongly disagree’ on a five-point scale and were collapsed into ‘agree/neutral’ and ‘disagree’ for analyses. Post-deployment support was assessed with the variables detailed in Table 5 (p78).

### Table 3 Combat exposure variable generation

<table>
<thead>
<tr>
<th>Variable description</th>
<th>Variable generation</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat exposure</td>
<td>Each of 13 combat exposure items were scored 0-4 based on frequency of exposure (Never/once/2-4 times/5-9 times/10+ times). Scores were summed and grouped into tertiles of exposure among women respondents.</td>
<td>0-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11+</td>
</tr>
<tr>
<td>Risk to self events</td>
<td>Scores of combat exposure items number 1-7 summed and grouped around the median score for female respondents.</td>
<td>Low (0-5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (6+)</td>
</tr>
<tr>
<td>Trauma to others events</td>
<td>Scores of combat exposure items number 8-11 summed and grouped around the median score for female respondents.</td>
<td>Low (0-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High (2+)</td>
</tr>
</tbody>
</table>

### Table 4 Combat exposure survey items

**Risk to self events**
- Coming under small arms/Rocket-Propelled Grenade (RPG) fire
- Coming under mortar/artillery fire/rocket attack
- Experiencing a landmine strike
- Experiencing an Improvised Explosive Device (IED)
- Experiencing hostility from Iraqi/Afghani civilians
- Encountering sniper fire
- Experiencing a threatening situation and being unable to respond due to the rules of engagement

**Trauma to others events**
- Seeing personnel wounded or killed
- Giving aid to the wounded
- Handling bodies
- Seeing a mate shot/hit that was near you

**Other events**
- Clear/search buildings
- Discharge weapon in direct combat

---

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Table 5 Post-deployment support items and response categories

<table>
<thead>
<tr>
<th>Item</th>
<th>Response categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Homecoming brief</strong></td>
<td>Yes/no</td>
</tr>
<tr>
<td>Did you receive a verbal homecoming brief after</td>
<td></td>
</tr>
<tr>
<td>this deployment?</td>
<td></td>
</tr>
<tr>
<td><strong>Decompression</strong></td>
<td>Yes/no</td>
</tr>
<tr>
<td>After leaving theatre following your most recent</td>
<td></td>
</tr>
<tr>
<td>deployment, did you have a short period of time</td>
<td></td>
</tr>
<tr>
<td>away from the operational area for you to relax</td>
<td></td>
</tr>
<tr>
<td>before returning to your home base?</td>
<td></td>
</tr>
<tr>
<td><strong>Military support</strong></td>
<td>Agree/disagree</td>
</tr>
<tr>
<td>To what extent do you agree with the following</td>
<td></td>
</tr>
<tr>
<td>...?</td>
<td></td>
</tr>
<tr>
<td>In the weeks after I came home I felt well</td>
<td></td>
</tr>
<tr>
<td>supported by the military</td>
<td></td>
</tr>
<tr>
<td><strong>Social support</strong></td>
<td>Agree/disagree</td>
</tr>
<tr>
<td>To what extent do you agree with the following</td>
<td></td>
</tr>
<tr>
<td>...?</td>
<td></td>
</tr>
<tr>
<td>In the weeks after I came home</td>
<td></td>
</tr>
<tr>
<td>People didn’t understand what I’d been though</td>
<td></td>
</tr>
<tr>
<td>I didn’t want to talk about my experiences with</td>
<td></td>
</tr>
<tr>
<td>family or friends</td>
<td></td>
</tr>
</tbody>
</table>

4.3.1 Health measures

Three mental health outcomes were examined: Post-traumatic Stress Disorder (PTSD), symptoms of common mental disorder (CMD), and harmful/hazardous alcohol use. Two measures of physical health were also assessed: multiple physical symptoms and self-reported general health. The measures and cut-off thresholds used in analyses to identify disorder are shown in Table 2 (p75).

Table 6 Health measures and cut-off values to identify outcomes of interest

<table>
<thead>
<tr>
<th>Measure</th>
<th>Measure</th>
<th>Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-traumatic Stress Disorder (PTSD)</td>
<td>17-item PTSD Checklist – civilian version</td>
<td>50+</td>
</tr>
<tr>
<td></td>
<td>(PCL-C)</td>
<td></td>
</tr>
<tr>
<td>Common mental disorder (CMD)</td>
<td>12-item General Health Questionnaire (GHQ-12)</td>
<td>4+</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>10-item Alcohol Use Disorders Identification Test (AUDIT)</td>
<td>8+</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>53-item checklist of physical symptoms</td>
<td>18+</td>
</tr>
<tr>
<td>Self-reported general health</td>
<td>1 item on self-reported general health</td>
<td></td>
</tr>
<tr>
<td></td>
<td>from the 36-item Short Form Health Survey</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reporting health as ‘fair or poor’</td>
<td></td>
</tr>
</tbody>
</table>
Common Mental Disorder, CMD

Symptoms of CMD were measured with the 12-item General Health Questionnaire (GHQ-12, Goldberg et al. 1997). This measure is a well-known tool for examining distress and well-being. Cases with general mental health problems were defined with a validated cut-off score of 4+ (Goldberg et al. 1997). The questionnaire asks participants to rate their health according to each item in relation to the last few weeks (compared to usual). Response categories are scored from 0-3 and were re-coded into binary scores (0-1) such that the responses ‘better than usual’ and ‘same as/no more than usual’ were coded 0, and the responses ‘rather more than usual’ and ‘much more than usual’ were coded as 1 (as illustrated in Table 7, p80).

The GHQ-12 is a well validated measure and has been shown to have good reliability (Chronbach’s alpha = 0.83). The GHQ-12 was validated against the Composite International Diagnostic Instrument – primary care version (CIDI-PC) (Goldberg et al. 1997). Goldberg et al. (1997) reported results from across 15 centres worldwide, and found area under the ROC curve values ranging from 0.83-0.95, an overall sensitivity of 83.4% (ranging from 75.0% - 85.0%), and an overall specificity of 76.3% (74.0% – 79.0%). In support of the cut-off value of four used in the current study, Goldberg et al. (1997) reported that the optimal sensitivity and specificity values for the UK centre were 84.6% and 89.6% respectively, using a cut-off score of four.
Table 7: Items, response categories and codes of the 12-item General Health Questionnaire (GHQ-12)

<table>
<thead>
<tr>
<th>“Within the last few weeks have you....”</th>
<th>Response categories</th>
<th>Initial codes</th>
<th>Binary codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Been able to concentrate on whatever you’re doing?</td>
<td>Better than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Lost much sleep over worry?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Felt that you are playing a useful part in things?</td>
<td>More so than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less so than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less capable</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Felt capable of making decisions about things?</td>
<td>More so than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less useful than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less useful</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Felt constantly under strain?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Felt you couldn’t overcome your difficulties?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been able to enjoy your normal day-to-day activities?</td>
<td>More so than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less able than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less able</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been able to face up to your problems?</td>
<td>More so than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less able than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less able</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been feeling unhappy and depressed?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been losing confidence in yourself?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been thinking of yourself as a worthless person?</td>
<td>Not at all</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No more than usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Rather more than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much more than usual</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Been feeling reasonably happy, all things considered?</td>
<td>More so than usual</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>About same as usual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less so than usual</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Much less than usual</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
Post-traumatic Stress Disorder (PTSD)

Symptoms of PTSD were measured with the 17-item National Center for PTSD Checklist (PCL-C; Weathers et al. 1994). This is a widely used measure of PTSD symptoms. The PCL-C asks respondents to rate the degree to which they were bothered by a list of 17 symptoms in the last month. No specific traumatic event was specified, rather participants were informed that the symptoms were ‘problems and complaints that people sometimes had in relation to stressful experiences’. Response categories were scored 1-5 on a scale ranging from ‘not at all’ to ‘extremely’. Total scores ranged from 17-85. A cut-off score of 50+ was used to identify probable PTSD cases, as has been reported in previous work on this cohort study (e.g. Hotopf et al. 2006; Fear et al. 2010). Due to small numbers of PTSD cases, particularly when examining women alone PTSD was analysed as a score in regression analyses. For this purpose, PCL-C scores were recoded from 0-68. The items, response categories and scores are illustrated in Table 8 (p82).

The PCL-C has been well validated among both US military and civilian populations (e.g. Weathers et al. 1994; Hoge et al. 2004; Smith et al. 2008), though has not been validated among UK military personnel. The PCL-C has been shown to have good reliability (0.94-0.97); convergent validity (convergence with other related constructs) with a correlation of 0.93 with the Clinician Administered PTSD Scale, CAPS (Blanchard et al. 1996), 0.82 with the Mississippi Scale for PTSD, MS-C, and 0.77 with the Impact of Events Scale, IES (Horowitz et al. 1979).
Table 8 Items included in the PTSD checklist (PCL-C), response scale and score

<table>
<thead>
<tr>
<th>Scale</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>1</td>
</tr>
<tr>
<td>A little bit</td>
<td>2</td>
</tr>
<tr>
<td>Moderately</td>
<td>3</td>
</tr>
<tr>
<td>Quite a bit</td>
<td>4</td>
</tr>
<tr>
<td>Extremely</td>
<td>5</td>
</tr>
</tbody>
</table>

“How much have you been bothered by these problems in the past month?”

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated, disturbing memories, thoughts, or images of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Repeated, disturbing dreams of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Suddenly acting or feeling as if a stressful experience were happening again (as if you were re-living it)?</td>
<td></td>
</tr>
<tr>
<td>Feeling very upset when something reminded you of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Having physical reactions (e.g. heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Avoiding thinking about or talking about a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Avoiding activities or situations because they remind you of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Trouble remembering important parts of a stressful experience?</td>
<td></td>
</tr>
<tr>
<td>Loss of interest in activities that you used to enjoy?</td>
<td></td>
</tr>
<tr>
<td>Feeling distant of cut-off from other people?</td>
<td></td>
</tr>
<tr>
<td>Feeling emotionally numb or being unable to have loving feelings to those who are close to you?</td>
<td></td>
</tr>
<tr>
<td>Feeling as if your future will somehow be cut short?</td>
<td></td>
</tr>
<tr>
<td>Having trouble falling or staying asleep?</td>
<td></td>
</tr>
<tr>
<td>Feeling irritable or having angry outbursts?</td>
<td></td>
</tr>
<tr>
<td>Having difficulty concentrating?</td>
<td></td>
</tr>
<tr>
<td>Being super alert, watchful or on-guard?</td>
<td></td>
</tr>
<tr>
<td>Feeling jumpy or easily startled?</td>
<td></td>
</tr>
</tbody>
</table>

**Alcohol misuse**

Alcohol consumption and harmful use was measured with the World Health Organization’s (WHO) Alcohol Use Disorders Identification Test (AUDIT; Babor et al. 2001). This is a widely used measure of alcohol misuse in the last year. The AUDIT contains 10 items and asks respondents to rate the frequency with which they correspond to the question posed by each item. Scores range from 0-4 on each response scale (see Table 9, p84), and are summed. Scores can be coded in several ways, however for the purposes of the current study a score of 8 or more was used to define ‘hazardous alcohol use’ (Babor et al. 2001). Previous studies of UK military personnel suggest that a higher cut-off (16+) may be useful since such a large proportion of the forces overall meet the criteria for hazardous alcohol use (67% of men and 49% of women, Fear et al. 2007). In contrast, reviews of the psychometric properties of the AUDIT among civilian samples suggest that lower cut-off values may yield more optimal sensitivity and specificity values among women (Reinert & Allen 2007). Given
previous work has identified that women in the UK military report greater alcohol use than those in the general population (Fear et al. 2007), the use of the cut-off score of 8 was considered appropriate.

The AUDIT has been well validated, and has good reliability in a broad range of settings. In a review of 18 validation investigations, Reinert & Allen (2007) reported an average Chronbach’s alpha value of over 0.80 and, using the most restrictive criterion considered in each investigation, the median sensitivity and specificity values were 86% and 89% respectively.
Table 9 WHO Alcohol Use Disorders Identification Test items, response categories and scores

<table>
<thead>
<tr>
<th>Variables</th>
<th>Response Scale</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you have a drink containing alcohol?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Monthly or less</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2 to 4 times a month</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2 to 3 times a week</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4 or more times a week</td>
<td>4</td>
</tr>
<tr>
<td>How many drinks of alcohol do you have on a typical day when you are drinking?</td>
<td>0 1 or 2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1 3 or 4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2 5 or 6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3, 7, 8, or 9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4 10 or more</td>
<td>4</td>
</tr>
<tr>
<td>How often do you have six or more drinks on one occasion?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>How often during the last year have you found that you were not able to stop drinking once you had started?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>How often during the last year have you failed to do what was normally expected of you because of drinking?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>How often during the last year have you had a feeling of guilt or remorse after drinking?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>How often during the last year have you been unable to remember what happened the night before because you had been drinking?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td>4</td>
</tr>
<tr>
<td>Have you or someone else been injured as a result of your drinking?</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes, but not in the last year</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Yes, during the last year</td>
<td>4</td>
</tr>
<tr>
<td>Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Yes, but not in the last year</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Yes, during the last year</td>
<td>4</td>
</tr>
</tbody>
</table>

**Physical symptoms**

Physical symptoms were assessed using a checklist of 53 symptoms. Participants were asked to identify each symptom experienced in the past month (yes or no), responses were coded 1/0 and summed. Having multiple physical symptoms was defined if 18 or more symptoms were endorsed. Using a cut-off of 18 or more symptoms is representative of the top decile of the current sample of women. This approach has been
used among the current cohort elsewhere (e.g. Hotopf et al. 2006; Fear et al. 2010). The list of physical symptoms included in the checklist is shown in Table 10 (p85).

Table 10 Checklist of 53 physical symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Symptom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest pain</td>
<td>Sore throat</td>
</tr>
<tr>
<td>Headaches</td>
<td>Forgetfulness</td>
</tr>
<tr>
<td>Rapid Heartbeat</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Irritability/outbursts of anger</td>
<td>Feeling disorientated</td>
</tr>
<tr>
<td>Unable to breathe deeply enough</td>
<td>Loss of concentration</td>
</tr>
<tr>
<td>Faster breathing than normal</td>
<td>Pain on passing urine</td>
</tr>
<tr>
<td>Feeling short of breath at rest</td>
<td>Passing urine more often</td>
</tr>
<tr>
<td>Wheezing</td>
<td>Burning sensation in the sex organs</td>
</tr>
<tr>
<td>Sleeping difficulties</td>
<td>Loss of interest in sex</td>
</tr>
<tr>
<td>Feeling jumpy/easily startled</td>
<td>Increased sensitivity to noise</td>
</tr>
<tr>
<td>Feeling un-refreshed after sleep</td>
<td>Increased sensitivity to light</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Ringing in the ears</td>
</tr>
<tr>
<td>Double vision</td>
<td>Avoiding doing things/situations</td>
</tr>
<tr>
<td>Intolerance to alcohol</td>
<td>Pain, without swelling or redness in several joints</td>
</tr>
<tr>
<td>Itchy or painful eyes</td>
<td>Joint stiffness</td>
</tr>
<tr>
<td>Shaking</td>
<td>Feeling that your bowel movement is not finished</td>
</tr>
<tr>
<td>Tingling in fingers and arms</td>
<td>Changeable bowel function</td>
</tr>
<tr>
<td>Tingling in legs and toes</td>
<td>Night-sweats which soak the bed sheets</td>
</tr>
<tr>
<td>Numbness in fingers/toes</td>
<td>Feeling feverish</td>
</tr>
<tr>
<td>Feeling distant or cut off from others</td>
<td>Loss or decrease in appetite</td>
</tr>
<tr>
<td>Constipation</td>
<td>Nausea</td>
</tr>
<tr>
<td>Flatulence or burping</td>
<td>Vomiting</td>
</tr>
<tr>
<td>Stomach cramp</td>
<td>Distressing dreams</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Stomach bloating</td>
</tr>
<tr>
<td>Dry mouth</td>
<td>Unintended weight gain greater than 10lbs</td>
</tr>
<tr>
<td>Persistent cough</td>
<td>Unintended weight loss greater than 10lbs</td>
</tr>
<tr>
<td>Lump in throat</td>
<td></td>
</tr>
</tbody>
</table>

**Self-reported general health**

One item relating to self-rated health was taken from the 36-item Short Form Health Survey (SF-36, Ware & Sherbourne 1992; McHorney et al. 1993) to assess perceived general health. Respondents were asked, ‘In general, how would you rate your health?’ Possible responses were on a five point scale from ‘excellent’ to ‘poor’. A binary outcome of interest was generated by dividing responses into ‘excellent, very good or good’ and ‘fair or poor’, the latter category taken to identify an adverse health outcome. This approach has been used elsewhere in previous research of UK military (e.g. Hotopf et al. 2006, Fear et al. 2010) and ex-service (Woodhead et al. 2011) personnel.
4.3.2 Other outcomes

Career intentions

Variables depicting the career intentions of serving regulars were generated as shown below. Regulars who had already left and reserves that were intending to leave were asked separately to endorse reasons for their decision, such as ‘too many deployments’, or ‘impact on family life’ (Table 11, p86).

<table>
<thead>
<tr>
<th>Regulars career intentions</th>
<th>Derived variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the following describes your current career intentions?...</td>
<td></td>
</tr>
<tr>
<td>Plan to stay for as long as possible or until retirement</td>
<td>Not planning to leave early</td>
</tr>
<tr>
<td>Plan to extend my present term of service but not necessarily until retirement</td>
<td></td>
</tr>
<tr>
<td>Plan to leave on completion of my current term of service</td>
<td></td>
</tr>
<tr>
<td>Plan to leave before the end of my current term of service</td>
<td>Planning to leave early</td>
</tr>
<tr>
<td>Have already handed in my Premature Voluntary Release (PVR)</td>
<td></td>
</tr>
</tbody>
</table>

Impact of military career on children

Participants were also asked what impact their military career had had on their children, responses included ‘no impact’, ‘positive impact’ or ‘negative impact’ (or ‘not applicable’).

4.4 Statistical analyses

The three samples (follow-up, HERRICK and replenishment) were combined for analyses and sample weights were produced to account for the various sampling strategies. These weights were the inverse probability of being selected into each sample by specific subpopulation and enlistment status (regular/reserve). Relative response rates were calculated with Poisson regression analysis using robust standard errors. Response weights were produced to account for non-response; these were the inverse probability of responding and included factors that were shown to be predictive of responding. These factors were: sex, rank, enlistment status, age, sample type, and the interaction between sample type and enlistment status. Finally, the sample and response weights were multiplied together to generate one combined weight that was used in the analyses (Fear et al. 2010).
The Pearson’s $\chi^2$ square statistic with the Rao and Scott second order correction was used to identify significant differences between proportions. Odds ratios (OR) with 95% confidence intervals (CI) were calculated as a measure of association. Univariable and multivariable logistic regression analyses were performed, standard socio-demographic (age, marital status) and military (rank, service type, serving status, engagement type (regular/reservist)) factors were adjusted for. Model adequacy was tested with a specification test (linktest) and the Hosmer-Lemeshow test to assess goodness of fit.

Due to small numbers of PTSD cases among women in the sample, symptoms of PTSD were examined as a continuous variable. Scores were recoded from 17 – 85, to 0 – 68. The scores were extremely positively skewed and were not amenable to transformation to a normal distribution. Therefore, linear regression was not appropriate, and negative binomial regression was used to analyse associations between exposure/protective factors and symptoms of PTSD. This generated Incidence Rate Ratios (IRR) with 95% CIs, and is a strategy that has been used in previously published research (Gardner et al. 1995; Sundin et al. 2012; Mulligan et al. 2012). Rather than use the negative binomial regression coefficient, which is interpreted in terms of the log values, it was considered more intuitive and more in line with the other outcome measures to report IRRs (Gardner et al. 1995).

Analyses were done in STATA 11 (Stata Corporation, College Station, TX, USA). Statistical significance was defined as $p<0.05$. All analyses take account of the weighting by using the survey (svy) commands in STATA. Weighted percentages and odds ratios are presented in the tables with unweighted cell counts.

Missing data were examined using the mvpatterns and mdesc commands in STATA. The proportion of missing data was examined to see if it accounted for more than 5% of observations. If less than 5% of observations were missing, then these observations were deleted from analyses. This is according to the assertion that small amounts of missing data (<5%) are unlikely to lead to significant bias (Shafer 1999). Among those variables examined, no items were missing for more than 5% of observations. The numbers of missing observations are indicated in tables. In addition, missing data among key variables was examined to explore whether if participants with
missing data were different in terms of demographic and outcome variables. No notable differences were found.

4.5 Qualitative methods

4.5.1 Study design

Participants were drawn from the cohort study sampling frame. Only those who consented to be contacted for future research were considered for inclusion. It was decided prior to sampling to aim for approximately 40 interviews to maximise the range of material collected while considering practical constraints. These constraints included the time available for data collection within the scope of the thesis, as well as financial and logistical factors.

Purposive sampling was used such that each individual contacted had been selected specifically because of certain characteristics, as depicted in Figure 2 (p91). These characteristics were selected for the purpose of meeting the research aims and in an attempt to hear about a diverse range of experiences. Participants were purposively sampled in two ways:

Method 1

Sampling was based on: a) four a priori criteria considered pertinent to the research aims: serving status, parental status, deployment status and relationship status and, b) for those in the follow-up sample only, whether or not participants had completed free text items asking, “Do you intend to stay in the military? If you wish, please explain” and, “would you recommend a career in the Armed Forces? If you wish, please explain”. These items were not included in the phase two questionnaire thus were not asked of the replenishment or HERRICK sample groups (Figure 2, p91).

Of the 725 women who completed both phases of the cohort study, 35 women made comments that were linked to the aims of the research study and met at least one criterion. 94 women met all four purposive criteria. These women were then sorted into three priority levels, depending on the nature of comment and number of criteria met. The highest priority level included women who had made comments relevant to the aims of the paper and also met three or four of the sampling criteria (n=24), these women were all contacted. Second priority was given to those who met at least one of
the criteria and had made comments relevant to the research aims (n=58). 13 of the 58
women in this group were contacted. Third priority was given to women who met all
four of the sampling criteria (n=48). None of these were contacted because half way
through interviewing the approach to sampling was adapted in light of initial analysis of
the first interviews. In total 37 women were contacted using method 1, of which 23
were interviewed. Of the 14 not interviewed, seven participants could not be contacted
because their details were out of date and there were no e-mail addresses to contact
them on; three had consented to interview but did not answer the phone at the time the
interview had been arranged for or sent in consent forms but did not answer at any of
the times contact was attempted; two were on operational tour; and two refused. The
first refused because she said she was too busy and the second because she just didn’t
want to take part.

Method 2
After approximately half (n=23) of the planned number of interviews had been
completed and transcribed, the characteristics of those already interviewed and material
from their transcripts were assessed to identify the criteria on which to select further
participants. This approach to sampling (theoretical sampling), in which further data is
collected as a result of information that arose from earlier stages of data collection, was
used to test and confirm emerging themes. Furthermore, it allowed for sampling against
criteria with the aim of obtaining information to more fully answer the proposed
research aims. For example, many of those interviewed using the first method were in
their late 20’s or 30’s and had gender-neutral or female-dominated roles. From the
interviews it became apparent that their experiences might differ from younger women
and those in more male-dominated roles. Women approached by the second method
included: single mothers, younger and lower ranked personnel, and those in more
traditionally ‘male’ jobs (e.g. drivers, engineers etc), 52 women were selected in this
way. As these women tended to be younger and of lower rank, it was anticipated that
response rates may be lower as younger personnel tend to be more mobile, more likely
to go on deployment and less likely to respond to surveys (e.g. Hotopf et al. 2006; Fear
et al. 2010). Attempted contact was therefore made with all 52 women. As only 40
interviews were required, once that mark had been reached (18 interviews), no further
follow-up attempts were made. Of the 34 not interviewed, 18 participants could not be
contacted because their contact details were out of date; three returned consent forms
but did not answer at any of the times contact was attempted; four agreed to be
interviewed but were not interviewed because the desired number of interviews had been exceeded (they were thanked for their interest and offered information on the results of the study); and nine were not followed up beyond the initial contact attempt because the desired number of interviews had been reached. Overall, of those who had been contacted and fully followed up, only two women refused to take part because they were too busy.
Figure 2 Interview participant sampling strategy

- Completed phase one & two of cohort study (follow up sample) n=725
- Made comment related to research study aims in questionnaire and met at least one criterion n=35
- Contacted n=32
- Refused n=2
- On deployment n=2
- Returned consent but did not answer phone n=3
- Contact details out of date n=7
- Contacted n=5
- Interviewed n=23

- Met all four criteria (no relevant comments) n=94
- Contacted n=5
- Contact details out of date n=18
- Returned consent but did not answer phone n=3
- Interviewed n=18

- Completed phase two of cohort study only (replenishment and Herrick samples) n=460
- Selected for characteristics of interest identified during method 1 interviews n=52
- Contacted n=52
- Not followed up n=9*
- Agreed but had already reached desired no. of interviews n=4

- Total females N=1185

*Attempted contact only once, did not get response but were not followed up because desired number of interviews had been completed
4.5.2 Data collection

The contact procedures are outlined in Figure 3 below. Participants were contacted initially by letter, and were then followed up by a telephone call between one and two weeks later. The information sheet and letter of invitation sent to participants is shown in Appendix C: Qualitative study documentation p294. Contact attempts were limited to two mail outs and five phone calls. The second mail out was sent two to three weeks after the first. A note was made of the time and day of attempted phone contact so that subsequent attempts could be made at alternative times/days. Due to the mobile nature of the military population, many of the details supplied at the time of completing the cohort questionnaire were no longer valid; therefore those who had provided e-mail addresses were contacted by e-mail as well. If the desired number of interviews had not been reached, an attempt to trace participants using data from the electoral register, directory enquiries, or the Driver and Vehicle Licensing Agency (DVLA) would have been made.

Figure 3 Flow chart illustrating participant contact procedure
4.5.3 Interview procedures and topic guide

Interviews were conducted by telephone and tape recorded with consent (see Appendix C: Qualitative study documentation, p294 for consent form). Interviews were conducted by telephone for practical reasons due to the number of interviews carried out, the wide geographic location of interviewees (including Germany, Cyprus, Saudi Arabia and the UK), and limited time and financial resources. Other reasons for conducting telephone interviews are highlighted in section 4.6. The interview topic guide was devised by examining the wider literature to determine what issues might be relevant to female personnel, by looking at the cohort survey items and determining how qualitative data might be used to expand understanding and lastly, by conducting pilot interviews using an initial topic guide covering broad issues identified as potentially salient such as parenting, experiences of integration and deployment.

Pilot Study

Practice interviews were carried out with four serving female personnel identified via personal communication. This aimed to test out the devised topic guide for appropriateness, language, flow, comprehensibility of questions, and to make amendments to the topic guide on the basis of suggestions from the interviewees and from issues arising from the interview. They were also an opportunity to practice telephone interviewing, become familiarised with the topic guide and practice using the recording equipment.

The following amendments to the topic guide were enacted as a result of the pilot study:

1. The introduction to the interviews were amended to emphasise the confidentiality of information given; to distinguish the study from military surveys; and, to clarify the purpose of the interview and what would be done with the study results.
2. Warm up questions were added to increase rapport building and ease participants into the interview. They also set the tone of the interview, aiming to make the participant feel comfortable. These questions also served to provide contextual information about the participant and included their initial views of the military upon joining, their prior military background and what stage of life they joined the military.
3. Questions were added to ask about the system already in place to protect against harassment and discrimination and whether they had experienced anybody ever abusing the system.
4. A further question asking whether they adapted their behaviour at all in the military environment was added.
5. Interview technique was also amended and improved as a direct result of listening to the recorded interviews and seeing how better to elicit and listen to key information.

The final topic guide is presented in Appendix C: Qualitative study documentation, p294. A semi-structured approach was chosen over more or less restrictive techniques to a) enable the interviewer to ask about specific areas relevant to the research aims that participants may not have brought up themselves, and b) allow the interviewees to elaborate and raise issues not directly asked about. Not all participants were asked about every topic area, participants were free to concentrate on a particular issue if their input remained relevant to the research aims. For example, if participants did not have children they were not asked about childcare. Or, if a participant had a particular desire to talk about a topic area that was relevant to the research aim and the information they were providing was rich and in detail, some areas of the topic guide were skipped to allow time for this. Similarly, while the topic guide did encompass a certain order to improve the flow of the interviews, flexibility in the order was allowed. Prompts and probes were used to elicit more detail where necessary. Questions and prompts were intended to be value free to reduce potential interviewer bias and encourage participants to present their experiences in their own words. The areas included in the interview guide are presented in Table 12 (p95).
Table 12 Topics included in the interview guide and example questions

<table>
<thead>
<tr>
<th>Topic</th>
<th>Example question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military background</td>
<td>What did you know about the military before you joined up?</td>
</tr>
<tr>
<td>Experiences during initial training</td>
<td>Can you tell me about your experiences joining up?</td>
</tr>
<tr>
<td>Day-to-day routine and responsibilities</td>
<td>Could you describe a typical day starting from when you woke up?</td>
</tr>
<tr>
<td>Experiences balancing work and family including childcare</td>
<td>How did/do you manage your childcare around work?</td>
</tr>
<tr>
<td>Experiences during and after deployment</td>
<td>Can you tell me about your tour?</td>
</tr>
<tr>
<td>Experiences of/views about unfair treatment</td>
<td>Some women report feeling undermined or that they need to work harder to prove themselves – do you have an opinion about that?</td>
</tr>
<tr>
<td>Sources and availability of support</td>
<td>Were/are you aware of any sources of support in the military?</td>
</tr>
</tbody>
</table>

Notes were made after each interview on the interview process itself, the tone of the interview, emerging themes, ideas that could be asked about in future interviews, and how subsequent sampling could illuminate or test emerging themes.

**Data storage**

Personal details were stored in a secure place separately from the information provided during the interview, and only I was able to link personal details to the transcribed data. No personal identifiers were attached to the interview data or recordings.

4.5.4 Ethics

The study received approval from MODREC and the King’s College Hospital local research ethics committee as a substantial amendment to the main cohort study.

4.5.5 Data analysis

Analysis followed six main stages:

1. **Transcription**
   
   I transcribed the interviews in full using a transcribing machine.
2. Familiarisation
The interview tapes were re-listened to after transcription. Transcripts were read several times and initial ideas for coding categories were noted as a draft coding framework.

3. Coding
Paper copies of all the interview transcripts were then re-read and marked according to the draft coding framework, which was amended and refined during this process. Interviews were then input into NVivo8 to facilitate management of the transcribed data. A thematic approach was taken to identify semantic patterns in the data. Initially, text from the interviews was categorised into each part of the coding frame that it related to. Both supervisors and two independent researchers with extensive experience of qualitative data analysis read two selected interviews and the draft coding framework was discussed.

4. Building categories and interpretation
The codes were then re-evaluated and refined, such that some coding categories were combined, amended, added or removed and the order of themes and codes was changed. Themes and sub-themes were also identified during this process, i.e. different codes that fitted together could be grouped into more general themes. During this process, the codes and data within those codes were constantly reassessed to check that they fitted within the theme with which they were identified. Some of the themes identified were connected with the interview topics covered, some to the interviewees own words, and others emerged from the data itself.

5. Identification of thematic framework
To help visualise higher order themes, quotes were cut and stuck onto A0 sheets of paper by each theme and subtheme. A map that illustrated how different topics were inter-related in each topic area was drawn and different typologies were identified that encompassed the range of participant’s experiences.

6. Considering theoretical concepts
This process was carried out alongside an examination of existing theories as well as keeping an open mind as to emergent theory, to illustrate how the findings are contextualised within the current literature base.
4.6 Interviewer and Interviewee: reflexive insights

Prior to commencing the PhD I worked as a Research Assistant at KCMHR investigating, for example, the impact of injury and illness sustained in theatre on well-being, and the mental health of veterans compared to the general population. I therefore had prior knowledge of the epidemiological study of the mental health UK Armed Forces personnel, though this research almost exclusively focussed on males and was entirely quantitative in its approach.

During the course of the PhD I joined the Territorial Army (TA). The interview topic guide was designed prior to commencing TA training and while some interviews were carried out whilst going through the training process, data were analysed after completion of training. I did not disclose this to the participants for two main reasons. Firstly, given the salience of rank and hierarchy within the military, identifying myself as a low-ranked trainee may have affected how they talked about their military experience. Secondly, as a civilian interviewer, participants were more likely to explain certain things in greater detail rather than assume that I knew what they meant.

Alongside a family background of military service, my experiences with the TA helped me to build a rapport with interviewees and to use language that was mutually comprehensible.

Whilst analysing the data, I was careful not to make assumptions or interpretations coloured by my own experiences and repeatedly went back to the data to examine the themes and sub-themes that I had created. In addition, both supervisors and two independent researchers (all non-military) coded a small selection of interviews. Codes were discussed and refined in light of their interpretations, adding rigour to the analysis process. Having first-hand experience of serving as a female in the military, training in a male-dominated environment but working in a military unit which - although male-dominated - has women at the highest levels of authority, has given me the ability to look at the data with both ‘insider’ and ‘outsider’ knowledge and experience. This is mirrored by the very nature of the TA, which by definition employs personnel with both civilian (outsider) and military (insider) lives.

All interviews were carried out by telephone. This method had obvious potential disadvantages – particularly related to rapport building and being able to visualise body language. Given the nature of the research, I feel it was a preferable approach for
several reasons. Firstly, practical limitations of time and finance would have meant that many of the interviewees (as far away as Dubai) would have been inaccessible, limiting myself to those living and working in the vicinity of London. Secondly, as mentioned previously, given the salience of rank as a hierarchical and powerful social ordering system, I felt that some participants, particularly those of a higher rank, would not have been so open with me - given my age and the potential association with ‘lower rank’, even as a civilian. Thirdly, I felt that the telephone offered some participants in particular, a sense of anonymity – which again allowed them to be more open, particularly in disclosing deleterious experiences.

By recognising and explicitly stating factors that could bias interpretation, I was alert to their potential to influence the analytical process and to take steps to ensure the validity and reliability of the findings.

4.7 Sample

4.7.1 Cohort study women

The sample taken from the cohort study included all phase two female survey participants (N=1185), comprising 10.3% of the total sample. The distribution of women by sample type was 10.2% (n=725), 11.7% (n=400), and 5.7% (n=60) of the follow-up, replenishment, and HERRICK samples respectively.

4.7.2 Cohort study vs interview participants

The characteristics of the qualitative and quantitative samples are illustrated in Table 13 (p99). Compared to the quantitative sample of female personnel overall, there was a greater proportion of interviewees in the younger age groups, particularly those aged 30-34 years and below; a greater proportion in a long term relationship (than married), in the Army, and in the regular service; fewer with children and fewer that were still serving.
Table 13 Socio-demographic characteristics of interview and survey participants.

<table>
<thead>
<tr>
<th></th>
<th>Interview participants</th>
<th>Survey participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All interviewees* (N=41)</td>
<td>Missing (n)</td>
</tr>
<tr>
<td><strong>Age at January 12 2008 (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>25-29</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>30-34</td>
<td>14</td>
<td>34.1</td>
</tr>
<tr>
<td>35-39</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>40+</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>12</td>
<td>29.3</td>
</tr>
<tr>
<td>Living with partner</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>In long term relationship</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>Single and not in long term relationship</td>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>Separated/divorced/widowed</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td><strong>Parental status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No children</td>
<td>25</td>
<td>61.0</td>
</tr>
<tr>
<td>Children</td>
<td>16</td>
<td>39.0</td>
</tr>
<tr>
<td><strong>Educational attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>GCSE/equivalent</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>A-level/equivalent</td>
<td>16</td>
<td>40.0</td>
</tr>
<tr>
<td>Degree/equivalent or above</td>
<td>10</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Commissioned Officer</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Commissioned Officer</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>Senior Non-commissioned Officer</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>Junior Non-commissioned Officer</td>
<td>17</td>
<td>41.5</td>
</tr>
<tr>
<td>Other ranks</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td><strong>Serving status</strong></td>
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<td></td>
</tr>
<tr>
<td>Serving</td>
<td>21</td>
<td>51.2</td>
</tr>
<tr>
<td>Left</td>
<td>20</td>
<td>48.8</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Services</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>Army</td>
<td>29</td>
<td>70.7</td>
</tr>
<tr>
<td>RAF</td>
<td>7</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Enlistment status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>37</td>
<td>90.2</td>
</tr>
<tr>
<td>Reserve</td>
<td>4</td>
<td>9.8</td>
</tr>
</tbody>
</table>

*Characteristics reflect those at time of survey completion, status may have changed by interview
Chapter 5  Characteristics of female personnel and prevalence of health outcomes

This chapter aims to provide an overview of the socio-demographics and health outcomes among females in the cohort study sample; and, to contextualise this by making comparisons with women in the general population of comparable age and with men in the UK Armed Forces.

5.1  Socio-demographic characteristics

In order to illustrate how the characteristics of women in the military compare with the wider military population, a comparison of the socio-demographic characteristics of male and female survey participants is displayed in Table 14, p101. In a fully adjusted model for all other socio-demographic characteristics, compared to those <25 years, the odds of being female were greater in the 25-29 year age group and lower in the 40+ year group; female gender was associated with being single and in an ex-relationship (separated/widowed/divorced) compared to in a long term relationship, with not having children, with being an Officer, being in the RAF and Naval Services, having left the military, and being a reservist.

The distribution of female survey participants across socio-demographic variables by deployment and parental status is displayed in Table 15 (p102). Stratification by deployment and parental status is done to aid interpretation of results that examine stressors in the work and family domains. Deployed females were younger (<35 years), less likely to have children, less likely to be an ‘other rank’ than an Officer, and less likely to serve in the Naval Services than the Army. Deployed females were more likely to be serving and a regular. Military mothers were more likely to be older than 25 years, with the greatest odds of having a child in the 25-29 year age group. Mothers were less likely to be single than in a long term relationship, more likely to be an ‘other rank’ than an Officer, and more likely to have left the military.
The characteristics of the offspring of female survey respondents are shown in Table 16 (p103). The greatest number of children was four - though the vast majority (88.5%) had one or two. Nearly all (91.6%) reported that their children lived with them.

Table 14 Socio-demographic characteristics of survey participants by gender. Numbers (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th>Survey participants</th>
<th>All female personnel (N=1185)</th>
<th>Missing (n=8799)</th>
<th>Adjusted‡ OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age at January 12 2008 (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>205</td>
<td>13.2</td>
<td>1479</td>
</tr>
<tr>
<td>25-29</td>
<td>332</td>
<td>28.6</td>
<td>1649</td>
</tr>
<tr>
<td>30-34</td>
<td>277</td>
<td>19.9</td>
<td>1401</td>
</tr>
<tr>
<td>35-39</td>
<td>201</td>
<td>18.5</td>
<td>1552</td>
</tr>
<tr>
<td>40+</td>
<td>220</td>
<td>19.9</td>
<td>2718</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term relationship</td>
<td>763</td>
<td>67.2</td>
<td>6818</td>
</tr>
<tr>
<td>Single</td>
<td>321</td>
<td>24.6</td>
<td>1393</td>
</tr>
<tr>
<td>Ex-relationship</td>
<td>97</td>
<td>8.3</td>
<td>542</td>
</tr>
<tr>
<td><strong>Parental status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No children</td>
<td>889</td>
<td>70.7</td>
<td>4690</td>
</tr>
<tr>
<td>Children</td>
<td>296</td>
<td>29.4</td>
<td>4109</td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>343</td>
<td>24.2</td>
<td>1869</td>
</tr>
<tr>
<td>Non-commissioned Officer</td>
<td>573</td>
<td>56.3</td>
<td>4902</td>
</tr>
<tr>
<td>Other rank</td>
<td>269</td>
<td>19.5</td>
<td>2028</td>
</tr>
<tr>
<td><strong>Serving status</strong></td>
<td></td>
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</tr>
<tr>
<td>Serving</td>
<td>908</td>
<td>72.1</td>
<td>6799</td>
</tr>
<tr>
<td>Left</td>
<td>274</td>
<td>27.9</td>
<td>1979</td>
</tr>
<tr>
<td><strong>Service branch</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Services</td>
<td>180</td>
<td>17.5</td>
<td>1358</td>
</tr>
<tr>
<td>Army</td>
<td>726</td>
<td>59.5</td>
<td>5764</td>
</tr>
<tr>
<td>RAF</td>
<td>279</td>
<td>23.0</td>
<td>1677</td>
</tr>
<tr>
<td><strong>Enlistment status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>861</td>
<td>81.1</td>
<td>7413</td>
</tr>
<tr>
<td>Reserve</td>
<td>324</td>
<td>19.0</td>
<td>1386</td>
</tr>
</tbody>
</table>

‡ Adjusted for all other variables
Table 15 Socio-demographic characteristics of female survey participants overall, and by deployment and parental status. Numbers (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>All female personnel (N=1185)</th>
<th>Deployed (n=432)</th>
<th>Parent (n=296)</th>
<th>Adjusted‡ OR (95% CI)</th>
<th>Adjusted‡ OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age at January 12 2008 (years)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>205 (13.2)</td>
<td>85 (19.1)</td>
<td>26 (5.4)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>25-29</td>
<td>332 (28.6)</td>
<td>144 (34.2)</td>
<td>68 (25.0)</td>
<td>0.83 (0.50 - 1.36)</td>
<td>2.53 (1.37 - 4.69)</td>
</tr>
<tr>
<td>30-34</td>
<td>227 (19.9)</td>
<td>90 (21.6)</td>
<td>73 (26.8)</td>
<td>0.76 (0.43 - 1.35)</td>
<td>5.81 (2.94 - 11.48)</td>
</tr>
<tr>
<td>35-39</td>
<td>201 (18.5)</td>
<td>66 (17.4)</td>
<td>73 (22.2)</td>
<td>0.54 (0.30 - 0.99)</td>
<td>4.96 (2.49 - 9.90)</td>
</tr>
<tr>
<td>40+</td>
<td>220 (19.9)</td>
<td>47 (9.7)</td>
<td>56 (20.6)</td>
<td>0.30 (0.16 - 0.57)</td>
<td>3.74 (1.79 - 7.80)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term relationship</td>
<td>763 (67.2)</td>
<td>260 (63.0)</td>
<td>241 (83.7)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Single</td>
<td>321 (24.6)</td>
<td>130 (29.8)</td>
<td>13 (0.46)</td>
<td>1.07 (0.73 - 1.55)</td>
<td>1.05 (0.67 - 1.64)</td>
</tr>
<tr>
<td>Ex-relationship</td>
<td>97 (8.3)</td>
<td>40 (10.1)</td>
<td>31 (10.7)</td>
<td>1.42 (0.79 - 2.56)</td>
<td>1.36 (0.74 - 2.54)</td>
</tr>
<tr>
<td><strong>Parental status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No children</td>
<td>889 (70.7)</td>
<td>367 (81.0)</td>
<td>296 (100.0)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Children</td>
<td>296 (29.4)</td>
<td>65 (19.0)</td>
<td>0.45 (0.29 - 0.68)</td>
<td>296 (100.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>343 (24.2)</td>
<td>124 (22.8)</td>
<td>72 (22.4)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Non-commissioned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>573 (56.3)</td>
<td>239 (62.3)</td>
<td>161 (60.6)</td>
<td>1.19 (0.81 - 1.74)</td>
<td>1.34 (0.91 - 1.98)</td>
</tr>
<tr>
<td>Other rank</td>
<td>269 (19.5)</td>
<td>69 (14.9)</td>
<td>63 (17.0)</td>
<td>0.52 (0.30 - 0.92)</td>
<td>1.91 (1.08 - 3.39)</td>
</tr>
<tr>
<td><strong>Serving status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serving</td>
<td>908 (72.1)</td>
<td>397 (91.2)</td>
<td>191 (63.6)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Left</td>
<td>274 (27.9)</td>
<td>34 (8.8)</td>
<td>104 (36.4)</td>
<td>0.21 (0.13 - 0.35)</td>
<td>1.54 (1.05 - 2.26)</td>
</tr>
<tr>
<td><strong>Service branch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Services</td>
<td>180 (17.5)</td>
<td>40 (9.5)</td>
<td>43 (16.8)</td>
<td>0.41 (0.25 - 0.68)</td>
<td>0.81 (0.51 - 1.29)</td>
</tr>
<tr>
<td>Army</td>
<td>726 (59.5)</td>
<td>277 (64.3)</td>
<td>178 (58.6)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>RAF</td>
<td>279 (23.0)</td>
<td>115 (26.2)</td>
<td>75 (24.6)</td>
<td>1.09 (0.72 - 1.64)</td>
<td>0.95 (0.63 - 1.45)</td>
</tr>
<tr>
<td><strong>Enlistment status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>861 (81.1)</td>
<td>373 (91.2)</td>
<td>225 (83.8)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Reserve</td>
<td>324 (19.0)</td>
<td>59 (8.8)</td>
<td>71 (16.2)</td>
<td>0.33 (0.22 - 0.52)</td>
<td>0.70 (0.47 - 1.06)</td>
</tr>
</tbody>
</table>

‡ Adjusted for all other variables
Table 16 Number, age, and living arrangements of the children of female survey respondents. Numbers \( n \) of female personnel with data on each item and weighted percentages \( (%) \) are shown.

<table>
<thead>
<tr>
<th></th>
<th>( n ) (%)</th>
<th>Missing ( n )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>183 (57.4)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>87 (31.1)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>22 (9.5)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4 (2.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Living arrangements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children living with</td>
<td>262 (91.6)</td>
<td></td>
</tr>
<tr>
<td>Children don’t live with</td>
<td>16 (6.1)</td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>5 (2.4)</td>
<td></td>
</tr>
</tbody>
</table>

5.2 Prevalence of health outcomes

Overall, the prevalence of probable PTSD among women was 4.8%; 24.4% reached caseness for symptoms of common mental disorder; 11.2% endorsed greater than 18 physical symptoms (multiple physical symptoms); 12.7% reported that their general health was fair or poor; and, 39.6% reached caseness for hazardous alcohol use (Table 18, p105). The association between socio-demographic characteristics and health outcomes among female personnel is shown in Table 17 (p104).

Age was associated with hazardous alcohol use only; caseness was greatest in the youngest age group and declined with age. Marital status was associated with symptoms of CMD, self-reported general health and hazardous alcohol use. While the former two outcomes were most prevalent among those who were separated/divorced or widowed, hazardous alcohol use was greatest among those who were single. There was a significant relationship between rank and all outcomes except symptoms of PTSD; where there was an association, a fewer proportion of Officers were identified as cases. Serving status was associated with hazardous alcohol use only, which was endorsed more commonly by those who were still serving. There was also a significant relationship between enlistment status and all outcomes except symptoms of CMD; with regulars more likely to be identified as cases. However, service branch was not associated with any health outcome.
Table 17 Association between socio-demographic characteristics and health outcomes among female survey respondents (N=1185). Numbers (n), weighted percentages (%) and P values (P) are shown.

<table>
<thead>
<tr>
<th>Age at 12 January 2008 (years)</th>
<th>Post-traumatic Stress Disorder (PTSD) (n=1174)</th>
<th>Common mental disorder (CMD) (n=1171)</th>
<th>Multiple physical symptoms (n=1175)</th>
<th>General health (fair/poor) (n=1182)</th>
<th>Hazardous alcohol use (n=1169)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n % P</td>
<td>n % P</td>
<td>n % P</td>
<td>n % P</td>
<td>n % P</td>
<td>n % P</td>
</tr>
<tr>
<td>&lt;25</td>
<td>8 4.5 0.264</td>
<td>53 25.3 0.152</td>
<td>17 7.9 0.489</td>
<td>23 11.8 0.718</td>
<td>120 61.6 &lt;0.001</td>
</tr>
<tr>
<td>25-29</td>
<td>19 7.4</td>
<td>90 29.0 0.152</td>
<td>34 13.2</td>
<td>42 14.8</td>
<td>153 44.3</td>
</tr>
<tr>
<td>30-34</td>
<td>5 4.3</td>
<td>51 24.9 0.489</td>
<td>21 10.5</td>
<td>23 13.6</td>
<td>88 41.5</td>
</tr>
<tr>
<td>35-39</td>
<td>8 4.5</td>
<td>45 23.3 0.718</td>
<td>14 8.2</td>
<td>23 10.6</td>
<td>56 29.3</td>
</tr>
<tr>
<td>40+</td>
<td>5 2.2</td>
<td>44 17.9 0.718</td>
<td>17 9.7</td>
<td>28 11.1</td>
<td>54 26.2</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In a long term relationship</td>
<td>24 3.9</td>
<td>160 21.7 0.666</td>
<td>63 9.7</td>
<td>81 11.9</td>
<td>275 34.3</td>
</tr>
<tr>
<td>Single/not in long term</td>
<td>15 6.6</td>
<td>89 29.0 0.666</td>
<td>30 11.7</td>
<td>33 11.4</td>
<td>158 51.9</td>
</tr>
<tr>
<td>Ex-relationship</td>
<td>5 6.7</td>
<td>33 33.0 0.666</td>
<td>10 12.2</td>
<td>24 22.6</td>
<td>36 46.2</td>
</tr>
<tr>
<td>Rank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>7 2.5</td>
<td>62 16.6 0.034</td>
<td>16 5.6</td>
<td>29 6.5</td>
<td>104 26.4</td>
</tr>
<tr>
<td>Non-Commissioned Officer</td>
<td>27 6.2</td>
<td>152 28.0 0.005</td>
<td>60 12.3</td>
<td>80 15.3</td>
<td>233 42.2</td>
</tr>
<tr>
<td>Other rank</td>
<td>11 3.7</td>
<td>69 23.9 0.04</td>
<td>27 11.3</td>
<td>30 12.7</td>
<td>134 48.8</td>
</tr>
<tr>
<td>Serving status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serving</td>
<td>31 4.4</td>
<td>215 24.7 0.81</td>
<td>76 10.3</td>
<td>103 12.2</td>
<td>394 44.3</td>
</tr>
<tr>
<td>Left</td>
<td>14 5.9</td>
<td>68 23.8 0.849</td>
<td>27 10.8</td>
<td>36 14.0</td>
<td>76 27.4</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Services</td>
<td>9 6.6</td>
<td>38 21.5 0.909</td>
<td>15 9.5</td>
<td>24 12.4</td>
<td>66 35.8</td>
</tr>
<tr>
<td>Army</td>
<td>31 5.4</td>
<td>181 25.0 0.973</td>
<td>60 10.3</td>
<td>86 12.6</td>
<td>295 40.9</td>
</tr>
<tr>
<td>RAF</td>
<td>5 2.0</td>
<td>64 25.2 0.550</td>
<td>28 11.1</td>
<td>29 13.2</td>
<td>110 39.2</td>
</tr>
<tr>
<td>Enlistment status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>38 5.5</td>
<td>208 25.1 0.004</td>
<td>90 11.8</td>
<td>114 14.0</td>
<td>379 42.7</td>
</tr>
<tr>
<td>Reserve</td>
<td>7 1.9</td>
<td>75 21.7 0.006</td>
<td>13 4.7</td>
<td>25 7.0</td>
<td>92 26.6</td>
</tr>
</tbody>
</table>
Table 18(p105) displays the prevalence of health outcomes for comparisons of female and male survey respondents. After adjustment for socio-demographic variables, women were at approximately 10-30% greater risk for symptoms of PTSD, CMD, multiple physical symptoms, and fair or poor self-reported general health than men – although only the gender difference in CMD reached statistical significance (P=0.002). In contrast, women were over 60% less likely to report hazardous alcohol use than men (P<0.001).

Table 18 Prevalence of health outcomes among female survey participants compared to men. Numbers (n) and weighted percentages (%), and adjusted odds ratios (OR) with 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th>Health Outcome</th>
<th>All female personnel (n=1185)</th>
<th>missing (n)</th>
<th>All male personnel (n=8799)</th>
<th>missing (n)</th>
<th>Adjusted OR†† (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD caseness/score†</td>
<td>45</td>
<td>4.8</td>
<td>331</td>
<td>3.9</td>
<td>95</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>283</td>
<td>24.4</td>
<td>1625</td>
<td>19.1</td>
<td>119</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>121</td>
<td>11.2</td>
<td>815</td>
<td>10.0</td>
<td>116</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>139</td>
<td>12.7</td>
<td>1003</td>
<td>12.6</td>
<td>43</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>471</td>
<td>39.6</td>
<td>5133</td>
<td>58.8</td>
<td>131</td>
</tr>
</tbody>
</table>

†IRR based on PCL score, negative binomial regression
††Adjusted for age, marital status, rank, service branch, serving status, and enlistment status

Table 19 (p106) illustrates the corresponding comparison in the general population for adults aged 18-54 years (for comparability), using data from the 2007 Adult Psychiatric Morbidity Survey (APMS, 2007) and the 2009 Health Survey for England (HSE, 2009). Comparisons of PTSD caseness should be treated with caution due to the use of a different screening instrument used. Overall, the pattern of health outcomes between men and women is similar to that seen in the military sample; with an association of borderline significance between female gender and PTSD symptoms, as well as poorer self-reported general health. As in the military, women in the general population were less likely to report hazardous alcohol use than men. Unlike in the military sample, women in the civilian sample are not more likely to reach caseness for symptoms of CMD than men.
Examining values for females only, a greater proportion of women in the military sample reach caseness for symptoms of CMD and hazardous alcohol use, compared to women in the general population (24.4% vs 17.6% and 39.6% vs 18.7% respectively, Table 18 p105 and Table 19, p106). In order to aid interpretation of these values, the distribution of caseness across age groups was evaluated (Table 20, p107).

The prevalence of CMD symptoms is similar in the two groups among those aged 18-24 years, and those aged 45-54 years; the greater overall prevalence among military women is accounted for among the 25-44 year age groups, where the prevalence of CMD appears to decline among the general population. An increase in the reporting of CMD symptoms among the oldest age group in the general population and a decrease among the military population brings the prevalence to similar levels among those aged 45-54 years. The reasons for this disparity are unclear; however, the rates of ‘fair or poor’ general health and PTSD caseness are also highest among the female military sample between 25-34 years. This could reflect a time during which women may be more likely to have been deployed, as is supported by the data in Table 15 (p102), and/or when they may be likely to be having children; these issues are explored further during the course of the thesis and discussed further in section 10.3, p204.

### Table 19 Comparison of health outcomes among men and women in the general population (aged 18-54 years). Prevalence rates (%) and adjusted odds ratios (OR) with 95% confidence intervals (CI) are shown.

| Condition                        | Female (1) | Missing (n) | Male (0) | Missing (n) | Adjusted OR*  
|----------------------------------|------------|-------------|----------|-------------|----------------
|                                  | n  | %  | n  | %  | (95% CI)      |
| PTSD caseness†                  | 106 | 4.2 | 48 | 3.2 | 1.39 (0.93 - 2.07) |
| Common mental disorder ††       | 241 | 17.6 | 79 | 17.5 | 1.10 (0.88 - 1.38)** |
| General health ††††             | 235 | 14.2 | 0  | 353 | 12.0 | 0.34 (0.29 - 0.41) |
| Hazardous alcohol use †††††      | 416 | 18.7 | 1  | 663 | 38.8 | 0.34 (0.29 - 0.41) |

‡ For APMS data (GHQ from HSE N=1444 women and N=1186 males aged 18-54 years).
† Military data: 17-item National Centre for PTSD Checklist PCL-C cut-off 50+; Civilian data from Adult Psychiatric Morbidity Survey 2007 (APMS; McManus et al. 2009): Trauma Screening Questionnaire (TSQ) cut-off 6+.
††† Both civilian and military studies asked participants to rate their general health. Case definition included those who answered ‘fair or poor’, Civilian data from APMS 2007 (McManus et al. 2009).
* Adjusted for age, educational qualifications, ethnicity and marital status; **Adjusted for age, educational qualifications and marital status.
Table 20 Comparison of health outcomes among female military personnel aged 18-54 years (N=1171) and women aged 18-54 years (N=2291\textsuperscript{†}) in the general population. Weighted prevalence rates (%) are shown.

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>PTSD\textsuperscript{†} (% cases)</th>
<th>Common mental disorder\textsuperscript{††} (% cases)</th>
<th>Hazardous alcohol use\textsuperscript{†††} (% cases)</th>
<th>Self-reported general health\textsuperscript{††††} (% cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Civilian (n=2243)</td>
<td>Military (n=1160)</td>
<td>Civilian (n=1365\textsuperscript{‡})</td>
<td>Military (n=1157)</td>
</tr>
<tr>
<td>18-24</td>
<td>4.1</td>
<td>4.5</td>
<td>22.9</td>
<td>25.3</td>
</tr>
<tr>
<td>25-34</td>
<td>3.7</td>
<td>6.1</td>
<td>15.2</td>
<td>27.3</td>
</tr>
<tr>
<td>35-44</td>
<td>3.5</td>
<td>3.6</td>
<td>15.0</td>
<td>21.1</td>
</tr>
<tr>
<td>45-54</td>
<td>5.8</td>
<td>2.7</td>
<td>20.4</td>
<td>18.6</td>
</tr>
</tbody>
</table>

\textsuperscript{†} For APMS data (GHQ from HSE N=1444 women aged 18-54 years).
\textsuperscript{‡} Military data: 17-item National Centre for PTSD Checklist PCL-C cut-off 50+; Civilian data from Adult Psychiatric Morbidity Survey 2007 (APMS; McManus et al. 2009): Trauma Screening Questionnaire (TSQ) cut-off 6+.
\textsuperscript{††} Both civilian and military studies used the General Health Questionnaire (GHQ-12), cut-off 4+. Civilian data from 2009 Health Survey for England (HSE; Aresu et al. 2009).
\textsuperscript{†††} Both civilian and military studies used the Alcohol Use Disorders Identification Test (AUDIT), cut-off 8+. Civilian data from APMS 2007.
\textsuperscript{††††} Both civilian and military studies asked participants to rate their general health. Case definition included those who answered ‘fair or poor’, Civilian data from APMS 2007 (McManus et al. 2009).

The following chapters present the results pertaining to aims 2 and 3 of the thesis, beginning with a quantitative assessment of the association between putative risk/protective factors and measures of health in chapter 6. Subsequently, chapters 7-9 describe qualitative findings in relation to women’s experiences of potential stressors in the work (deployment and work climate), family (parenthood) and interpersonal (integration, unfair treatment, and support) domains.
Chapter 6  Quantitative results

The second research aim was to examine quantitative evidence for associations between potential risk and protective factors in the work, family, and interpersonal domains, with physical and psychological health outcomes. Available data comes from a secondary analysis of survey data collected as part of a cohort study examining the well-being of UK military personnel (see Chapter 4, p67). The survey was designed to assess post-deployment well-being. A copy of the survey is included in Appendix D (p 306). Analyses are therefore limited to those areas covered by the survey, and include aspects of stressors/protective factors in the work domain – specifically with relation to deployment and perceptions of work climate outside of deployment. Stressors in the family domain were examined by identifying which female participants did and did not have children. Although the survey was not designed to enquire about participant’s experiences of being a parent in the military, health outcomes, career intentions, and perceptions of work climate were compared by parental status. The main analyses are conducted by gender such that broad comparisons can be made in order to give the study findings context. All other analyses are restricted to women, as the thesis aims do not intend to investigate gender differences.

6.1  Work domain

6.1.1  Deployment

Analysis of the survey data revealed no overall increased risk of adverse health amongst females deployed to Iraq or Afghanistan compared to non-deployed women (Table 21,p109). Unadjusted findings indicated that deployment may be associated with hazardous alcohol use; although this association was rendered non-significant after adjustment; and, age and serving status accounted for most of the association. Deployed women were less likely to report fair or poor general health than non-deployed women. This is likely to reflect a ‘healthy-warrior’ effect, in that those who are deployed selectively have better health than those who are not (e.g. Wilson et al. 2009). Personnel who are medically downgraded (have been medically certified as unfit for various reasons) are likely to have restrictions placed on their roles due to performance concerns; and therefore may not be allowed to deploy.
Table 21 Association between deployment status and health outcomes among female personnel. Numbers (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Not deployed (n=753)</th>
<th>Deployed (n=432)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR‡ (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>PTSD (caseness/score†)</td>
<td>30</td>
<td>4.8</td>
<td>6</td>
<td>4.8</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>176</td>
<td>23.8</td>
<td>9</td>
<td>26.0</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>77</td>
<td>11.2</td>
<td>6</td>
<td>11.2</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>98</td>
<td>14.2</td>
<td>2</td>
<td>9.6</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>271</td>
<td>34.7</td>
<td>7</td>
<td>50.0</td>
</tr>
</tbody>
</table>

‡ Adjusted for age (continuous), rank, serving status, enlistment status, marital status, and service branch.
† IRR based on PCL score

A comparison between male and female personnel was carried out to explore whether there were any gender differences in health outcomes among deployed personnel (Table 22, p75). Among those who had deployed to Iraq or Afghanistan, women were at greater risk of reporting symptoms of CMD (P=0.003), while men were more likely to report hazardous alcohol use (P<0.001). In order to assess whether these differences represented differences in post-deployment adjustment, these results are first compared to the gender differences in health outcomes identified among all military personnel and between women and men in the general population (Table 18, p105; Table 19 p106).

Table 22 Comparison of health outcomes among deployed personnel by gender. Numbers (n), weighted percentages (%), odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Female (n=432)</th>
<th>Male (n=4554)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR‡ (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>PTSD (caseness/score†)</td>
<td>15</td>
<td>4.8</td>
<td>174</td>
<td>4.1</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>107</td>
<td>25.7</td>
<td>812</td>
<td>18.8</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>44</td>
<td>11.2</td>
<td>395</td>
<td>9.4</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>41</td>
<td>9.6</td>
<td>461</td>
<td>11.5</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>200</td>
<td>49.6</td>
<td>2834</td>
<td>63.8</td>
</tr>
</tbody>
</table>

‡ Adjusted for age (continuous), rank, serving status, enlistment status, marital status, and service branch.
† IRR based on PCL score

This comparison suggests that the pattern of health outcomes by gender in the deployed sub-group is similar to that in the military population as a whole, and in the general population. The only difference is that the borderline association between female gender and self-reported general health is not present in the deployed group – again, possibly reflecting the selective influence of the physical standards required of deployed personnel.
Despite the lack of evidence for an association between deployment and the health outcomes among women, a sizeable proportion of deployed women nonetheless reported difficulties adjusting upon return home. This was significantly associated with most of the health outcomes measured (Table 23, p110), suggesting that the outcomes above may not adequately capture post-deployment well-being alone. This was supported by the qualitative findings, which demonstrated considerable heterogeneity in adjustment and permitted exploration of the lived experiences of such difficulties (see p132).

Table 23 Association between self-reported post-deployment adjustment and health outcomes among deployed female personnel (N=432). Numbers (n), weighted percentages (%) and P values are shown.

<table>
<thead>
<tr>
<th>Difficulty adjusting to being home (n=414)</th>
<th>Difficulty resuming social activities (n=414)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agree</strong> (n=127, 28.7%)</td>
<td><strong>Disagree</strong> (n=287, 71.3%)</td>
</tr>
<tr>
<td>PTSD (caseness/score)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11.7</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>38.7</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>25.1</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>11.3</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>58.3</td>
</tr>
</tbody>
</table>

6.1.2 Exposure to combat

The above analyses suggest that deployment itself may not be associated with health outcomes. Previous research among UK personnel suggests that certain sub-groups of deployed personnel may be at greater risk for adverse post-deployment adjustment; in particular, those exposed to combat during their operational tour (e.g. Fear et al. 2010). The prevalence of self-reported exposure to combat events among female personnel is displayed in Table 24 (p111), alongside those of men for comparison. The most commonly reported events by women were coming under mortar/artillery fire/rocket attack; seeing personnel seriously wounded or killed; and, experiencing hostility from civilians. Women overall reported lower frequency of exposure to combat event items and less frequent perceived threat to life or of serious injury than men. Associations between exposure items with health outcomes were examined by grouping exposures into total combat exposure frequency score, score for ‘risk to self events’ and score for ‘trauma to others events’, as there were insufficient numbers of cases among female personnel exposed to individual events to analyse separately.
Table 24 Self-reported prevalence of exposure to combat events among female and male personnel. Number (n) and weighted percentages (%) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Male (n=4554)</th>
<th>Female (n=432)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Combat exposure score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>923</td>
<td>20.9</td>
</tr>
<tr>
<td>3-10</td>
<td>1993</td>
<td>44.3</td>
</tr>
<tr>
<td>11+</td>
<td>1537</td>
<td>34.8</td>
</tr>
</tbody>
</table>

**Risk to self events**
- Coming under small arms/Rocket-Propelled Grenade (RPG) fire: 2239 (51.9) vs 187 (27.6)
- Coming under mortar/artillery fire/rocket attack: 3453 (78.8) vs 285 (66.7)
- Experiencing a landmine strike: 524 (11.9) vs 17 (4.0)
- Experiencing an Improvised Explosive Device (IED): 1145 (27.3) vs 43 (11.3)
- Experiencing hostility from Iraqi/Afghani civilians: 2031 (47.7) vs 137 (33.6)
- Encountering sniper fire: 841 (19.7) vs 14 (4.0)
- Experiencing a threatening situation and being unable to respond due to the rules of engagement: 919 (21.6) vs 26 (6.0)

**Trauma to others events**
- Seeing personnel wounded or killed: 2087 (47.0) vs 177 (39.6)
- Giving aid to the wounded: 1120 (26.2) vs 125 (27.4)
- Handling bodies: 858 (18.6) vs 96 (18.9)
- Seeing a mate shot/hit that was near you: 666 (15.5) vs 19 (3.9)

**Perceived threat to life or of serious injury**
- Never: 666 (14.3) vs 112 (25.2)
- Once or twice/sometimes: 2386 (53.6) vs 240 (57.7)
- Many times: 1414 (32.1) vs 70 (17.0)

The associations between overall frequency of combat exposure, frequency of ‘risk to self’ and ‘trauma to others’ events, and perceived threat to life with health outcomes among women are displayed in Table 25 (p112). Among women, scoring in the highest category of combat exposure was associated with symptoms of PTSD, CMD, and multiple physical symptoms, which was associated with both the medium and higher frequency categories of exposure. There was a borderline association with hazardous alcohol use. Scoring above the median on ‘risk to self’ events was associated only with symptoms of PTSD, while greater exposure to ‘trauma to others’ events was associated with self-reported general health only.

Greater frequency of perceived threat to life or of serious injury was associated with symptoms of PTSD, CMD and multiple physical symptoms. There was an association of borderline significance with self-reported general health. Symptoms of CMD were associated with ever perceiving a threat (one/twice and many times), while the other outcomes were only associated with perceiving a threat many times.
Table 25 Association between measures of combat exposure and health outcomes among deployed female personnel (N=432). Numbers of women reaching caseness for each outcome (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>PTSD (caseness/score*) (n=427)</th>
<th>Common mental disorder (n=427)</th>
<th>Multiple physical symptoms (n=428)</th>
<th>General health (fair/poor) (n=431)</th>
<th>Hazardous alcohol use (n=423)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n % IRR (95% CI) †</td>
<td>n % OR (95% CI) †</td>
<td>n % OR (95% CI) †</td>
<td>n % OR (95% CI) †</td>
<td>n % OR (95% CI) †</td>
</tr>
<tr>
<td><strong>Combat exposure score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>4 4.7 1.00</td>
<td>22 19.2 1.00</td>
<td>7 5.3 1.00</td>
<td>5 4.7 1.00</td>
<td>50 43.2 1.00</td>
</tr>
<tr>
<td>3-10</td>
<td>6 3.9 1.20 (0.79 - 1.82)</td>
<td>49 24.1 1.68 (0.82 - 3.45)</td>
<td>17 12.5 3.44 (1.10 – 10.72)</td>
<td>24 12.1 3.02 (0.87–10.43)</td>
<td>95 52.1 1.64 (0.89 - 3.02)</td>
</tr>
<tr>
<td>11+</td>
<td>5 6.9 1.72 (1.13 - 2.60)</td>
<td>34 36.4 2.63 (1.21 – 5.73)</td>
<td>12 14.6 3.69 (1.12 – 12.11)</td>
<td>11 11.8 2.81 (0.74 - 11.22)</td>
<td>53 56.7 1.84 (0.96 - 3.55)</td>
</tr>
<tr>
<td><strong>Risk to self events</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>12 4.7 1.00</td>
<td>73 23.4 1.00</td>
<td>25 9.8 1.00</td>
<td>31 9.2 1.00</td>
<td>147 49.0 1.00</td>
</tr>
<tr>
<td>6+</td>
<td>3 5.4 1.45 (1.04 - 2.03)</td>
<td>31 29.8 1.40 (0.76 - 2.59)</td>
<td>11 13.4 1.31 (0.59 – 2.94)</td>
<td>9 11.0 1.18 (0.65 – 2.13)</td>
<td>51 54.9 1.21 (0.46 – 3.22)</td>
</tr>
<tr>
<td><strong>Trauma to others events</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>8 5.2 1.00</td>
<td>57 22.0 1.00</td>
<td>20 9.4 1.00</td>
<td>19 7.1 1.00</td>
<td>115 48.7 1.00</td>
</tr>
<tr>
<td>2+</td>
<td>7 4.5 1.11 (0.82 - 1.50)</td>
<td>47 30.8 1.65 (0.92 – 2.95)</td>
<td>16 12.9 1.59 (0.73 - 3.46)</td>
<td>21 14.4 2.48 (1.07 – 5.77)</td>
<td>82 53.7 1.38 (0.82 - 2.31)</td>
</tr>
<tr>
<td><strong>How often did you believe you were in serious danger of being injured or killed?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>3 3.8 1.00</td>
<td>17 16.3 1.00</td>
<td>5 4.5 1.00</td>
<td>7 4.0 1.00</td>
<td>50 48.1 1.00</td>
</tr>
<tr>
<td>Once or twice/sometimes</td>
<td>9 5.3 1.32 (0.89 – 1.96)</td>
<td>61 25.6 2.25 (1.15 - 4.44)</td>
<td>18 10.2 3.05 (0.86 – 10.84)</td>
<td>24 10.8 2.58 (0.99 – 6.73)</td>
<td>109 49.4 1.17 (0.63 - 2.17)</td>
</tr>
<tr>
<td>Many times</td>
<td>3 5.6 1.91 (1.23 – 2.96)</td>
<td>27 40.2 3.86 (1.67 – 8.94)</td>
<td>12 21.0 5.88 (1.63 – 21.21)</td>
<td>9 14.0 3.16(0.98 – 10.23)</td>
<td>38 58.1 1.28 (0.58 - 2.80)</td>
</tr>
</tbody>
</table>

*IRR based on PCL score
† Adjusted for age (continuous), rank, serving status, enlistment status, marital status and service branch
Nearly a quarter (23.5%) of deployed female personnel had a medical role (data not shown), which is likely to expose them to ‘trauma to others’ events, such as seeing and giving aid to wounded personnel (Jones et al. 2008). After accounting for this factor, (examining the effect of exposure to ‘trauma to others’ events with medical role additionally included in the models) greater exposure became associated with symptoms of PTSD, as well as fair or poor self-reported general health (Table 26, p113). This suggests that exposure to such events may have a greater impact on personnel outside of a medical role. This may be related to the degree of control they perceive of the situation, or how prepared they are for such exposures. The impact of adjusting for medic status on the association between ‘risk to self’ events and health outcomes were also examined but no notable changes in effect sizes were observed (data not shown).

Table 26 Association between exposure to trauma to others events and health outcomes among deployed female personnel (N=432), additionally adjusted for medical role in theatre. Adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown

<table>
<thead>
<tr>
<th>Trauma to others events score (n=423)</th>
<th>0-1</th>
<th>2+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted odds ratio* (95% CI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD (caseness/score)†</td>
<td>1.00</td>
<td>1.65 (1.11 - 2.46)</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>1.00</td>
<td>1.92 (0.94 - 1.94)</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>1.00</td>
<td>1.85 (0.76 - 4.48)</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>1.00</td>
<td>4.13 (1.61 - 10.59)</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>1.00</td>
<td>1.79 (0.88 - 3.67)</td>
</tr>
</tbody>
</table>

† IRR using PCL score
*Adjusted for age (continuous), rank, marital status, enlistment status, serving status, service branch, medical role in theatre

The effect sizes for the association between combat exposure frequency score and frequency of perceived threat to life or of serious injury with the health outcomes most commonly found to differ between men and women in analyses stratified by gender are shown in Table 27 (p114). Female personnel were significantly more likely to hold a medical role in theatre (3.0% vs 23.5%, P<0.001 - data not shown), thus analyses were additionally adjusted for medical role. Exposure to a greater frequency of combat events was associated with more symptoms of PTSD for both men and women with similar point estimates of effect sizes, though only the highest group reached significance among females. The same pattern was seen for perceived threat, though effect sizes were slightly higher among men. Similarly, increased exposure to combat and
frequency of perceived threat was associated with greater symptoms of CMD for both men and women, though the former reached significance at the highest level of combat exposure for women and the latter at the highest level of perceived threat for men. For both exposure types, effect sizes were greater among women, though confidence intervals were wide. Hazardous alcohol use had a borderline significant relationship with combat exposure for both men and women, though neither showed a significant association with perceived threat. The above results indicate that the pattern of response to outcomes among men and women was similar, with small to moderate differences in effect sizes that were difficult to interpret due to wider confidence intervals reflecting the smaller sample of female personnel.

Table 27 Effect sizes of exposure to combat and perceived threat to life or of serious injury among male and female personnel separately. Adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Male (n=4554)</th>
<th>Female (n=432)</th>
<th>Adjusted OR† (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PTSD symptoms (PCL-C score)</strong>†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat exposure score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>3-10</td>
<td>1.33 (1.14 - 1.55)</td>
<td>1.29 (0.84 - 1.97)</td>
<td></td>
</tr>
<tr>
<td>11+</td>
<td>2.41 (2.07 - 2.81)</td>
<td>2.60 (1.60 - 4.22)</td>
<td></td>
</tr>
<tr>
<td>Perceived threat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Once or twice/sometimes</td>
<td>1.54 (1.28 - 1.85)</td>
<td>1.35 (0.92 - 1.99)</td>
<td></td>
</tr>
<tr>
<td>Many times</td>
<td>2.64 (2.18 - 3.18)</td>
<td>2.13 (1.39 - 3.26)</td>
<td></td>
</tr>
<tr>
<td><strong>CMD symptoms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat exposure score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>3-10</td>
<td>1.32 (1.01 - 1.73)</td>
<td>1.73 (0.85 - 3.54)</td>
<td></td>
</tr>
<tr>
<td>11+</td>
<td>1.74 (1.32 - 2.30)</td>
<td>3.06 (1.22 - 7.66)</td>
<td></td>
</tr>
<tr>
<td>Perceived threat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Once or twice/sometimes</td>
<td>1.33 (0.98 - 1.79)</td>
<td>2.27 (1.15 - 4.50)</td>
<td></td>
</tr>
<tr>
<td>Many times</td>
<td>1.81 (1.32 - 2.48)</td>
<td>3.93 (1.67 - 9.26)</td>
<td></td>
</tr>
<tr>
<td><strong>Hazardous alcohol use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat exposure score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>3-10</td>
<td>1.22 (0.99 - 1.49)</td>
<td>1.69 (0.91 - 3.14)</td>
<td></td>
</tr>
<tr>
<td>11+</td>
<td>1.26 (1.00 - 1.57)</td>
<td>2.20 (1.00 - 4.82)</td>
<td></td>
</tr>
<tr>
<td>Perceived threat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Once or twice/sometimes</td>
<td>0.99 (0.79 - 1.25)</td>
<td>1.18 (0.64 - 2.20)</td>
<td></td>
</tr>
<tr>
<td>Many times</td>
<td>1.08 (0.84 - 1.38)</td>
<td>1.30 (0.58 - 2.93)</td>
<td></td>
</tr>
</tbody>
</table>

‡Adjusted for age (continuous), rank, service branch, enlistment status, marital status, and medical role in theatre
† IRR using PCL score
6.1.3 Leadership and cohesion

As outlined in chapter 3, positive perceptions of leadership and cohesion have been found to be protective factors against adverse post-deployment outcomes among previous studies of military personnel (e.g. Brailey 2007; Iversen 2008). The current survey data revealed that the vast majority of female survey respondents reported feeling a sense of comradeship with their peers, while a smaller proportion (73%) felt they could go to someone in their unit with a personal problem (Table 28, p115). This suggests that while most women may feel part of a close team, this may not necessarily mean that they perceive having available emotional support. Cohesion and leadership during deployment were explored further in the qualitative interviews (p137).

Table 28 Leadership and cohesion during deployment among female personnel. Numbers (n) and weighted percentages (%) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Deployed females (N=432)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>Missing (n)</td>
</tr>
<tr>
<td>Embarrass juniors in front of others</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often/always</td>
<td>52</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>118</td>
<td>29.1</td>
<td></td>
</tr>
<tr>
<td>Never/seldom</td>
<td>253</td>
<td>57.8</td>
<td></td>
</tr>
<tr>
<td>Treat all members of the unit fairly</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/seldom</td>
<td>73</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>97</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>Often/always</td>
<td>252</td>
<td>59.3</td>
<td></td>
</tr>
<tr>
<td>Show concern about the safety of members of the unit</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/seldom</td>
<td>35</td>
<td>9.2</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>81</td>
<td>20.5</td>
<td></td>
</tr>
<tr>
<td>Often/always</td>
<td>306</td>
<td>70.4</td>
<td></td>
</tr>
<tr>
<td>Felt sense of comradeship between myself and others in unit</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>36</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>387</td>
<td>91.7</td>
<td></td>
</tr>
<tr>
<td>Could have gone to most people in my unit if had personal problem</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>126</td>
<td>27.3</td>
<td></td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>298</td>
<td>72.7</td>
<td></td>
</tr>
<tr>
<td>Seniors were interested in what I did/thought</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>88</td>
<td>22.2</td>
<td></td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>336</td>
<td>77.8</td>
<td></td>
</tr>
<tr>
<td>Felt informed about what was going on</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>78</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>344</td>
<td>81.5</td>
<td></td>
</tr>
</tbody>
</table>
In line with previous findings, those who reported negative perceptions of leadership and cohesion during deployment generally reported greater symptoms of post-deployment psychological ill health (Table 29, p117). These associations were significant in relation to feeling that seniors embarrassed juniors in front of others (symptoms of PTSD and multiple physical symptoms); feeling that seniors treated all members of their unit fairly (PTSD and multiple physical symptoms); that seniors showed concern for unit members (PTSD symptoms and self-reported general health (borderline)); that seniors were interested in what they did or thought (CMD and multiple physical symptoms); that they felt informed about what was going on (multiple physical symptoms); that they could go to anyone in their unit with a personal problem (CMD and multiple physical symptoms); and, that they felt a sense of comradeship with their peers (self-reported general health). Of note is that all of these factors, with the exception of comradeship and feeling like they could go to anyone with a personal problem, relate to perceptions of leadership behaviours. A recent study examining the influence of leadership and cohesion on health outcomes using the same measurement items among UK personnel during deployment to Afghanistan (92% male) also found unit cohesion and leadership to be associated with significantly lower levels of CMD and PTSD symptoms after adjusting for socio-demographic variables, including gender (Jones et al. 2012).

The cohort study includes limited information on perceived availability of horizontal and/or emotional support during deployment. These issues are explored further in the qualitative interviews, to determine how women perceive leadership, cohesion (and support) to influence their well-being in relation to deployment.
Table 29 Association between unit cohesion/leadership variables and health outcomes among deployed female personnel. Numbers of women reaching caseness for each outcome (n), weighted percentages (%) and P-values are shown.

<table>
<thead>
<tr>
<th></th>
<th>PTSD (n=427)</th>
<th>Common mental disorder (n=427)</th>
<th>Multiple physical symptoms (n=428)</th>
<th>General health (fair/poor) (n=431)</th>
<th>Hazardous alcohol use (n=423)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>P</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>LEADERSHIP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrass juniors in front of others</td>
<td>0.009</td>
<td>0.279</td>
<td>0.042</td>
<td>0.942</td>
<td>0.860</td>
</tr>
<tr>
<td>Often/always</td>
<td>4</td>
<td>14.8</td>
<td>15</td>
<td>32.1</td>
<td>16</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
<td>1.8</td>
<td>38</td>
<td>29.6</td>
<td>17</td>
</tr>
<tr>
<td>Never/seldom</td>
<td>8</td>
<td>4.2</td>
<td>51</td>
<td>21.8</td>
<td>17</td>
</tr>
<tr>
<td>Treat all members of the unit fairly</td>
<td>0.026</td>
<td>0.096</td>
<td>0.002</td>
<td>0.078</td>
<td>0.342</td>
</tr>
<tr>
<td>Never/seldom</td>
<td>6</td>
<td>11.9</td>
<td>28</td>
<td>37.1</td>
<td>16</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
<td>1.6</td>
<td>22</td>
<td>25.2</td>
<td>10</td>
</tr>
<tr>
<td>Often/always</td>
<td>7</td>
<td>3.9</td>
<td>54</td>
<td>21.8</td>
<td>16</td>
</tr>
<tr>
<td>Show concern about the safety of members of the unit</td>
<td>0.040</td>
<td>0.185</td>
<td>0.180</td>
<td>0.057</td>
<td>0.362</td>
</tr>
<tr>
<td>Never/seldom</td>
<td>3</td>
<td>10.2</td>
<td>14</td>
<td>36.9</td>
<td>8</td>
</tr>
<tr>
<td>Sometimes</td>
<td>5</td>
<td>10.6</td>
<td>22</td>
<td>30.8</td>
<td>7</td>
</tr>
<tr>
<td>Often/always</td>
<td>7</td>
<td>2.5</td>
<td>68</td>
<td>22.4</td>
<td>27</td>
</tr>
<tr>
<td>COHESION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt sense of comradeship between myself and others in unit</td>
<td>0.143</td>
<td>0.563</td>
<td>0.159</td>
<td>0.023</td>
<td>0.452</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>11.5</td>
<td>10</td>
<td>20.9</td>
<td>6</td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>11</td>
<td>4.1</td>
<td>94</td>
<td>26.2</td>
<td>36</td>
</tr>
<tr>
<td>Could have gone to most people in my unit if had personal problem</td>
<td>0.266</td>
<td>0.020</td>
<td>0.007</td>
<td>0.588</td>
<td>0.384</td>
</tr>
<tr>
<td>Disagree</td>
<td>7</td>
<td>7.4</td>
<td>39</td>
<td>35.8</td>
<td>20</td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>8</td>
<td>3.9</td>
<td>66</td>
<td>22.1</td>
<td>23</td>
</tr>
<tr>
<td>Seniors were interested in what I did/thought</td>
<td>0.106</td>
<td>0.041</td>
<td>0.020</td>
<td>0.119</td>
<td>0.795</td>
</tr>
<tr>
<td>Disagree</td>
<td>7</td>
<td>9.1</td>
<td>29</td>
<td>36.1</td>
<td>17</td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>8</td>
<td>3.6</td>
<td>76</td>
<td>22.9</td>
<td>26</td>
</tr>
<tr>
<td>Felt informed about what was going on</td>
<td>0.428</td>
<td>0.154</td>
<td>0.002</td>
<td>0.859</td>
<td>0.143</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>7.5</td>
<td>25</td>
<td>34.1</td>
<td>17</td>
</tr>
<tr>
<td>Agree/neutral</td>
<td>12</td>
<td>4.3</td>
<td>80</td>
<td>24.3</td>
<td>25</td>
</tr>
</tbody>
</table>
6.1.4 Post-deployment support

**Formal support**

In addition to leadership and cohesion during deployment, the cohort study survey also asked respondents about their experiences of post-deployment support – both formal and informal. The proportion of women receiving formal support is shown in Table 30, p118. Unlike the majority positive views about deployment cohesion and leadership, just over half of respondents reported not receiving a homecoming brief, and approximately 70% reported not going through decompression. Further, nearly 36% felt that they had not been supported by the military in the weeks after they came home from their most recent deployment.

Table 30 Post-deployment military support factors among female personnel. Numbers (n) and weighted percentages (%) are shown.

<table>
<thead>
<tr>
<th>Deployed females (N=432)</th>
<th>n</th>
<th>%</th>
<th>Missing (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whether received homecoming brief</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>207</td>
<td>45.0</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>207</td>
<td>55.0</td>
<td></td>
</tr>
<tr>
<td><strong>Whether had decompression</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>122</td>
<td>29.2</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>300</td>
<td>70.8</td>
<td></td>
</tr>
<tr>
<td><strong>(In the weeks after I came home) I was well supported by the military</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>261</td>
<td>64.1</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>151</td>
<td>35.9</td>
<td></td>
</tr>
</tbody>
</table>

Table 31 (p119) illustrates the association of military post-deployment support variables with mental health outcomes. Feeling well supported by the military was associated with fewer symptoms of all outcomes except hazardous alcohol use. Receiving a homecoming brief was not associated with any outcome except a borderline association indicating a greater likelihood of hazardous alcohol use among those who received a brief. The reasons for this are unclear. Decompression was associated with fewer symptoms of PTSD and CMD. That the effect of perceiving military support was associated with approximately 50-75% fewer odds of endorsing post-deployment ill health is striking. Due to the cross sectional nature of the data the causal influence of military support post-deployment cannot be determined.
Table 31 Association between post-deployment military support and mental health outcomes among female personnel. Numbers of women reaching caseness for each outcome (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>PTSD (caseness/score*) (n=427)</th>
<th>Common mental disorder (n=427)</th>
<th>Multiple physical symptoms (n=428)</th>
<th>General health (fair/poor) (n=431)</th>
<th>Hazardous alcohol use (n=423)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>IRR (95% CI)†</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>I was well supported by the military</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>11.5</td>
<td>1.00</td>
<td>49</td>
<td>34.9</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
<td>1.0</td>
<td>0.45 (0.24 - 0.82)</td>
<td>54</td>
<td>21.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whether received homecoming brief</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>5.3</td>
<td>1.00</td>
<td>57</td>
<td>26.0</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>4.1</td>
<td>1.00 (0.70 - 1.43)</td>
<td>46</td>
<td>26.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whether had decompression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>5.6</td>
<td>1.00</td>
<td>81</td>
<td>28.2</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>2.0</td>
<td>0.57 (0.39 - 0.82)</td>
<td>23</td>
<td>18.3</td>
</tr>
</tbody>
</table>

* IRR based on PCL score
† Adjusted for age (continuous), rank, serving status, enlistment status, marital status and service branch
**Informal support**

Perceptions of informal post-deployment support are illustrated in Table 32, p120. The items reflect participant’s perceptions of whether people could understand what they had been through and whether they wanted to discuss their experiences with family or friends. Approximately half of deployed women felt that people did not understand, while nearly 30% did not want to talk about their experiences. An assessment of how such perceptions are associated with health outcomes is illustrated in Table 33 (p121). Negative perceptions were associated with symptoms of PTSD, CMD, multiple physical symptoms, and in addition, self-reported general health among those who did not want to talk about their experiences.

Table 32 Post-deployment social support factors among female personnel. Numbers (n) and weighted percentages (%) are shown.

<table>
<thead>
<tr>
<th>Perception</th>
<th>Deployed females (N=432)</th>
<th>Missing (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People didn't understand what I'd been through</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>210</td>
<td>48.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>202</td>
<td>51.3</td>
</tr>
<tr>
<td><strong>I didn't want to talk about experiences with family/friends</strong></td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>133</td>
<td>28.9</td>
</tr>
<tr>
<td>Disagree</td>
<td>282</td>
<td>71.1</td>
</tr>
</tbody>
</table>
Table 33 Association between post-deployment social support and health outcomes among female personnel. Numbers of women reaching caseness for each outcome (n), weighted percentages (%), adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>PTSD (caseness/score*) (n=427)</th>
<th>Common mental disorder (n=427)</th>
<th>Multiple physical symptoms (n=428)</th>
<th>General health (fair/poor) (n=431)</th>
<th>Hazardous alcohol use (n=423)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>IRR (95% CI)†</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>People didn’t understand what I’d been through</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>8.6</td>
<td>1.00</td>
<td>68</td>
<td>34.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>1.2</td>
<td>0.46 (0.34 - 0.61)</td>
<td>36</td>
<td>17.9</td>
</tr>
<tr>
<td>I didn’t want to talk about experiences with family/friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>9</td>
<td>10.9</td>
<td>1.00</td>
<td>46</td>
<td>36.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>2.3</td>
<td>0.46 (0.34 - 0.62)</td>
<td>58</td>
<td>22.1</td>
</tr>
</tbody>
</table>

*IRR based on PCL score
† Adjusted for age (continuous), rank, serving status, enlistment status, marital status and service branch
6.1.5 Job strain and perceptions of work climate

In addition to deployment-related support, the cohort study included items to assess perceptions of work climate, which included factors characterising potential job strain. These items were asked only of personnel that were still serving and who were regular members of the Armed Forces. For analyses, the items were grouped into demand (workload), control (decision making latitude and ability to use skill), and support (from peers and supervisors) at work. Table 34 (p122) displays these factors by gender. A substantial proportion of both men and women report low levels of control and high levels of demand. In general, unadjusted (not shown) and adjusted analyses suggest that there is no difference in the likelihood of reporting greater demand or lower support among women compared to men. The only significant difference was observed in relation to job control; unadjusted analyses suggested that compared to those reporting high levels of control, women were more likely to report low job control. This association was no longer significant after adjustment for socio-demographic characteristics, with the association entirely accounted for by age. The association between these factors and health outcomes for females are displayed in Table 35, p123.

Table 34 Perceptions of job demand, job control and work support among regular serving male and female personnel. Numbers (n), weighted percentages (%), odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Male (N=5836)</th>
<th>Female (N=675)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>2243</td>
<td>133</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>1772</td>
<td>283</td>
<td>42.5</td>
<td>1.00</td>
</tr>
<tr>
<td>High</td>
<td>1688</td>
<td>2842</td>
<td>51.8</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1687</td>
<td>1867</td>
<td>30.6</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium</td>
<td>1739</td>
<td>999</td>
<td>17.6</td>
<td>1.00</td>
</tr>
<tr>
<td>High</td>
<td>2842</td>
<td>2405</td>
<td>51.8</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1557</td>
<td>135</td>
<td>30.5</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium</td>
<td>1739</td>
<td>2405</td>
<td>30.5</td>
<td>1.00</td>
</tr>
<tr>
<td>High</td>
<td>2842</td>
<td>1687</td>
<td>30.6</td>
<td>1.00</td>
</tr>
</tbody>
</table>

† Adjusted for age (continuous), rank, serving status, enlistment status, marital status and service branch.
Table 35 Association between job strain items and health outcomes among regular serving female personnel (N=675). Numbers of females reaching caseness for each outcome (n), weighted percentages (%), and adjusted odds ratios (OR) with 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th>Job demand (n=653)</th>
<th>PTSD caseness/score† (n=667)</th>
<th>Common mental disorders (n=665)</th>
<th>Multiple physical symptoms (n=667)</th>
<th>Self-reported general health (n=664)</th>
<th>Hazardous alcohol use (n=663)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n %</td>
<td>Adjusted OR* (95% CI)</td>
<td>n %</td>
<td>Adjusted OR* (95% CI)</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>3.6</td>
<td>1.00</td>
<td>49</td>
<td>17.6</td>
</tr>
<tr>
<td>Medium</td>
<td>6</td>
<td>4.7</td>
<td>1.26 (0.91 - 1.75)</td>
<td>59</td>
<td>32.1</td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>6.5</td>
<td>1.43 (1.02 - 2.01)</td>
<td>54</td>
<td>31.2</td>
</tr>
<tr>
<td>Job control (n=654)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>3.7</td>
<td>1.00</td>
<td>53</td>
<td>20.7</td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>10.0</td>
<td>1.56 (1.04 - 2.32)</td>
<td>29</td>
<td>26.8</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>3.3</td>
<td>1.25 (0.95 - 1.64)</td>
<td>81</td>
<td>31.7</td>
</tr>
<tr>
<td>Work support (n=654)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>4.6</td>
<td>1.00</td>
<td>51</td>
<td>20.4</td>
</tr>
<tr>
<td>Medium</td>
<td>2</td>
<td>0.6</td>
<td>0.94 (0.69 - 1.28)</td>
<td>46</td>
<td>23.4</td>
</tr>
<tr>
<td>Low</td>
<td>14</td>
<td>9.8</td>
<td>1.47 (1.04 - 2.09)</td>
<td>65</td>
<td>36.8</td>
</tr>
</tbody>
</table>

†IRR based on PCL score; * Adjusted for age (continuous), rank, marital status, and service branch.
With the exception of hazardous alcohol use, there was a tendency for lower control, higher demand and lower perceived work support to be associated with health outcomes. These reached significance only for the higher demand group (PTSD, CMD and multiple physical symptoms); the higher control group (CMD only, and PTSD when comparing the median to low control group); and, the low work support group compared to the high support group (symptoms of PTSD and CMD).

6.1.6 Summary

No overall impact of deployment was found on most health outcomes among women; the better self-reported general health among deployed females is likely to reflect a selective ‘healthy warrior’ effect, in which certain physical standards are required in order to eligible for deployment. Greater exposure to combat and perceived threat to life and serious injury was associated with adverse post-deployment outcomes among female personnel. The pattern of health outcomes by gender in the deployed group was similar as that among the military sample as a whole, and in the general population. Further, the pattern of response to combat exposure and perceived threat was also similar, suggesting little difference in the impact of deployment or combat exposure among men and women.

Female personnel were generally positive about leadership and cohesion during deployment, though nearly a third disagreed that they could go to their unit with a personal problem, and approximately a fifth did not agree that their seniors were interested in what they did or thought, or that they felt informed about what was going on – despite the vast majority feeling a sense of comradeship with their peers. As has been reported among a majority male group of personnel during deployment to Afghanistan (Jones et al. 2012), negative views about leadership and cohesion were generally associated with poorer outcomes among females deployed to Iraq and Afghanistan. Small numbers precluded more complex analyses to examine any impact on effect sizes that adding leadership and cohesion into regression models might have.

After deployment, a substantial proportion of women reported not feeling supported by the military. Feeling supported by the military upon return home was associated with 75-80% lower odds of all health outcomes except hazardous alcohol use. Similarly, a third of female personnel did not want to talk to people about their experiences upon return home and half of deployed women did not think that people would understand
their experiences. Both were associated with significantly greater odds of symptoms of PTSD, CMD and multiple physical symptoms (and self-reported general health for those who did not want to talk).

Although the cross-sectional nature of the data does not allow cause and effect to be established, these results nonetheless suggest that those with poorer post-deployment health perceive lower levels of support from the military after deployment, lower levels of cohesion and poorer leadership during deployment, and are less able to access support from others upon return.

Approximately a third of women serving in the regular Armed Forces reported high levels of demand at work and low levels of support at work, and nearly 40% reported low levels of job control. While levels of demand and work support did not appear to differ by gender, women were more likely to report low job control – thought this association was accounted for by age. Among women, greater work demands were associated with symptoms of PTSD, CMD and multiple physical symptoms; low job control with PTSD and CMD symptoms; and, low support with symptoms of PTSD, CMD and physical symptoms. Perceptions of work climate, therefore, may be important to consider as a source of work stress, which is often ignored in favour of deployment in relation to the military occupation.

6.2 Family domain

As outlined in chapter 3 (p 42), combining a military career with parental duties may potentially lead to conflict, which in turn is hypothesised to be a risk factor for adverse health outcomes. Though the survey did not ask questions about combining the military and family roles, it did ask whether personnel had children. To broadly assess whether female respondents with children differentially report health outcomes, a comparison of outcomes among those with and without children was made (Table 36, p126). Only hazardous alcohol use was associated with parenthood, with mothers less likely to be identified as cases even after adjustment for socio-demographic factors. When comparing survey participants with children only, by gender, no gender differences were found in any outcome except hazardous alcohol use (women with children were less likely to reach caseness than men with children) (Table 37, p126). The borderline unadjusted association between female gender and GHQ caseness was accounted for by adjusting for age.
Table 36 Comparison of health outcomes among female respondents (N=1185) by parental status. Numbers (n), weighted percentages (%), odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>No children (n=889)</th>
<th>Missing (n)</th>
<th>Children (n=296)</th>
<th>Missing (n)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>PTSD (caseness/score†)</td>
<td>34.5%</td>
<td>8.1%</td>
<td>11</td>
<td>2.6%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>212.1%</td>
<td>24.2%</td>
<td>71</td>
<td>25.2%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>80.1%</td>
<td>11.2%</td>
<td>23</td>
<td>8.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>General health</td>
<td>101.1%</td>
<td>12.6%</td>
<td>38</td>
<td>12.9%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>403.46%</td>
<td>46.6%</td>
<td>68</td>
<td>22.7%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

† IRR based on PCL score
*Adjusted for age (continuous), rank, enlistment status, serving status, marital status, service branch

Table 37 Association between gender and health outcomes among participants with children. Numbers (n), weighted percentages (%), odds ratios (OR) and 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>Male (n=4109)</th>
<th>Missing (n)</th>
<th>Female (n=296)</th>
<th>Missing (n)</th>
<th>Unadjusted OR* (95% CI)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>PTSD (caseness/score†)</td>
<td>162.4%</td>
<td>4.2%</td>
<td>37</td>
<td>11.2%</td>
<td>6.0%</td>
<td>0.93 (0.76 - 1.12)</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>778.19%</td>
<td>19.6%</td>
<td>39</td>
<td>71.5%</td>
<td>5.0%</td>
<td>1.38 (1.00 - 1.91)</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>426.11%</td>
<td>11.2%</td>
<td>43</td>
<td>28.6%</td>
<td>4.0%</td>
<td>0.84 (0.52 - 1.35)</td>
</tr>
<tr>
<td>General health</td>
<td>537.14%</td>
<td>11.1%</td>
<td>20</td>
<td>12.9%</td>
<td>2.0%</td>
<td>0.90 (0.59 - 1.35)</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>2151.54%</td>
<td>54.0%</td>
<td>45</td>
<td>22.7%</td>
<td>6.0%</td>
<td>0.25 (0.18 - 0.35)</td>
</tr>
</tbody>
</table>

† IRR based on PCL score
*Adjusted for age (continuous), rank, enlistment status, serving status, marital status, service branch

Career intentions

The other way in which conflict between work and the family domains could be assessed using survey data was to compare the career intentions of regular serving mothers and non-mothers (Table 38, p127) and the reasons for leaving among regular ex-service mothers and non-mothers (Table 39, p128). No overall differences in outcomes were found between mothers and non-mothers even after adjusting for socio-demographic characteristics and deployment status. Nevertheless, there was evidence that there may be differences in the reasons for leaving among those with and without children.

The reasons endorsed by a greater proportion of ex-regular mothers appear to be indicative of perceived conflict between the work and family environment; two of these reasons reflect work-interfering-with-family (WIF) (too many deployments and impact of service life on family) and two reasons reflect family-interfering-with-work (FIW) (pressure from family and not wanting to be away from home). In contrast, the reasons more commonly cited by non-mothers are suggestive of dissatisfaction with the military
occupation. However, actual numbers for individual reasons are small and thus should be treated with caution.

This indicates that while there were no overall differences in the health outcomes measured by parental status overall, or when comparing serving and ex-service mothers (Appendix B table 2 p293), regular females with children are likely to leave as a result of perceived strain arising from work-family conflict in either direction. These issues are explored further in the qualitative interviews.

Table 38 Career intentions among serving regular female personnel by deployment status. Numbers (n), weighted percentages (%) and adjusted odds ratio (OR) with 95% confidence interval (CI) are shown.

<table>
<thead>
<tr>
<th>Career intentions (serving regulars, N=675)</th>
<th>No children (n=524)</th>
<th>Missing (n)</th>
<th>Children (n=151)</th>
<th>Missing (n)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaving early</td>
<td>15</td>
<td>15</td>
<td>39</td>
<td>39</td>
<td>1.15 (0.66 - 1.98)</td>
</tr>
</tbody>
</table>

*Adjusted for age (continuous), rank, marital status, service branch, and deployment status.

The impact of parental status on career intentions may be expected to vary depending on factors such as support availability (in terms of marital status), rank, and age. During analysis, each socio-demographic characteristic was added individually to the regression model measuring the impact of parental status on career intentions to assess whether certain factors may influence this relationship. (See Appendix B, Table 3, p293). Adjusting for any of the socio-demographic characteristics had minimal or no impact on effect sizes. While these may be rather crude way to assess the impact of such factors on the experience of parenting in the military, the interviews explored how women experienced balancing work and family roles in more depth.
Table 39 Reasons for leaving among ex-service regular female personnel by parental status. Numbers (n), weighted percentages (%) and P-values are shown.

<table>
<thead>
<tr>
<th>Reason for leaving (ex-service regulars, N=184)</th>
<th>(n=111)</th>
<th>(n=73)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of service life on family</td>
<td>29</td>
<td>45</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Didn’t want to be away from home</td>
<td>17</td>
<td>28</td>
<td>0.001</td>
</tr>
<tr>
<td>Inability to plan life outside work</td>
<td>36</td>
<td>19</td>
<td>0.525</td>
</tr>
<tr>
<td>Lack of promotion prospects</td>
<td>21</td>
<td>12</td>
<td>0.853</td>
</tr>
<tr>
<td>Health problems</td>
<td>23</td>
<td>10</td>
<td>0.567</td>
</tr>
<tr>
<td>Too many deployments</td>
<td>7</td>
<td>12</td>
<td>0.058</td>
</tr>
<tr>
<td>My service was terminated</td>
<td>12</td>
<td>4</td>
<td>0.555</td>
</tr>
<tr>
<td>Better employment prospects in civilian life</td>
<td>22</td>
<td>4</td>
<td>0.063</td>
</tr>
<tr>
<td>Pressure from family</td>
<td>1</td>
<td>3</td>
<td>0.015</td>
</tr>
<tr>
<td>Dissatisfaction with pay</td>
<td>5</td>
<td>3</td>
<td>0.612</td>
</tr>
<tr>
<td>Because of experiences on deployment</td>
<td>8</td>
<td>2</td>
<td>0.203</td>
</tr>
<tr>
<td>Work not exciting or challenging enough</td>
<td>21</td>
<td>1</td>
<td>0.016</td>
</tr>
</tbody>
</table>

Impact on children

Survey data suggests the majority of women report their military career to have either no impact or a negative impact on their children (Table 40, p128).

Table 40 Self-reported impact of military career on the children of female survey respondents. Numbers (n) and weighted percentages (%) are shown.

<table>
<thead>
<tr>
<th>Impact of military career on child (n=268)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No impact</td>
<td>107</td>
<td>40.5</td>
</tr>
<tr>
<td>Positive impact</td>
<td>50</td>
<td>16.6</td>
</tr>
<tr>
<td>Negative impact</td>
<td>111</td>
<td>43.0</td>
</tr>
</tbody>
</table>

Table 41 (p129) shows a comparison of health outcomes among women with children by the impact on their children they perceived their military career to have. Greater symptoms of CMD were reported by mothers who perceived their career to have a negative impact on their child(ren), while hazardous alcohol use was endorsed more often among those who reported a positive impact on their children. The latter finding is unclear; it may be that younger personnel in lower ranks (who are more likely to be hazardous drinkers), may be more likely to perceive that the military has a positive effect on their children as it may be better paid, offer better job security and other benefits such as subsidised schooling. These factors were raised by participants during the interviews and are explored further in the parenthood chapter.
Table 41 Association between perceived impact of a military career on children and health outcomes among female personnel. Numbers (n), weighted percentages (%), and P values are shown.

<table>
<thead>
<tr>
<th></th>
<th>No impact</th>
<th>Positive impact</th>
<th>Negative impact</th>
<th>missing (n)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>PTSD caseness</td>
<td>1</td>
<td>1.5</td>
<td>3</td>
<td>2.7</td>
<td>5</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>14</td>
<td>14.0</td>
<td>12</td>
<td>23.2</td>
<td>36</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>6</td>
<td>4.6</td>
<td>7</td>
<td>16.7</td>
<td>10</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>10</td>
<td>9.9</td>
<td>4</td>
<td>10.0</td>
<td>21</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>19</td>
<td>15.3</td>
<td>15</td>
<td>35.2</td>
<td>27</td>
</tr>
</tbody>
</table>

While giving consideration that the questions were not framed as relating to children or parenthood, survey data was used to assess work climate perceptions by parental status (Table 42, p129). Contrary to expectations, no differences in perceived job demand were found, and personnel with children were likely to perceive greater control. No difference in work support was found.

Table 42 Job demands, job control and workplace support among serving, regular female personnel by parental status. Numbers (n), weighted percentages (%), and odds ratios (OR) with 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th></th>
<th>No children (n=524)</th>
<th>Missing (n=1)</th>
<th>Children (n=151)</th>
<th>Missing (n=1)</th>
<th>Unadjusted OR* (95% CI)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Job demand</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>231</td>
<td>44.1</td>
<td>52</td>
<td>38.2</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium</td>
<td>143</td>
<td>28.1</td>
<td>44</td>
<td>29.3</td>
<td>1.20</td>
<td>(0.71 - 2.03)</td>
</tr>
<tr>
<td>High</td>
<td>133</td>
<td>27.8</td>
<td>50</td>
<td>32.5</td>
<td>1.35</td>
<td>(0.81 - 2.25)</td>
</tr>
<tr>
<td><strong>Job control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>186</td>
<td>37.8</td>
<td>83</td>
<td>60.5</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium</td>
<td>97</td>
<td>20.0</td>
<td>31</td>
<td>17.9</td>
<td>0.56</td>
<td>(0.32 - 0.98)</td>
</tr>
<tr>
<td>Low</td>
<td>225</td>
<td>42.2</td>
<td>32</td>
<td>21.6</td>
<td>0.32</td>
<td>(0.19 - 0.54)</td>
</tr>
<tr>
<td><strong>Work support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>196</td>
<td>40.5</td>
<td>68</td>
<td>44.8</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium</td>
<td>165</td>
<td>29.9</td>
<td>45</td>
<td>32.5</td>
<td>0.98</td>
<td>(0.60 - 1.62)</td>
</tr>
<tr>
<td>Low</td>
<td>147</td>
<td>29.6</td>
<td>33</td>
<td>22.8</td>
<td>0.69</td>
<td>(0.40 - 1.20)</td>
</tr>
</tbody>
</table>

6.2.1 Summary

While the cohort study was not explicitly set up to evaluate variables in the family domain, the inclusion of parental status allowed for several comparative analyses to be made. No overall differences in health outcomes among female personnel with and without children were found, though mothers were less likely to report hazardous alcohol use even after adjusting for differences in socio-demographic characteristics. Among parents, no differences in health outcomes were found by gender – except women with children were less likely than men with children to report hazardous alcohol use.
No differences in career intentions were found between mothers and non-mothers. Among mothers who had left the military, reasons reflecting both FIW and WIF were cited for leaving, while non-mothers tended to identify dissatisfaction with the military as reasons for leaving. No differences in health outcomes were found between serving and ex-service mothers.

A substantial proportion of mothers felt their military career had a negative impact on their children, though this was similar to the proportion of those reporting no impact. Perceiving that their military career had a negative impact on their children was positively associated with symptoms of CMD but negatively associated with hazardous alcohol use. Lastly, military mothers perceived the same amount of job demands and work support as non-mothers, and perceived a greater degree of control over their work.

Taken together, these findings suggest that – contrary to expectations – military mothers are not at increased risk of adverse health, do not have a greater desire to leave the military early, and do not perceive a greater amount of job stress than non-mothers.

The last research aim was to examine in more detail how women perceive their experiences in the military, to describe potential risk and protective factors in the work, family and interpersonal domain in their own words, and to evaluate whether and how they perceive these to influence their well-being. The following chapters present qualitative evidence from 41 in-depth semi-structured interviews with serving and ex-service female personnel. These interviews explored the issues covered in the quantitative chapter in more depth, as well as other aspects of military service not covered in the survey.
This chapter describes participant’s experiences of and views about operational deployment using interview data. During the interviews, participants were asked if they had been deployed. If yes, they were asked questions in relation to their deployment experiences. This included questions regarding their role (“Can you guide me though your role while on tour?”); perceptions of cohesion (e.g. “Did you feel part of a closely-knit team?”); deployment experiences (e.g. “Were there times you felt more stressed than usual during your deployment, or not?”); contact with home (“Were you able to communicate with your family/partner while you were away?”); and, post-deployment experiences (“Can you describe what it was like when you got home?”). In addition, prompts and probes were used to elicit more detailed information following from issues raised by participants (e.g. “Can you tell me more about that?”). Quotes are labelled with the serving status, service branch, rank, and adjustment type.

The qualitative data surrounding deployment is described and analysed within the framework of the stress process model, in terms of the sources of stress women reported being exposed to, mediators, and outcomes. Many of these aspects may not in themselves be gendered, rather reflect the experiences of male and females. However, as is discussed at the end of the chapter, some stressors and moderating factors may be influenced by gender.

The results will define two typologies of participants according to the nature of their post-deployment adjustment experiences, ‘positive/neutral adjusters’ and ‘negative adjusters’. Several participants had deployed more than once and may have described having different experiences following different deployments. Those that had adverse post-deployment adjustment following any of their deployments were labelled as negative adjusters; while the factors that distinguished that deployment from others were explored where possible. The diagram in Figure 4, p134 illustrates how the relationships between themes identified in relation to deployment were visualised. This represents both a top down process in which stress process theory was applied to the thematic framework, as well as a bottom-up approach, using the information supplied across interview datasets to identify patterns in themes. The results chapter will first
define the adjuster typologies and then use the thematic framework to illustrate how the various elements are hypothesised to interact to influence each adjustment type.

7.1 Adjuster typologies

Of the 30 interviewees who had been deployed, 26 discussed how they adjusted upon return. Seventeen of these were classified as ‘positive/neutral adjusters’ and nine as ‘negative adjusters’. Positive/neutral adjusters were combined because they reported no major deployment-related problems upon return. Nevertheless, home-coming involved a period of adjustment to a different environment and routine, and to friends, family or other civilians with little knowledge about what they were there for or what they might have experienced. This period was described as short term, lasting a few weeks.

Negative adjusters described more severe and/or lasting problems upon return from deployment. The nature, severity and course of difficulties varied - and some women reported more than one type of symptom. Symptoms included excessive drinking (three women), anger/aggression (four women), depression/guilt, and trouble sleeping (five women). As described further on, some of these symptoms (in particular alcohol and aggression) were related to the coping mechanisms they used; for example, to suppress unwanted thoughts or to create a façade of well-being. Guilt arose from the discrepancy between conditions at home and in theatre; the lack of understanding or awareness from friends and family at home; concern for those remaining in theatre; and, concerns that they had performed inadequately. As will be discussed, these feelings reflect the way in which they appraised aspects of their deployments, and influenced their capacity to perceive job satisfaction and reward. Symptoms of depression were described in isolation or alongside others such as alcohol use and aggression.

“I was more angry and I was always sad, all I wanted to do was cry, sleep and all the rest of it, so a little bit – but I didn’t know why or what, so...[and] because I didn’t talk about it people just thought I was a miserable cow, and no one wanted to do anything with me so it made it even worse and – so it was kind of a vicious circle.” No. 47, serving, Army, JNCO, negative adjuster

“[After my tour] I went straight home on leave ... but to be honest with you I spent most of my three weeks in my bedroom asleep, just erm, quite depressed, poorly, run down, just not feeling very well.” No. 4, left service, Army, other rank, negative adjuster
7.1.1 Characteristics of adjuster types

The characteristics of participants in each typology were compared for descriptive purposes –due to the non-representative nature of the sample, this comparison is not intended to be generalised to the wider population. Among interview participants identified as negative adjusters there was a smaller proportion of Officers, of those in a long-term relationship, of those still serving, and of those who had children than among the positive/neutral adjusters. In addition, there were fewer negative adjusters who described their day-to-day work roles as being female-dominated than among the positive/neutral adjusters. While this does not reflect a statistical relationship, the relevance of some of these factors to the experiences of adjustment is explored further throughout the chapter.

7.2 Stressors during deployment

In describing their deployment experiences, two main themes emerged which pertained to different sources of stress; role-related and interpersonal stressors. The former reflect stressors in the work domain that are more typically discussed in theories of work-related stress, while the latter reflected those in the interpersonal domain. Each theme had associated sub-themes. Role-related sub-themes included workload and combat exposure; interpersonal sub-themes included leadership and peer support/cohesion (see Figure 4, p134). This section will describe these elements and explore how they were portrayed according to adjuster typology.
Figure 4 Thematic framework of deployment-related stressors, moderators and outcomes

**POST-DEPLOYMENT ADJUSTMENT**

**POSITIVE/NEUTRAL ADJUSTERS**
- Family

**NEGATIVE ADJUSTERS**
- Formal
- Informal

**Post-deployment support**

**STRESSORS DURING DEPLOYMENT**

**External**
- Military welfare
- Leadership
- Peer support/cohesion
- Family

**Internal**
- Personal resources
  - Appraisals e.g. job satisfaction/reward, challenge/threat
  - Coping strategies e.g. exercise/alcohol/talking

**MODERATORS**
- During deployment
- Post-deployment

**Role-related**
- Combat exposure

**Workload e.g. work hours/schedule/pressure**
7.3 Role-related stressors

Role-related stressors were classified as those which were related to the job they were doing while on deployment. The actual roles that participants reported having included: administrative and logistics roles, dog handler, driver, military police, artillery gunner, medic, flight operator, liaison officer, chef, engineer, female searcher, interpreter, Iraqi/Afghan security forces trainer and pilot. The interviewees revealed that role was a proxy for potential sources of stress - including workload, role satisfaction and reward, and combat exposure.

7.3.1 Workload

Workload is a concept that relates most closely to the ‘demands’ element of work-stress theories (see p25). Nine participants (eight positive/neutral and one negative adjuster) discussed deployment-related work stress. It encompassed intensive working hours, lack of time off, and pressurised working conditions. While these may be experienced by employees in other occupations, their impact on the well-being of military personnel is likely to be enhanced due to the unique environment in which they are experienced. While on deployment, personnel are unable to remove themselves from the environment – they may typically have two weeks of respite during which they return home in a six month period. Further, they live and work in close proximity to other personnel, on camp or forward operating bases, in which they are unlikely to be able to have time alone – with limited opportunity for privacy. The following quotes are illustrative of the workload theme.

“In that six month period I don’t think I had a day off, well you don’t – don’t get a day off, and you’re sort of working from six o’clock in the morning till ten o’clock at night.” No. 74, left service, Army, Officer, positive/neutral adjuster

“When you are on detachment you’re, you are never on your own – you know because normally you have to share accommodation or whatever, and you know so – 24 hours a day there’s always someone else around.” No.82, left service, RAF, SNCO, positive/neutral adjuster

Lastly, the operational deployments discussed by participants were all hostile in nature, thus many personnel may be working under pressure. Regardless of the role they are doing, they are part of a mechanism which requires all elements to be working at optimal effectiveness and which it is reliant upon for the success of the operation and the well-being of personnel. The interviews did not suggest that this element was related to gender but highlight that deployment work-stress is not limited to that related to
Participants who described these aspects of workload were more commonly positive/neutral adjusters, who talked about workload in different ways. For some, the workload had been stressful while on tour but after a short period of acclimatisation back to their usual routine on return, they had recovered quickly. For other positive/neutral adjusters who described stress associated with workload, perceived job reward/satisfaction (see p143) outweighed their perception of stress. Positive/neutral adjusters who did not perceive workload as a stressor, reported feeling either feeling that their ‘demand-related’ stress was lower while they were on tour because they had been freed from other chores that they would normally have to do on a daily basis (three women), or that they did not perceive such demands in their role. Workload during deployment did not affect their well-being following return from deployment beyond the short term recovery needed from physical and mental demands.

On the other hand, the workload theme did not typically arise in interviews with negative adjusters. The exception to this pattern experienced workload as a stressor but did not attribute it to her post-deployment adjustment problems.

7.3.2 Exposure to combat

The second source of role-related stress was the degree to which their job entailed exposure to combat. Combat exposure itself was a key discriminator between the two adjuster types. Fifteen of the positive/neutral adjusters had camp-based roles away from forward areas and ground combat, e.g. medics working in a hospital or medical centre on camp, administrative workers, chefs and postal and courier operators. Several inferred that their positive adjustment was a result of working in a role that did not expose them to much direct combat or to the direct witnessing of injury or death of their peers.

“I think it would have been harder for me, if I was to – if I had another job role, as to be going out in the field and seeing my fellow comrades like fallen or injured or something like that, it would have been harder for me.” No. 60, serving, Army, other rank, positive/neutral adjuster

In addition, among those exposed to combat, the way in which participants appraised their experiences delimited positive/neutral from negative adjusters. Two positive/neutral adjusters had been exposed to combat but were distinguishable from
negative adjusters by their attitude towards their experiences which mitigated any potential negative effects. For example, perceiving that they had directly helped others, the experience had benefitted them, or that they had been well supported.

“It was brilliant and I just loved it – and of course the Officer I was with was fantastic, he was great – he trusted me to get on and do everything that I done it... there was mines going off, you know it was dangerous... but you know... it was just – a lot of satisfaction I got from being there and knowing I was doing some good, and we would go out ... to ... the Taliban villages, and of course that was dangerous, and I saw lots of things I’d rather not see, but, you know, it’s all good for the character, erm – it was just fantastic, and of course the people that I was with made it.” No. 23, left service, Army, JNCO, positive/neutral adjuster

All except one of the nine negative adjusters had been involved with combat events and their aftermath to varying degrees, such as coming under direct fire, seeing friendly and non-friendly personnel wounded or killed, coming into contact with civilians, going on patrol, and losing known individuals. Interviewees described their experiences in different levels of detail, and were not pushed to talk about specific experiences if deemed inappropriate. Their experiences differed from those of the positive adjusters in that the exposure tended to include personal experiences of loss, or witnessing the injury or death of colleagues.

“I lost um, a very good friend, and what appeared to be my fella at the time... we were deployed together, I was out the night he was killed funnily enough in the vehicle behind him, and I had to watch him get medi-lifted [air-evacuated] away and not come back. It was quite hard... I think it was more stressful when I got back, when it sort of sunk in what had actually happened.” No. 90, serving, Army, JNCO, negative adjuster

“We did get um, like some incoming mortars and stuff like that and there was a few people got injured and saw all the carry on with the artillery and stuff so, like – and then I saw like, body bags coming in of like Taliban guys that [were] planting bombs at the front of our camp and stuff like that. I didn’t really react to it very well, I just like – even though it was um, like the enemy in the body bags... I just didn’t know how to handle it.” No. 41, left service, Army, other rank, negative adjuster

7.4 Interpersonal stressors

Unlike role-related stressors, interpersonal stressors arose from interactions with other personnel rather than from the job they were doing per se. They included two sub-themes, lack of peer-support/cohesion (six participants), and strained relations with leaders (nine participants).
7.4.1 Peer support and leadership

Although combat exposure was an important distinguisher between adjuster typologies, not all negative adjusters had roles exposing them to combat; for some, role-related interpersonal factors acted independently to impact upon post-deployment adjustment despite of, or in the absence of, exposure to combat.

The following three quotations illustrate these points, and how a lack of support from peers and leaders adversely impacted the well-being of participants during and after deployment. Further, as indicated in Figure 4, p134, negative relations with peers could spill over into unfair treatment.

“I think when you go away with a squadron, as part of a formed unit it’s fine, because, you are working with people that you know, you are doing a job that you know, and there’s sort of a support network there... when I went to do the non-flying jobs... [there] was, no support at all, I was going back, getting into bed and crying myself to sleep, and I thought, ‘I’m bloody 31-32 years old, this is pathetic, pull yourself together, you’re a grown woman you can do this’, but without support I couldn’t do it.” No. 22, serving, RAF, Officer, negative adjuster

“My mum and dad... thought that I had post-traumatic stress from being in Iraq, y’know from being to war, they thought that I’d come back and I was stressed from seeing things in Iraq, which isn’t the case, that wasn’t – I wasn’t bothered about what I saw in Iraq at all, it was the fact that I was bullied and things like that – by my own friends, well not friends, my own soldiers.” No. 4, left service, Army, other rank, negative adjuster

“The Sergeant Major and the OC as well who are supposed to be the bosses...then be bitching about somebody who just literally just left – and stuff like that but it was constant every day, all day.” No. 49, positive/neutral adjuster

Of the negative adjusters that mentioned leadership most were pessimistic, though some positive/neutral adjusters also reported a lack of support from their superiors. This included: not getting on with their boss, not feeling supported by their chain of command, their superiors having a poor understanding of their role, or actively being treated badly by their superiors.

As well as independently influencing adjustment, interpersonal factors could combine with combat-related sources of stress to worsen the impact of either source of stress alone. Close ties with peers and/or feeling responsible for their well-being could intensify the impact of combat events; for example, by exacerbating perceived guilt - while a perceived lack of support from leaders could aggravate the impact of exposure to combat stressors.
“Well we lost one of our guys as well, which was quite hard, I found it really, really hard to deal with – I felt very guilty, and that I should have been able to save him, being a medic, this that and the other – and er, just found it very, very difficult to deal with, so – that was the main thing really….there’s always that thing in the back of your mind, ‘could I have done anything else?’, ‘could I have done something more?’”  
No. 1, serving, Army, JNCO, negative adjuster

“I wasn’t getting on too well in Afghan and at one point I ended up trying to lock myself in an ISO container [a steel shipping container] to get rid of everybody, this sounds ridiculous, um – me and my OC [Officer Commanding]... we didn’t get on – I used to argue a lot with her...about silly little things like that, yeah.” [Is that why you locked yourself in an ISO container?] “Um, I – she wasn’t, she didn’t help it, but I’d been out on a couple of ops that weren’t the best, and it had stressed me out, and she hadn’t helped, she hadn’t noticed and things just got on top of me.”  
No. 47, serving, Army, JNCO, negative adjuster

Some interpersonal stressors were not identified as gendered. Others were related to their status as women. This was apparent within both sub-themes of peer support and leadership. A lack of peer support related to gender could arise from being one of very few or the only female in their immediate surroundings. Lack of support arose indirectly, when women were accommodated separately from their male peers and thus missed out on opportunities to unwind with their unit, resulting in feelings of isolation (three women). More directly, some women reported that their male peers were reluctant to work with them, or undermined their work competency while on deployment (five women).

“I was part of a team, but I just felt very isolated from female company again, d’you know what I mean, because it was very like squadron orientated and I was the only girl so I felt a bit isolated...you know what guys are like especially squaddies.”  
No. 41, left service, Army, other rank, negative adjuster

“Out on tour ... I struggled working with the Marines I think, because of their mindset, so I had to try and prove myself and be as – gobby I wanna say, as them, to try and put my point across, but then it usually came across as ‘she’s just another hormonal female’, and it wasn’t getting across so they wouldn’t really listen...’cos they thought that I was talking rubbish.”  
No. 47, serving, Army, JNCO, negative adjuster

Further, when interpersonal stressors resulting from relations with peers or leaders spilt over into perceived unfair treatment, this could outweigh the impact of other stressors and incite feelings of betrayal and alienation. The following three quotations are included to illustrate how women had experienced intimidating sexualised interactions from peers and leaders.

“This sounds really awful, but I was havin’ a shower, well you could call it a shower, you used to make a bag and put holes in the top, and um – one of the Bombardiers come round and stood watchin’ me, and erm he wouldn’t move – and there was nothing I could do about it – there was nowhere I could run, or anything, but he thought it was nice for his amusement, to just watch me have a shower.”  
No. 4, left service, Army, other rank, negative adjuster
“We had a Sergeant in charge of us and he had a few too many beers and completely took advantage of having a girl there – he was just like pesting and pesting and pesting. ... I was just so stupid because I just think like – well, you know I’m sort of asking for it in a male-dominated environment, they’ve been away from women, they’ve had a few beers, it’s just natural...but he just – he wouldn’t budge ....” No. 98, left service, Army, JNCO, negative adjuster

“No. 82, left service, RAF, Officer, positive/neutral adjuster

“Constant picking, making fun and stuff, and all the time ... it was all very sexist conversations, you know about what they were gonna do to their wives or girlfriends whatever when they got home ... I mean it was deliberate to try and embarrass me if you know what I mean...and like the videos that they used to watch at night, you know it was all porn and stuff – so I used to just go and sit outside on me own...there was nobody for me to have a laugh with... I was completely excluded. And it was done on purpose... because I was a female, and because – they were just trying to make a point that they didn’t want me there.”

Despite the impact of such exclusionary behaviour on the well-being of the participant identified in the above quote, she nevertheless was classified as a positive/neutral adjuster. This type of exception to the patterns seen in the impact of the stressors mentioned above was typically explained by the way in which those participants had appraised their experience, or by the presence of other moderating factors. These issues are covered in the next section.

7.5 Moderating factors

‘Moderating factors’ identifies aspects of participant’s deployment experiences that influenced whether and how stressors were associated with adverse adjustment; these were classified into two sub-themes; external and internal. External moderating factors included those associated with the behaviour of others, while internal factors reflected more individual characteristics. These were inter-related, for instance, those who adopted active coping strategies may have utilised external support sources (such as seeking formal support), while those using more avoidant strategies may instead have chosen to deal with their problems themselves, or to ignore any feeling associated with exposure to stressors.

7.5.1 External

External moderating factors were grouped into formal support from the military, informal support from leaders and peers, and from family members.

Military support

As outlined in Appendix A, p286, a range of formal support options are made available to deployed troops. Ten participants mentioned use of, or awareness of, sources of
welfare support during their deployment, of which three reported barriers to support-seeking; suggesting that nothing would be done or that it could make things worse.

“There were times when people would go up to someone about a welfare issue, or, you know, an issue they had – with being out there, and, you know, you get told to grin and bear it to be honest.”

No. 3, positive/neutral adjuster

“I felt terrible after being diagnosed as depressed – it’s not nice and I didn’t want it, I didn’t want to be classed as that, or a little bit crazy because I had to go see the crazy nurse, and I didn’t like it because they stopped me from doing things and, that I could still do – but they thought, ‘Oh she can’t go out on the ground because she’s depressed’, but that was what I enjoyed doing but they took that away from me.”

No. 47, serving, Army, JNCO, negative adjuster

“IT was upsetting my husband so much every time I spoke to him, because he was saying, ‘I’m doing my best but I can’t really help’, I didn’t want to tell my mum because I didn’t want to worry her, and so I went to speak to the padre who was brilliant.”

No. 22, serving, RAF, Officer, negative adjuster

Experiences with, or awareness of formal support options was not a factor that separated participants by adjuster type. Positive/neutral and negative adjusters did not necessarily perceive their experiences as good or bad respectively. Also, there was no indication by participants that the use of, or awareness of, formal support was affected by gender.

In addition to welfare support, the military provides personnel with a range of facilities to contact home while on deployment outlined in Appendix A, p286. Participants were asked if they had made use of this and whether they had found it beneficial to their well-being.

**Family support**

As with formalised welfare support, contact with family was not a mediating factor that distinguished participants by adjuster type. Most participants were happy with the provision for contact with home, though were hesitant to utilise family as a source of support. For example, several chose to regulate contact as talking to home made things harder by reminding them that they missed their family and friends, that life was going on without them and they were missing out on events like birthdays or weddings. Additionally, some participants restricted contact with home to avoid worrying their family. These concerns were raised by both positive/neutral and negative adjusters.

“I tried not to phone too often because erm, for me, it’s hard when you - when you’re there you kind of forget about there being an outside world...you don’t like to think about it too much, and so when you speak to them... you really, really miss them, and it’s easier just not to phone home and, not to phone people and just get on with it.”

No. 12, serving, Army, SNCO, positive/neutral adjuster
“If they [my family] thought for one minute that I was upset then, you know, they’d have been devastated, so um – so all my letters were all upbeat, and telling them what a good time I was having and, how exciting it all was and stuff, so yeah I mean I’d never – throughout my whole career I never, if I was upset about anything or worried about anything I never used to tell my parents.” No. 82, left service, RAF, Officer, positive/neutral adjuster

On the contrary, two participants in particular described using communication with family at home as a source of support. Both these individuals were negative adjusters.

“I can get rid of a lot of the feelings of being upset and alone, by just talking to him and going, ‘I’ve had a crap day, this how I feel and how I’m feeling’ and he’ll say, ‘it’s fine, you’re all right, you’ll be home in X number of weeks’, and it somehow makes it seem better.” No. 22, serving, RAF, Officer, negative adjuster

Peer/leader support
The majority of interview participants (21/28) reported feeling part of a closely-knit team when asked. Unlike formal military and family support, support from peers and leaders was influential to the well-being of participants. As identified in section 7.4.1, lack of peer and leader support was a source of stress; similarly, support availability was identified as a protective factor. Being part of a close team was an important source of support during potentially stressful deployment situations; several participants suggested that feeling like they were going through hardship alongside others increased their resilience.

“There were some stressful times, like when you get mortared and stuff – and when things happen like in front of you, um but then when those things happened I was with the sort of people that, you know, you feel safe with, so it was sort of counterbalanced really.” No. 61, left service, RAF, JNCO

“We had a huge number of rocket attacks, you know they were at least every, you know, every couple of days, and we had repatriation ceremonies where, to the point where it was just awful...at the time it felt really grim... because we’d all turn out, you know – sort of two – three o’clock in the morning, no fuss, you would just get up, all go and muster in the right place, march on, go to the service, march off, no complaining, no bitching about it... so, you know – the, the camaraderie and the sense of purpose about it, is probably the best way of dealing with the stress.” No. 99, serving, Army, Officer, positive/neutral adjuster

On the other hand, feeling part of a close team did not necessarily reflect a willingness or ability to talk to their peers about concerns; for example, some felt that they had to put up a front to fit into the team. The ability to access emotional support from their peers may depend on the type and nature of support available. Some women may be able to benefit from certain ways of expressing emotional support that may be more readily available, such as through banter, than other forms.
“Yeah I mean, we were quite close, we were all quite close so, we would just – it was just banter – we would just make a joke of everything, and everyone talks about it while you are there, so it, it’s not, like frowned upon – so no I don’t, yeah definitely I could speak to someone if I needed to.” No. 1, serving, Army, JNCO, negative adjuster

The availability of support from peers and leaders therefore represents an external resource upon which individuals might draw in order to cope with potentially stressful experiences (see Figure 4, p134). As indicated in section 7.3.2, supportive leadership could influence how potentially stressful work-related experiences were perceived and appraised. In contrast, leadership that was not supportive could preclude the availability of informal support as a moderating factor. As illustrated by the following participants, if the chain of command was not independent of the problem, if there were concerns that they would be labelled as a trouble-maker, or if they were worried that they would be taken off duties, personnel may be reticent to utilise informal support options.

“One of the girls, she – she was having a hard time out there ... people just didn’t like her before she even went out there, and she went and spoke to the Sergeant Major about it, but she was one of them who was bitching behind her back anyway.” No. 49, positive/neutral adjuster

“I just kept it to myself, there’s just no point, you’ve gotta work with them people for three or four months, day in day out so if you cause a scene, ... if I’d had really kicked up a fuss about that and gotten in any sort of trouble, when I’d have gone to my next unit I wouldn’t have been Lance Corporal X I, would have been the girl that got someone in trouble, the girl that got someone bust – so there’s no, there’s just no point.” No. 98, left service, Army, JNCO, negative adjuster

7.5.2 Internal

Internal moderating factors refer to ways in which individual characteristics influenced the effect of potentially stressful experiences. This included sub-themes of appraisals and coping strategies. Appraisals refer to the way in which participants perceived and evaluated their experiences or situation, and included categories such as perceived job satisfaction and reward and perceived threat.

Perceived job satisfaction and reward

In several interviews, the way in which participants appraised their roles as rewarding and/or satisfying influenced how they experienced other role-related stressors, work load/pressure and combat exposure, as illustrated by the following two quotes.

“Everything certainly felt far more important that you got it right first time, so um – I think the rewards were greater than the stress levels. I was in a very stressful job, back here anyway so I actually was able to concentrate more on the primary task which was just doing the planning, so um – it was highly charged, but I never felt stressed.” No. 64, serving, RAF, Officer, positive/neutral adjuster
“It was just brilliant because you know, there was mines going off, you know it was dangerous, of course it was dangerous but you know, we had to set up from nothing and it was just – a lot of satisfaction I got from being there and knowing I was doing some good, and we would go out…to the …Taliban villages, and of course that was dangerous, and I saw lots of things I’d rather not see, but, you know, it’s all good for the character, erm – it was just fantastic.” No. 23, left service, Army, JNCO, positive/neutral adjuster

Coping strategies
Coping strategies included both positive emotion-focussed approaches such as exercising, watching films or talking to someone they felt comfortable with as well as (potentially) less adaptive emotion-focussed strategies such as putting up a front, bottling up their feelings and avoiding talking to people about how they were feeling.

The positive/neutral adjusters tended to endorse the former, while the negative adjusters tended to endorse the latter approach (or were unable to access support from others).

“If I have an outlet with somebody I know, it’s fine, but if I don’t…have a friend there, or somebody I can talk to on the end of the phone, I really struggle then because I bottle it up and it gets to the point where I go, ‘I can’t, I can’t do this now’.” No. 22, serving, RAF, Officer, negative adjuster

“I always used to do phys[ical exercise] everyday, which used to help with the stress, and so every afternoon I’d go to the gym…so that always helped – but yeah, I mean I got to know a couple of people away from the Battalion, um – who I met in the gym, and stuff like that who I used to just go out for a you know, for a can of coke with if I needed just to unwind or talk about the Battalion with someone who wasn’t in the Battalion…and that’s how I de-stressed.” No. 8, serving, Army, Officer, positive/neutral adjuster

“I didn’t really do anything at the time, I didn’t really think about it I just thought, rrf , just brushed off because all the guys was like, like I said having that front again? Sort of having a bit of a front put up, and just sort of like ignoring it and then, I don’t think it really hit me until I came home.” No. 41, left service, Army, other rank, negative adjuster

The way in which negative adjusters coped during deployment appeared to influence their adjustment patterns, such that avoidant strategies during tour translated into avoidance strategies post-deployment.

“With being theatre I think your job comes first and a lot of the time you will put it to the side and you will not think about it or deal with it physically in your head, and then the minute you come back and step off the plane, it sort of hits you – and that’s where I got my problems.” No. 90, serving, Army, JNCO, negative adjuster

Alcohol use and anger/aggression may be used to block out unwanted feelings or create boundaries between the individual and their family, friends, and colleagues with implications for the availability or accessibility of support. Aggression could also be
symptomatic of frustration at being unable to identify and/or process difficult experiences or feelings associated with deployment.

“When I came home, I started drinking more heavily and then like started drinking during the day and stuff ....I think like, what I learnt with me with drink, it's like a false sense of happiness, and it's like my way of blocking out all what’s happening around me.” No. 41, left service, Army, other rank, negative adjuster

Having asked interviewees to describe what it was like when they got home, negative adjusters either spontaneously discussed, or were probed to determine, their experiences of post-deployment support.

7.6 Post-deployment support

Support provision and the way in which it was accessed differed among negative adjusters. Of those that had received help (7/9), most found it beneficial and did not feel stigmatised for needing support (5/7). Access to support differed, including those that self-referred and those that were referred by their family or chain of command. Support options included counselling, psychiatric care (medication), and their GP. For those that have left the Armed Forces, there may be difficulties with accessing care for deployment-related problems because of a lack of understanding about their issues among civilian providers, as highlighted by two participants.

“I've been to see a civvie [civilian] psychiatrist-person, or whatever they’re called, I dunno, and I don’t think he understood?” [What didn’t he understand?] “I was trying to explain things to him but he clearly wasn’t military, no military background or anything and he – I don’t think he understood...I went to one session and ended up being asked to leave because I was crying that much, he was like, ‘Oh well, we can’t carry on because you can’t actually speak’, so he let me leave when I was in complete pieces and, didn’t know what to do with myself and he was like, ‘yeah, well, see you next time’.” No. 47, serving, Army, JNCO, negative adjuster

The importance of seeking support from those who understood what they had been through was emphasised in the distinction between military and family/friends-based support. As in the descriptions of their experiences during deployment, negative adjusters tended not to describe their family or friends as a particular source of support upon return. Difficulties with using family as a source of support after deployment arose from a perceived lack of empathy. The two that did feel supported had husbands in the military that could empathise with what they had gone through. Despite this, family members may be the first to notice any adjustment problems.
'Mum and dad were the only ones that noticed it a lot because obviously when you come back from deployment you get six or seven weeks leave minimum, normally and they noticed that my behaviour was pretty bad, didn't realise quite how bad it was, and what the signs were to look for, so when you come – they just thought it was a normal sort of come down thing and you would go out partying just like you've had 6 months away, and were like, 'well OK', sort of thing, but when I hit my sister that sort of sunk in that what I was doing was wrong and that I needed some help.’

No. 90, serving, Army, JNCO, negative adjuster

Of the nine negative adjusters, six felt they were now recovered while three still felt that their current well-being was not back to normal, this included continued problems with alcohol misuse, continued guilt, and depression.

7.6.1 Summary

Two adjuster typologies were identified; positive/neutral and negative. The former more typically identified work-related stressors, such as long working hours, work pressure, lack of time off, and lack of time alone. In addition, the roles that positive/neutral adjusters had on deployment tended not to expose them to much combat. Positive/neutral adjusters that were exposed to combat differed from combat-exposed negative adjusters either the way that they appraised their experience (as what they were trained for, as a challenge or exciting, or character building); and, in that their combat exposure tended to be indirect. Negative adjusters more commonly mentioned combat exposure that involved direct witnessing of injuries or deaths, or involved people they were close to. In addition, negative adjusters often reported negative experiences of leadership - which interacted with exposure to combat to intensify the experience. Interpersonal stressors could act in combination with work-related stressors but also could be an independent source of stress.

Peer support and cohesion also served as a protective factor for some positive/neutral adjusters exposed to combat, feeling that they were all in the same boat, were part of the team, and would look out for each other bolstered their resilience. Similarly, positive perceptions of leadership were shown in one interview in particular to mitigate the impact of combat. Personal resources, perceived job satisfaction and reward, and individual coping strategies also differentiated the adjuster typologies; positive/neutral adjusters tended to emphasise how rewarding they found deployment, even preferring it to their daily roles. In addition, there was some evidence that while positive/neutral adjusters tended to utilise strategies such as seeking support, exercising, or watching films to help cope with deployment stressors, negative adjusters tended to report less adaptive strategies, such as blocking out their experiences, putting up a front, or acting
There were mixed views about post-deployment support, though those who had accessed support generally found it useful. Personnel reported tending not to go to family members for support during or after deployment, though family members may be most likely to spot post-deployment adjustment problems. Seeking support from those able to empathise with their experiences may be preferred.

Though much military health research is dominated by deployment and post-deployment-related issues, going on tour is only a part of military life. As indicated by the importance of interpersonal issues, deployment may be stressful for reasons other than combat exposure. Another important dimension increasingly recognised in the literature is the relationship between family and parenthood with deployment. Furthermore, many personnel are in non-deployable roles and as such the focus on deployment may not be relevant to their military experience. The following chapter discusses the issue of parenthood in the military, both in relation to deployment and routine military life.
Chapter 8 Parenthood

As outlined in chapter 3, combining parenthood with a military career may impose demands over and above those of other occupational groups. Current legislation and initiatives in place for military personnel relevant to mothers are presented in Appendix A, p287.

During the interviews, participants were asked if they had children, and about work-family balance (e.g. “Can you tell me about how your work life fits in with your life at home?”); support for balancing the two roles (“Do you feel supported in meeting the needs of your family and/or children?”); and, childcare arrangements during deployment. Initial interviews suggested that being a mother may have a strong influence upon whether or not women remain in the military, thus participants were asked in subsequent interviews what decision processes they went through in relation to whether or not they would remain serving. Probes were used to elicit more detailed information and to follow up points made by participants. Further, several interviewees had already brought up issues about motherhood themselves earlier in the interview having asked them to describe a typical day. If, having probed further, sufficient information had been obtained prior to reaching this area of the topic guide, questions on work-family balance were not repeated. Quotes are labelled with the parental status, serving status, service branch, and rank of the interviewee.

Figure 5, p149 illustrates how the themes arising on the subject of parenthood are hypothesised to inter-relate. As with the previous chapter, the framework was guided by stress process theory, in terms of visualising the themes as stressors, mediating factors, and outcomes. In addition, themes identified related to aspects of role theory, specifically role conflict between the work and family domains. This chapter will first provide an overview of the (related) outcomes of strain arising from conflict between the work and family domains identified in the interviews; namely, well-being and career intentions. Then, aspects of the work and family environment proposed to underlie such conflict are explored. Factors that mediate the experience of conflict between the two roles are discussed. Finally, participants’ ideas to reduce conflict between work and family roles are presented.
Figure 5 Thematic framework of parenthood-related stressors, moderating factors and outcomes
8.1 Impact of balancing work and family roles

8.1.1 Well-being

The interviews suggested that the issue of parenthood in the military was a pertinent one for female personnel. Just over a quarter of interviewees with children (5/16) identified the dual roles as competing demands for time and energy. This was felt to contribute to mental and/or physical strain manifesting, for example, in feelings of fatigue, guilt and anxiety about prioritising one domain over the other.

“It doesn’t feel good when I’m not there [at work], because I know that if I’m not then generally, certainly in my role, somebody’s gonna have to pick up the pieces when I’m not there… and what I resent is feeling slightly guilty about spending time with my son.” No. 64, dual parent, RAF, serving, Officer

“The reason I left the military was because I, erm, because my daughter was getting quite ill and I was completely on my own, with no support – erm, I just burnt myself out completely… I said to my boss, ‘look, I cannot work full time, it is just killing me’, and I said, you know, ‘I am mentally not coping’, you know, and ‘my child has to come first over any job now’.” No. 23, dual parent, Army, left service, JNCO

This chapter will explore which factors might influence the impact of parental status on well-being, and investigate how women with children who did and did not report difficulties in balancing the two roles differed.

8.1.2 Deciding to leave the military

Parenthood was more typically described as relevant to the desire to remain in the military. Women were asked what their thoughts were in relation to remaining in the military with children, and the career intentions of participants with and without children were compared. The themes arising from this comparison summarise those that will be explored further throughout the chapter. The career intentions of the 12 serving interview participants without children were influenced by two predominant factors; childbearing and career aspirations. In turn, these variables were influenced by marital status, rank, and years served. 9/12 women planned to stay in at least until their next option point (usually 12 years), including those who were delaying childbearing. Three women were delaying childbearing until they had reached a point in their career where they felt they would be able to balance the two roles, while four did not want children - all of whom were planning to stay in the military. Seven reported that they would leave if they had a child or that they would not want to have children in the military.
“I’d like to at the moment, see where I’m at, at my 12 year point, and I’m hoping to sort of – be a Sergeant ... because I’ll still be young enough to sort of get out and go and do something else.” No. 50, no children, serving, Army, JNCO

“Um, if I did want children I would definitely leave the service – it’s not a family orientated job at all.” No. 44, no children, Army, serving, other rank

Among serving participants with children (n=9), nearly all had roles with routine work hours, could access childcare easily, and/or had partners who shared the responsibility for childcare. Despite this, four women were considering leaving because did not want to deploy away from their child and/or because of difficulties with being co-located with their partner or spouse. Of those mothers who were planning to stay in the military, the children of two women were living with their ex-partner and/or were planning to send them to boarding school and one participant was waiting to see if they would be able to send their children to live with family if she were to be deployed again. Those most sure about their long term plan to remain in the military were higher ranked, unlikely to deploy, staying in for their pension, and married to partners who were able to share responsibility for childcare duties.

All but one of the six ex-service participants with children cited reasons for leaving that were parenthood-related. Becoming a parent significantly altered the trajectory of their career in all cases, despite initially planning to stay in prior to having children. Reasons for leaving are discussed in greater detail throughout the chapter and included: not wanting to deploy with a young child; struggling to find childcare; lack of support as a parent; and, changes in priorities. The changes in priorities meant that they no longer felt able to perform their military role.

“Now [I'm a parent] I’ve also got to think, how will it fit with school times when she’s older, and – there’s a lot more, I can’t be selfish anymore and think, ‘career girl’, I’ve got to think, ‘mum’, and a career to bring in some money to keep us going as well, so – that kind of balancing act.” No. 22, dual parent, RAF, serving, Officer

These issues indicate the salience of parenthood to the career trajectories of female personnel, and proposes that the influence of childbearing on career intentions is partly dependent on the individual circumstances of the woman (support availability from family and the military, working routine, deployability and so on); and, partly, but to a lesser extent - dependent on the attitudes of women themselves – whether it is ‘right’ to remain serving and risk having to leave their child, or due to changes in priorities having given birth. This chapter will first identify the underlying sources of stress that
may affect women with children before illustrating the conflicts that they evoke and how the individual circumstances and characteristics play out to affect the experiences of being a military mother.

8.2 Sources of stress among mothers

In describing their experiences as parents, two main themes pertained to stressors associated with parenthood; work, and family factors. The former theme was discussed in more depth by participants and appeared to be more influential to the ease of balancing the two roles than the latter. In contrast, both family-based and work-based support factors typically influenced the degree of conflict between the two roles (see Figure 5, p149). This section will describe the family and work factors deemed to be underlying sources of stress among military mothers.

8.3 Family factors

8.3.1 Childcare conflicting with work factors

The main source of stress identified in the family domain originated from the need to organise adequate childcare arrangements. Sub-themes associated with childcare arrangements include quality of childcare, financial strain, and fitting arrangements around working hours. The factors influencing how these sub-themes were experienced include child age, rank, marital status, and deployment. This section will focus on how fitting childcare around working hours presents a problem for military women as these factors are most likely to differ between military and civilian personnel.

While childcare arrangements may be difficult for mothers in other occupations, the military lifestyle presents several unique demands – for example in relation to deployment, relocation, and inflexibility in working hours. The time demands of a military career can be uniquely prohibitive and were influential in several interviewees’ decision to leave. On a day-to-day basis, most women seemed to be able to manage their childcare, but it posed difficulties for all at least some of the time.

_Working hours_

While women in other occupations may not have routine working hours, women in the military may be more restricted both in their choice of childcare facility and in their capacity for flexible working arrangements. Conflict between working hours and
childcare arrangements may force parents into feeling that they have to prioritise one or the other and lead to strain arising from emotional conflict.

“I feel like, um – do I really want to stay in the Army, cos, you know, I’m not gonna choose um, to send my kids away [to boarding school] and um, I know that if they actually sort it so that we can have flexible working hours for single parents, and um, that I know I can do it, but to choose my job or my kids I choose my kids more.” No. 60, single parent, Army, serving, other rank

Time-based conflict between work and childcare arrangements also indirectly caused strain for mothers who had to ask for flexibility in their working hours to accommodate their childcare arrangements. Strain arose from conflict between military expectations of time commitments and requirements based on childcare time restrictions. For example, those mothers making use of military nursery facilities with young children (three women) noted that the opening hours of the nursery did not fit around their work schedules, while their supervisors were unwilling to allow them flexibility to come in having dropped their child off. Such small conflicts may cause resentment on both sides.

“They were expecting us sort of to drop everything and to suddenly have to work till eight o’clock at night, but in that area where I was based in X there weren’t really many childminders round – and...I had to pick her up by six o’clock, and the nursery itself was 15 minutes away from the garrison so it was a case of, you know having to leave at that time and not being able to stay... which obviously caused a big problem.” No. 51, single mother, Army, left service, JNCO

Deployments, relocations, and other military demands

In addition to day-to-day difficulties in organising childcare around working hours and unlike most civilian occupations, military personnel are required to be prepared to serve anywhere at short notice to ensure operational effectiveness. This is often incompatible with organising childcare, particularly for those not working routine hours and/or single parents.

“Even on last minute things they didn’t sort of give me any sort of leeway even though it stated in their rules that they were to give me – to do a 24 hour duty they were to give me a week’s notice....like I was saying before with their rules, they didn’t always sort of adhere to the, I did – I had to – I had no choice in the matter.” No. 97, single parent, Army, left service, JNCO

Incompatibility between childcare arrangements and military demands for relocation at short notice arose in four interviews (4/16) in relation to balancing work and family roles. The expectation for personnel to be ‘ever ready’ could be abused or misused and become a source of unfair treatment, especially when this was perceived as a ploy to ‘trip them up’, as proof that mothers were not suitable for service, as illustrated in the account of the participant below.
“We are non-deployable so you don’t really expect anything to, to come up – and I was told on a Wednesday... ‘right we need you to start working in Germany on Monday’ – ‘Oh right’ – thinking that they probably just wanted me to cover for a couple of weeks – ‘We’ll probably bring you back June, maybe September’... ‘I can’t do it, you know my circumstances’ – I was eight months back off maternity leave, you know, ‘I’ve got a baby, what do you want me to do?’ I was told, ‘You present yourself in Germany on Monday, or you go sick’ ... and I was like, ‘I’ll go sick’...even if I was in a deployable role, you’d have notice to make plans and prepare your family, um....I was definitely treated unfairly, definitely. And, you know it was almost like I was picked out because I had children and, ‘let’s see how she copes with this’, um, because then they had to choose someone else to go ...and the girl that they chose then...you know a single girl, got no commitments, and she said, ‘I can’t do that – can I have another month to prepare?’, [they said] ‘yeah OK’ – yeah.” No. 78, dual parent, Army, serving, SNCO

8.3.2 Marital status and partner work commitments

Such strain was moderated by informal and formal support from the military and support from family members and partners. As shown in Figure 5, p149, marital status and partner work commitments were identified as family factors influencing the degree of work-family conflict experienced.

“People I know who are in the Army, you know, they are able - them and their partner - are able to work in the military quite effectively because they’ve got their families around them to support them. Um, I think you need good child care if you don’t have family support.” No. 59, no children, Royal Navy, serving, JNCO

Four out of nine mothers in long term relationships had a husband or partner that lived with them and tended to share the responsibility for childcare. The others were, in practical terms, single parents for much of the time; for example, because their partner was based abroad or worked away during the week. As alluded to in section 8.1.2, p150 - those participants who endorsed the least conflict between working and family roles reported actively sharing duties with their partner, in terms of picking up/dropping off children and other parental and household duties.

“My husband’s also in the military and we both serve on the same station, which is rare in the first instance, a) that you’ve got a woman who is still serving when she’s had children, because it’s very very difficult to serve and to have children, and, and also that your husband’s in at the same time and you are both working...If X was sick, and my husband was on station we would share the responsibility – I would take half a day and my husband would take half a day.” No. 64, dual parent, RAF, serving, Officer

Seven participants, however, felt that there was inequality in the influence of childbearing on male and female personnel. Male personnel with children are more likely than females to have civilian partners with more capacity for flexibility and even
if the mothers were married, all except one felt that the responsibility lay, or was presumed to lay, with them as the female.

“I definitely feel slightly more pressure than a man would because I don’t – a lot of the men have wives that stay at home….those that do have wives tend to have civilian non-working wives – or – wives that are able to go back to work part time, which I don’t have that luxury.” No. 64, dual parent, RAF, serving, Officer

In summary, childcare arrangements were identified as a family factor which may be a source of stress for some women with children. Stressful aspects of childcare arrangements included concerns about the quality of childcare, the financial consequences, and the conflict between working hours and childcare arrangements. The first two may be common to mothers in other occupations, while the latter presents some unique difficulties for military women. Of note, is that this latter factor only presents as a stressor in combination with factors in the work domain, namely, working hours, relocations, and deployment. Many interviewees reported coping well – sharing responsibilities for collecting/dropping off children with partners or family members, negotiating alternative start and finish times with bosses. These women displayed what Hall (1972) might have described as ‘structural role redefinition’, a type of coping style that reflects ‘proactive attempts to deal with the objective reality of one’s roles’ (Kirchmeyer 1993: 533). Others found constant uncertainty and short notice changes to make the two roles incompatible. These problems precluded their ability to proactively deal with conflict, and struggled to make their family role accommodate work demands – for example, finding childcare at short notice.

The last section described how both work and family factors can influence family-interfering-with-work (FIW) conflict; the next section describes how work and family characteristics can lead to work interfering with family (WIF) conflict.

8.4 Work factors

8.4.1 Deployment

Anticipating deployment is potentially stressful for many personnel but, for mothers this may be a major factor in the decision to leave the Armed Forces and a considerable source of strain for reasons additional to the difficulties arranging childcare during described above. It presented a dilemma of conflicting priorities for several (ten) interviewees, including two without children. Concerns were typically about being
deployed straight after maternity leave, missing out on part of their child’s life, leaving them without a mother; and, the risk of death during deployment. Several women had changed their minds about their views on deployment after having children, when the reality of leaving young children for several months became apparent.

“I don’t think that the military way of life is particularly compatible with a – a, with being a mum. Because there’s a constant worry that somebody’s gonna say ‘right, in six weeks time, two months time, three months time, you are off to Afghanistan or Iraq or wherever’, for kind of a long – and you’ve got no come back on that……. we’ve got this constant sword hanging over us where, you could be messed about, OK you’ve got a guaranteed job, but that job could entail going away for four months at a time, at no notice, and neither of us want to live our life like that anymore – you know, it’s not fair on our daughter, um – that we could get sent away, so that’s – yeah it’s markedly changed the way I looked at my job.” No. 22, dual parent, RAF, serving, Officer

Family support was also an important influence on participant’s views and experiences of deploying as a mother. The differences in perceptions of deployment and parenthood were almost entirely accounted for by differences in support availability from partners and family. Four of the interviewees had deployed as a mother - of which all were single parents whose child was looked after by their ex-partner or their own parents. Even if they had not been deployed, all mothers and some non-mothers expressed views about parenting and deployment. Those with a partner and/or family with responsibility for childcare endorsed more positive opinions about deployment than those who could not rely on partners or families. This was not just related to the practicalities of childcare arrangements, but to the anticipation of emotional distress at leaving the child with others and being assured about their care while away. The majority of dual couple parents had partners also serving in the military, thus there may be concerns about the prospect of both parents being deployed simultaneously, or back-to-back (on consecutive tours).

“It [deployment] would be very difficult – extremely stressful for the next few months – but after that it would mean that X [husband] would just have to take a career break...and I think a lot of that is because I don’t want my children to be messed around because I want stability, and if they’re at home with their dad, going to their normal school their normal nurseries it’s only me that’s not there.” No. 78, dual parent, Army, serving, SNCO

On the other hand, the experiences of the four mothers who had been deployed as parents suggested that the actual experience of deploying away from children may not be as difficult as the anticipated separation. This was influenced by two family factors; reliable childcare availability and child age. Greater guilt and distress was perceived by participants who were relying on others to look after younger children, and who felt they would miss out on important developmental milestones.
“I guess if you know that your kids are OK when you go [on deployment], and um, then – that’s fine, as long as you know that you’ve got, you know, adequate childcare, and um you go away and that’s fine.” No. 60, single parent, Army, serving, other rank

“I was alright [when I deployed]... I know my friend found it harder, but then she had a – she wasn’t even two [years], so you can miss a whole lot – whereas X [my daughter] was like eight – coming on nine so it was a big difference, ‘cos obviously you’d speak to her and she’s just be her normal self...it wasn’t too bad for me because she was older and self consistent almost – she obviously seemed happy when I spoke to her – it wasn’t, her crying down the phone missing me, it was kind of like, ‘er, can I go now, Simpson’s are on!’” No. 57, single parent, RAF, serving, other rank

8.4.2 Working hours

In addition to the influence of working hours on conflict between the work and family roles in relation to childcare arrangements described above, this work-related factor contributed to time-based conflict in that long or non-routine hours reduced the time available to spend with children. Again, this is not necessarily unique to the military and several women acknowledged that women in other occupations are likely to face the same dilemmas.

“Sometimes it just felt like you’d come home too late and you didn’t really see them, and I think in those – sometimes now when I look back, I’m quite gutted that I missed quite a lot of things because um...by the time you get home they’re already asleep and you haven’t seen them all day!” No. 77, dual parent, Army, left service, JNCO

In contrast, relocations are a work-based stressor that may be more unique to the military environment.

8.4.3 Relocation

Besides non-routine and inflexible working hours, and the possibility of being called up for duties as short notice, military personnel usually relocate to a different geographical area at regular intervals (e.g. 2 – 3 years). This is a potential source of stress for all personnel who may be leaving behind family and friendship networks; however, those with children may have additional concerns. These were highlighted by eight interviewees (6/16 with children; 2/25 without children) – including both single and dual-couple parents, and exemplified by the following participant when asked whether there were any aspects of military life that she did not like.

“The instability, um – and the impact that has on my ... my daughter’s just started school and stuff now, I’m dreading the fact that I have to move her school, up sticks – you build friends and support networks in a garrison, you get to know an area, and just about as you, you feel that you’ve got some anchors in life, you leave them again...and just the uncertainty that they can control your life 24/7, and you have to do what they say really” No. 78, dual parent, Army, serving, SNCO

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It may be possible for some personnel to move to a place from which they can commute and have a more settled home base. This is not always the case due to the wide geographic distribution of bases and, if both parents are in the military, to the likelihood that they will not be co-located with their partner. Further, relocation may take caregivers away from family support networks upon which they rely to help with child care, such that leaving the military may be the only option.

“I thought well if I’m struggling now, [arranging childcare] you know there’s no way I can go over to Northern Ireland and continue for three years because at least there [here] my mum, OK she was, you know, an hour and a half away, but if the worst came to the worst she would have come through for me you know?” No. 51, single parent, Army, left service, other rank

As illustrated in Figure 5, rank appears as a moderating influence of work stressors on conflict and as a resource influencing the availability of formal and informal support. Rank afforded greater agency to organise work schedules and research available posts in advance; request co-location with a partner; be willing and able to negotiate flexible working hours to accommodate childcare; and, to manoeuvre into non-deployable roles. These benefits directly impact the potential for conflict between family and parental roles, including both time and strain based conflict. Rank therefore was a resource upon which women could draw to utilise proactive coping strategies, akin to the ‘structural role redefinition’ outlined by Hall (1972); giving women greater agency to negotiate work factors to accommodate family factors.

While practical factors influencing the logistics of balancing childcare and military demands could themselves prove stressful, the interviews suggest that such obstacles are greatly affected by the degree and type of support available to mothers from the military (structurally and interpersonally), and family domains.

8.5 Informal support

Informal support was a key theme arising from the interviews in the area of parenthood. Informal support was both a potential source of stress in its absence, and as a moderating factor between stressors, perceived strain and the desire to remain in the military. Informal support referred to that offered by individual supervisors in allowing flexible start/finish times (and importantly, not stigmatising the mother for asking), as well as being understanding about the conflict that may arise as a result of being a primary caregiver.
Being permitted flexibility in working hours, (while still performing the same number of hours overall) without being made to feel guilty or excluded as a result, is likely to result in positive perceptions of informal support. In turn, this may influence one’s inclination to remain serving.

“Because X [husband]... he’s away a lot so childcare all fell on me – and work was quite good, they allowed me to come in after the nursery opened... so they bent a few rules there – but obviously I worked the hours at the end of the day – so they were very good, but they didn’t make it easy all the time.”  No. 9, dual parent, Army, left service, JNCO

Three women felt that their long term commitment to the military was forgotten once they had asked for flexibility for child care. This led to feelings of betrayal and resentment that weakened their commitment to the military institution.

“They kept putting pressure on me... to go – erm, back to work full time, you know, ‘the CO expects this, you’ve gotta come back full time, you know you can’t just keep doing this [part time] la la la’, and I just stuck to my guns, I said, ‘look – this is my sanity here... I have done you know, eight, by this time kinda nine years of full hard graft for the Army, and the minute I want a little bit of something [back] I just wasn’t getting it.” No. 23, dual parent, Army, left service, JNCO

Moral support from superiors was important to the well-being of the mothers interviewed, though to varying degrees. Those receiving less help from their family or partner tended to be most affected by a lack of informal support.

“Like I say, if you’ve got a decent boss, then yeah you’re fine, but – I think if you had one awkward boss he could make your life a living hell if you had children, which would then force to the opportunity to think, ‘right, family or career’ – well, your family would come first so then you’d have to fight for your career.” No. 2, dual parent, Army, serving, SNCO

While receiving support may not necessarily prevent a mother from leaving, not receiving support may be integral to another’s intention to leave.

“When I got back after my tour, my boss told me not to bother bringing my son back, because obviously whilst I was away he went to nanny and granddads – er, he told me not to bother bringing him back because I was going to be too busy...that was the reason why I actually got out” No. 97, single parent, Army, left services, JNCO

8.5.1 Unfair treatment

Perceived unfair treatment was a diffuse theme identified in the area of parenthood. It has already been alluded to in terms of not giving priority notice for shifts or relocations where this was deemed possible (p152). In addition, it was also perceived in relation to the amount of inconsistency in degree of informal support for parenting. This was not always perceived as related to gender, rather as to parental status.
“That was probably their biggest failing to be honest, um. It[support] depended on who you were with; I found it really did depend on how you were supported.”  No. 77, dual parent, Army, left service, JNCO

On one hand, those with supervisors with children may receive more support due to shared understanding of the difficulties they face (as suggested by two women); on the other, perceiving unfair treatment was associated with feeling that supervisors had double standards in relation to childcare (arising in 4/16 interviews with mothers).

“I said to my boss, ‘Oh I could get X [daughter] into before and after school club, but before school club starts I think at quarter to eight’, then she went, ‘you start work at quarter to eight’, and you know when you feel like saying, ‘I’m not being funny, so the fuck do you, but you come in when you’ve dropped your kid off at nursery’.”  No. 57, single parent, RAF, serving, other rank

There may be differences in the support given to parents by younger superiors due to changing attitudes. Further, unexpectedly, one interviewee felt that female supervisors could be particularly stigmatising.

“The hardest bit with having children in the Army is it’s all or nothing, there’s no part time, you are there and the Army takes priority, so in a lot of people’s eyes, and it’s the women who are worse than men with that, and it’s the women who – who haven’t got children who found that the hardest to get their heads around.”  No. 9, dual parent, Army, left service, JNCO

In six interviews, rank was identified as a moderating factor, acting to counteract some of the negative characteristics associated with motherhood; reducing the stigma of making decisions which prioritised their children. This may be because reaching a higher rank represents ‘proof of commitment’ and of work ethic, and/or of the greater autonomy which it affords.

“We are very lucky in the fact that we both have office jobs, and work Monday to Friday ...I’m always thinking – constantly thinking at least six months in advance um, for who’s gonna be where... you just have to say, ‘I can’t do it’, um, if they want us both somewhere – that has come about and I don’t like it, but um – I think because we’ve both been in the Army for quite a while, my husband’s done 23 years and I’ve done 18, we’re both almost quite happy to say, ‘I can’t do it’. Um, whereas a junior soldier wouldn’t have that luxury I suppose.”  No. 78, dual parent, Army, serving, SNCO

8.5.2 Single parenthood and stigma

Six interviewees were single parents. Being a single parent in the military may be a particular source of strain, both practically (in terms of support availability) and emotionally. 5/6 single parents suggested that they experienced, or expected to experience, stigma as a result of being a single mother. This was mainly associated with expectations that they would not share the same work ethic as other personnel or may
not be able to make the same commitments as others. Such expectations were seen as a
generalisation from instances in which they had perceived other single mothers ‘not
pulling their weight’, or using their parental status to their advantage to get out of
unwanted duties. One mother felt that she was looked over for certain roles once they
knew she was a single parent.

“[Being a single parent] does get bought in, you know – especially if I apply for jobs um, it – say a
job that’s not my proper trade – if I went out and applied for a job they would be like, ‘Oh actually
you are a single parent, I don’t think you’d be suitable for the role’.” No. 3, single parent, Army,
serving, JNCO

“I’m pretty sure that when I first got here that everyone thought I was gonna be a massive pain in
the arse [as a single parent] and I was gonna cause – ‘Oh I can’t do this the kid’s sick, oh I can’t
come in and I can’t…’, but actually I haven’t, I probably, at one point I was going to the degree of
over compensating so much that I was doing more shifts and more duties than most other people.”
No. 57, single parent, RAF, serving, other rank

The above quote indicates a type of coping behaviour in which the participant attempted
to work harder to prove that she did not fit the perceived stereotype of ‘single mother’.
Unexpectedly, other interviewees without children and those who did have children
including five of the single mothers who felt stigmatised themselves endorsed negative
views about ‘other single mothers’ based on knowing of, or hearing about, individual
mothers that they perceived to have used their children to their advantage.

“There are females in the Army that use it [being a single mother] as an excuse to get out of going
on deployments and stuff like that – so I can also understand why – cos it’s, some that do that then
give everybody a bad name if you get what I mean, a bad reputation....Yeah, ‘I can’t deploy because
I’ve got a child’, and then there’s others that just get tarred with the same sort of brush.” No. 97,
single parent, Army, left service, JNCO

“I know we had a couple of situations where we had single mothers, um, they seemed to be let off a
little bit swiftly – I mean they were regular, ‘we can’t come in because of this’, or, ‘we can’t come in
because of that’, and there were many times when we knew it wasn’t anything to do with kids, it
was a hangover-based illness, or something from the night before – and they would use their
children as excuses not to come in.” No. 77, dual parent, Army, left service, JNCO

The behaviour of the women they describe may reflect a defensive coping strategy
outlined by Hall (1972), ‘personal role redefinition’, in which individuals reduce
perceived conflict by reducing their commitment to the work role to accommodate their
family role, rather than by proactively managing the demands. Single mothers without
family or partner support, without rank and/or without informal support may have fewer
resources to utilise such proactive strategies.
8.6 Formal support

Of the 15 out of 16 mothers interviewed who discussed their parenting experiences, nine were positive about both formal and informal support they received from the military. While informal support was discussed above, formal support refers to official regulations in place to support parents in the military. Formal support includes deployment-based, housing, and other financial-based support. For example, immunity from deployment for six months after the birth of their child if they return to work (unless they volunteer to); endeavours not to deploy both parents of a dependent child at the same time (though this cannot be guaranteed for the sake of operational effectiveness); logistical support to allow families to keep in contact with service personnel and vice versa during their deployment; and, some financial initiatives.

8.6.1 Financial and logistical support

While financing childcare was identified as a stressor by some participants, the military wage and maternity package were identified by many as the strongest incentive to stay in the military. Eight out of nine women who were still serving stated finance as the main reason, or one of the reasons, they were staying in the military. For single mothers, the formal support provided by the military in terms of housing, child and medical care benefits – alongside job security, allowed them to be more financially independent than they would in civilian life. Also, as with male personnel, the women of higher rank and/or who had served for longer who had children (all dual couple parents), reported the pension as the main or a large driver in their decision to remain serving. They were concerned that they may not be able to support their family as well if they left the military as they would not be able to command a comparable wage.

“I'm a single mum – single mum’s can’t afford to work really because you are almost better off not working – you know …...the military for a single mum, it’s one of the few jobs you can have, where you can afford to have your own house and actually make some money as well.” No. 57, single parent, RAF, serving, other rank

“I think I will leave the service before my 16 year point, and before I get caught in the pension trap – which a lot of people do, and a lot of women do because women in the military tend to leave having children till they’re older, by the time they go back to work they are in that pension trap.” No. 64, dual parent, RAF, serving, Officer

On the other hand, while single mothers reported being better off than they would be in civilian life, they may also be treated differently by the military. Such differences reflect both informal differences – such as stigma - as described above (p160), as well as
access to formal initiatives. Being married was seen as advantageous because of the entitlements that it bestowed from the military. These included being allowed to live together on camp and endeavours by the military not to deploy a married couple together or to give them postings too far apart (though this is not guaranteed). Unmarried mothers in long term relationships reported at times being treated like single parents by the military; being unable to live with their partner on base or to be considered for co-location.

8.6.2 Career prospects

More indirectly, there were concerns among five participants (3 without children, two with) that childbearing might affect their career prospects. Military regulations state that female personnel are not to be overlooked for promotion or career advancement due to pregnancy or recent childbirth and remain eligible for promotion during pregnancy, maternity, and parental leave (2007DIN02-005). Among these interviewees, promotion was seen to depend on a number of factors which might be influenced by parental status. For example, being able to put in extra hours, make career-enhancing role and posting decisions, and to partake in certain ‘extra-curricular’ activities.

“[mothers] can’t maybe deploy on exercises because obviously not always being able to get child care ...we have to do a bit of, er – so much every year, to get a tick in each box, for your promotion – so you’ve got, you’re seen doing your job in work, doing your job in the field, going on this sort of battle camp, doing this sort of phys – and maybe doing an outside sport where you’ve gone away from the regiment to do it – and all of that sort of counts for you to be promoted – because you’ve got to be seen as a good all round soldier, and able to deploy when they ask, so obviously – when it is they’ve not been able to, it just gets noted down.” No. 90, no children, Army, serving, JNCO

The perception that parenthood may negatively influence career progression was proposed by women of different ranks and was felt to affect women to a greater extent than men. Whether or not this impacts military women to a greater extent than women in other work environments is unclear.

“I think to get anywhere in the military as a female, kind of thing, you kind of do have to put your life second, and it is a little bit – I think it’s a bit unfair, and I suppose it’s the same in many sort of demanding jobs... as a woman, if you’re having children and things, it really will slow your promotion down... they all say that men and women it’s the same nowadays, but it really isn’t, because in the military you are, things change so often, so much is expected of you, and if you’ve got a family at home, um – you are very rarely posted with your partner so, if the kids are with you, it is pretty much down to you.” No. 12, no children, Army, serving, SNCO
Career stage also could influence childbearing. As alluded to above, a greater rank may represent a career stage when individuals are under less pressure to check all the relevant boxes to chase competitive promotions, even if not conducive to family life.

“Once you get to Major, you’ve got more say in where you wanna go, so if I turn round and say, ‘well I don’t want to do Command, I just wanna do staff job after staff job’, then it’s quite likely they’ll let me do that...you know, you’re, you’re finally treated as a proper grown up... that’s what, I wanted to get that far, I wanted to work hard and get promoted...I wanted to get that done and out of the way, just so you can kind of take your foot off the gas a bit if you need to.” No. 75, no children, serving, Army, Officer

Throughout the interviews, several women with children spoke about how they thought the military institution could help to reduce conflict for serving parents. This descriptive theme, ‘reducing conflict’, includes ideas that would help reduce the perceived stigma associated with motherhood as well as time-based conflict between the two roles, and is described below with an illustrative quote for each idea.

8.7 Reducing conflict

Standardisation
Coherent with frustrations at inconsistent support from superiors for balancing work and family commitments, two women suggested standardising procedures – particularly with reference to flexible working arrangements and deploying with young children.

“I think if they made it for every single trade, and every person, a standard set of hours, I think – you couldn’t complain, and even as a single mum, or a mum, you still couldn’t complain, because you’re getting – you are all sort of getting the same sort of treatment..” No. 57, single parent, RAF, serving, other rank

“There’s no system to accommodate mums, um, you are just then expected to be back in the mainstream Army, and the reality of it is, people either go sick like I did, because I was backed into a corner, leave, or just bluff it for a few years, and that’s what happening. People just massage themselves into a post where they’re not gonna get picked on, whereas I think they could – it could be much more above board if there was a system, whatever that system would be.” No. 78, dual parent, Army, serving, SNCO

The military regulations on housing provision vary depending on the marital status of the individual; two women felt that the rights of couples in long term relationships should be more similar to those afforded to married couples. The current regulations are outlined in Appendix A, p287.

“I have a partner now....., um but because we’re not married you know, we couldn’t sort of live together and sort of stuff like that – so then I would still be classed as a single parent and because I was having another child at that time, I would have been classed as a single parent with two children – and having to do it on my own, and there’d be no sort of – things stated down anywhere
that we could sort of be posted together or anything like that...and I wouldn’t just get married just to live together and be posted together.” No. 97, single parent, Army, left service, JNCO

**Temporary removal of the X-factor**

Personnel are paid an ‘X-factor’ – additional pay to recognise the ways in which the demands of a military career differ from a civilian one. This money is given partly in return for an agreement to serve where and when required, for potential redeployments at short notice, and for non-regular working hours. Temporary removal of this payment given to personnel for those aspects of the job that make the balance most difficult, until the child reached a certain age, might reduce some of the stigma associated with asking for differential working terms.

“Many of us [women], you know, want to have children – it’s a basic instinct of life ... and you know, the dental profession is – majority female, so I said ‘look why can’t I job- why can’t there be a job share, take the X-factor away from us, pay us less?’ You are still getting people you know, mentally fit and looking after them the way you should and still doing your job, you’re just not deployable or, I don’t know – they have civilians do our job, so why can’t they just take the X-factor off us and, you know, but – but that’s – I probably would have stayed in if they could of maybe reduced my wage slightly, maybe took the X-factor off me until a time where I felt that I could go away again.” No. 23, dual parent, Army, left service, JNCO

**Job shares/part-time hours**

That part time work and military service could not always be compatible was recognised by those participants who mentioned it, particularly in relation to operational tours. However, as a temporary measure, others thought that it would work - especially for women in non-deployable roles. Providing cover for women on maternity leave would also reduce the burden on those left behind, reducing any potential resentment.

“I think they’d retain a lot of high quality females for longer if there was more options – more employment options. And maybe um, like you say you know you can’t go to Afghanistan part-time, but maybe some acknowledgement that yes she has very young children so maybe it’s an option if you choose to do it, till your children are five or whatever, but you lose the X-factor and obviously you lose a percentage of your salary ...there is this fear when you come back off maternity leave, um that you are deployable straight away.” No. 78, dual parent, Army, serving, SNCO

**Additional financial support**

Two participants felt that additional financial help should be offered if parents are required to work outside routine hours, because of the additional costs that childcare during these times incurred.

“I know that it’s not the Army’s responsibility to give you money towards it [childcare], but I think that, if – like my friend who’s been told she’s gotta work at two o’clock in the morning, I think that if the Army are gonna give her a shift like that then maybe in theory, because her daughter goes to childcare all day, so she’s paying for that, so if she’s having to pay extra because of the shifts the
Army are putting her under, I think they, maybe the Army should make a contribution – not a massive one, but some sort of contribution towards help paying for childcare, because on civvie street it would be a normal nine to five job and that’s all you’d pay for, so.” No. 3, single parent, Army, serving, JNCO

Carer’s leave

It was unclear whether women (or their superiors) were aware of their entitlement to take up to 13 weeks of (unpaid) parental leave in order to look after their child; the quote below illustrates that there may be a lack of awareness about such entitlements.

“I don’t want to take leave because my leave is the time that I’m saving to spend with my husband because it’s the only time we get together ….you know, you’ve got a limited amount of leave that we need to save up to try and use as best you can and you don’t want to be – not wasting it on her, because obviously she’s poorly you’ve got to look after her and I don’t mind that in the slightest – but it’s….I mean my friend works in the NHS and she said she gets something called carers leave, so if her daughter’s poorly she can take carers leave, and if you run out of that then you have to take annual leave – and if you run out of that you take unpaid leave and so it goes on.” No. 22, dual parent, RAF, serving, Officer

8.7.1 Summary

Six of 16 mothers interviewed reported that they managed their family and military commitments, while others reported experiencing conflict between the two roles. Conflict typically was associated with career intentions, and to a lesser extent well-being as a result of strain. Participants described how family and work factors influenced both FIW and WIF conflict. Work characteristics were in general more salient to conflict in both directions than family characteristics. In addition, individual factors, such as resources in the work and family domain, coping behaviours, and attitudes towards the work and family roles – also influenced the degree and influence of potential strain arising from conflict between the two domains.

Stigma/unfair treatment

Over a quarter of interview participants (both mothers and non-mothers) referred to feeling stigmatised or treated unfairly as a mother, or to holding negative views themselves; particularly about single mothers. While some instances relate to perceptions based on interpersonal relations with supervisors, which may or may not be down to personality characteristics, others felt that childbearing may indirectly affect their career prospects. Again, rank, marital status, and support from the military and family domains significantly influenced the experience of this theme.
**Moderating factors: coping/rank**

In addition to work and family factors, individual characteristics determined the degree and influence of work-family conflict. Participants identified several coping strategies to deal with conflicting demands from the work and family roles. Those most comfortable with the balance were typically higher ranked and married or with highly available family support. These women were able to utilise their rank to negotiate work factors to accommodate family demands and to simultaneously delegate to their family/partner some parental responsibilities such that their family role could accommodate their work role. Stigma was associated with perceptions that mothers, particularly single mothers, may reduce their allegiance to the military, or the effort they put in to their work roles, to reduce conflict ‘personal role redefinition’ – rather than to work harder to achieve both goals. Their ability to negotiate either role to accommodate the other may be limited by rank and/or support availability.

**Costs/benefits**

The interviews revealed that the military lifestyle presents several costs and benefits in relation to parenthood. On the one hand, instability, deployment, difficulties negotiating childcare arrangements present hurdles to balancing the two roles; on the other, financial and logistical benefits, job stability and security are benefits to serving parents. Improving the interpersonal climate for women with children is likely to have a marked impact on their well-being and career intentions. Several ideas to facilitate balancing work and family commitments which may go towards this aim were proposed by participants that reduce conflict between work and family roles by relaxing the restrictions placed on personnel in the military domain.

While deployment and parenthood may not be uniquely identified as stressors among female personnel, stressors associated with being a woman in a male-dominated environment may be influential on their own, and in combination with, deployment and parenthood-related issues. As with some of the mothers identified in this chapter, women may feel that they are treated unfairly in other ways. These issues are discussed in the following chapter.
Chapter 9  Integration

This chapter discusses qualitative findings related to integration, perceptions of and experiences of unfair treatment. Issues pertaining to integration and unfair treatment often permeated the accounts of participants throughout their interviews outside of the context of topic guide questions. While these issues were covered in all interviews as part of the topic guide, many of the themes in this chapter also arose while not specifically asking about them.

Questions concerning integration were added as a result of analysis of pilot study interviews and initial main study interviews that suggested that women might change their behaviour in certain environments. Subsequent interviews asked questions about adapting behaviour; for example, “Thinking back to before you joined the military/when you are outside of the military environment, do you think you are any different when at work or with other military personnel?” Participants were also asked what characteristics would be suited to a career in the military for a woman. Questions about unfair treatment were broached with an initial enquiry as to whether they had received surveys asking them about harassment or discrimination (as part of Equality and Diversity initiatives by the military). If yes, they were asked what they thought about them, and then probed for their views. Also, participants were informed that such surveys had found that women sometimes report feeling undermined or not taken seriously, or the need to work harder to achieve the same goals as their male colleagues; they were then asked for their opinions about this statement. Lastly, participants were asked if they thought in general women in the military were treated equally. Participants that had not brought up experiences of unfair treatment earlier in the interview and did not agree with the statements above were not probed further.

Questions related to support-seeking were asked in the interviews, such as, “Are you aware of a system in place to prevent harassment or unfair treatment?”, and “What would you do if you did ever experience any form of unfair treatment?” Finally, the interview guide included questions about support availability, asking whether they had someone to confide in or share their feelings with, and whether this person(s) was inside or outside of the military.
This chapter will first identify the characteristics identified as suitable to the Armed Forces for a woman. Then, themes related to integration are explored and contextual influences on these themes are discussed. Perceptions and experiences of unfair treatment towards women in the military are then presented, followed by views and experiences of reporting and seeking support. Quotes are labelled with serving status, service branch, and rank.

9.1 Personality typologies

Integration into the Armed Forces has multiple facets and is not a uniform process across services, trades, ranks, time periods, individual bases, units or offices. When asked, all participants were able to clearly define traits that they thought would be most suited to the Armed Forces for a woman. These are summarised in Table 43 (p170). Some of the typologies reflect overlapping constructs and not all are exclusively relevant to women.
Table 43 Table of personality characteristics identified as suited to a woman in the Armed Forces

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<th>Type</th>
<th>Description</th>
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| Mental strength | Strong willed, mentally strong, confidence, emotionally strong             | “If you come in strong mind – open minded, strong minded and disciplined that’s alright, you can make it far – you will be alright in the Army.” No. 84, left service, Army, SNCO  
“Motivated – you’ve got to be motivated, you’ve got to be very self-determined, you’ve gotta be pretty tough.” No. 22, serving, RAF, Officer  
“She’s gotta have will power I suppose, got to have a lot of will power to be able to, just to be able to get on with the Army life, you know.” No. 3, serving, Army, JNCO | 32 |
| Tom boy         | Tom boy, not a girly girl, willing to get stuck in, get your hands dirty and up for a challenge | “Not – definitely not a girly girl, if you know what I mean, not somebody that wants to wear pink all the time and, you know, have her hair straighteners there 24 hours of the day! Not somebody that wants to wear lots of make-up all the time and things like that! You know, basically a practical woman rather than a girly girl so.” No. 82, left service, RAF, Officer  
“You’ve just gotta be the sort of person that likes going out there, getting your hands dirty, getting on with it, if you are – some of the girls in my antenatal group um, are very into their clothes, hair, makeup, that sort of thing – if you are that sort of person it doesn’t suit you because you can’t ... so you’ve got to, yeah, you’ve gotta be willing to get on with it.” No. 22, serving, RAF, Officer | 22 |
| Out-going       | Out-going, sociable, gregarious, team-player, lively, proactive, open minded | “Don’t be a person who’s quite quiet and set back – because if you are like that then people tend to sort of use you as a target.” No. 50, serving, Army, JNCO  
“Socially you’ve got to be able to get on with people, you’ve got to be able to talk to- you know- anyone, at any point because you know, you are surrounded with one minute Officers one minute juniors, one minute your own peers, so I think you have to have the communication skills.” No. 23, left service, Army, JNCO | 16 |
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<tr>
<th>Type</th>
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| Robust             | Thick-skinned, broad shoulders, robust, strong self esteem                   | “OK, um – well I think you need to be slightly thick-skinned, erm if you are too sensitive, you know, and I think that’s the same with any kind of environment that’s male dominated…you know what it’s like with blokes banter and stuff – so you have gotta be slightly thick-skinned.”  
No. 8, serving, Army, Officer

“She personally has to have self worth, um – because you can’t come into the unit and feel bad about yourself, because every time somebody says something to you, you are gonna take that to heart, and I don’t think you can do that.”  
No. 3, serving, Army, JNCO |
| Humour             | Sense of humour, able to give and take banter                                | “You’ve got to be able to take banter, so um – give as much as you can take um, because er – if you take offence to everything that’s said, you’re not gonna be able to get on – you just need to laugh back and give back as good as you get, um – cos I’d don’t think you’d get very far, I don’t think you’d do very well, you’d spend most of your time in the complaints room, complaining!”  
No. 1, serving, Army, JNCO |
| Physical           | Physical fitness, strength, sportiness                                      | “Things like physical exercise I absolutely loved it… I was incredibly fit – there was a real thing, I mean I was respected by the blokes for that, that was the one thing that they would respect me for – was that I was one of the few women who could pass my basic fitness test without any effort at all.”  
No. 16, left service, Navy, other rank |
| Keeping your head down | Ability to keep your head down and get on with it, don’t ask too many questions | “I’m not a stupid person, I would – if I didn’t think something was right I would question authority, and they do not like people questioning authority, and I would say that’s mainly where I struggled in where I questioned authority is – is because people didn’t like that…I don’t think I was – of my sex, I think it was just because of me as a person.”  
No. 80, left service, Navy, JNCO

“If you start analysing the why’s and wherefore’s of some of the things that are done, you have to wonder whether people are lunatics – um, to a certain extent, it’s like going to the theatre, you have to have a, um, a willing suspension of disbelief, you either have to be at an intelligence level that believes what they’re saying, you know, ‘we have to do it like this because…’, and some of those reasons are perfectly sound, and others, frankly, are not. Um, you either have to have a willing sense of belief – a willing suspension of disbelief, or – you have to believe them, um, so you either need to be not too bright, or you need to be bright enough to rise above it – if you see what I mean.”  
No. 99, serving, Army, Officer |
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<th>Type</th>
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<tbody>
<tr>
<td>No stereotype</td>
<td>Any woman, depends on trade, no stereotype</td>
<td>“Anyone, there’s jobs – there’s loads and loads of jobs out there in the Navy for any woman, and I suppose if you tend to be – I mean it’s only my description but if you tend to be, quite a feminine girl – there’s lots of like office jobs like the writers, the accountants, the dentists, you know, there’s loads of jobs there for those and for those types of people, but then for the girls that don’t mind getting dirty, there’s all the engineering jobs – or there’s the upper deck jobs, and there’s lots jobs out there for gunnery as well.” No. 18, left service, Navy, SNCO</td>
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<tr>
<td>Common sense</td>
<td>Common sense, clever, intelligent</td>
<td>“Savvy – I guess yeah, sort of, sort of intelligent in but of sort of more streetwise kind of intelligent sort of thing.” No. 12, serving, Army, SNCO</td>
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<tr>
<td>No dependents</td>
<td>Without children, single</td>
<td>“Erm, goodness… somebody without children, because I – now looking back I think women and children in the military do not mix, I just think it doesn’t.” No. 23, left service, Army, JNCO</td>
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<tr>
<td>Flexibility</td>
<td>Adaptable, flexible</td>
<td>“You’ve gotta want to, you’ve gotta want to have that change every few years, cos otherwise if you wanna settle down you’re not gonna get that in the Army.” No. 8, serving, Army, Officer</td>
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<tr>
<td>Others</td>
<td>Compassionate but strict, sensitive, trustworthy, positive/optimistic</td>
<td>“I’ve got the balance of um, being strict and compassion, really well – and I think you’ve got to have that because at times you’ve got to say, ‘well actually no, we’re doing it this way and what you’re saying is not going to happen and you need to understand that’, and but you also need to again, be able to explain to them that, you know, it’s a great idea – you’ve obviously thought a lot about it.” No. 75, serving, Army, Officer</td>
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9.2 Integration

Integration arose as a theme in the interviews from the accounts of the daily lives of participants as well as in response to probes asking about whether they felt they behaved differently in the military to outside. Two main sub-themes associated with integration define the two main purposes of integration; fitting in, and getting on/job success. ‘Fitting in’ defines more social aspects of integration, which includes both getting on with peers and supervisors, as well as a more generic type of integration into the military environment. ‘Getting on/job success’ relates partly to career success and mobility, but also simply to being able to do one’s job. As illustrated in Figure 6, p174, both of these types of integration could require, or was perceived to require, certain behavioural adaptations.

For the majority of participants, integration (in terms of both fitting in and getting on), involved cognitive and behavioural adaptations which were classified into three main themes: adopting a military identity; assimilating gendered expectations; and, avoiding negative gender stereotypes. The latter two themes were heavily influenced by concepts about gender norms and fit closely with existing theory and literature about women in male-dominated occupational roles (e.g. Kanter 1977; Ely 1995). The relationship between themes identified in this section is illustrated in Figure 6, p174.
Figure 6 Thematic framework for integration

Integration

Fitting in

Adapting behaviour

Getting on/job success

Contextual influences
- Military vs non-military environment
- Male vs female-dominated vs mixed
- Service branch, cap-badge

Military identity
- Banter
- Having a face that fits

Avoiding negative gender stereotypes/consequences of femininity
- Rejecting femininity
- Dissociating from other women

Masculinity vs femininity
- Adopting ‘male’ traits
- Becoming one of the lads

Assimilating gendered expectations
- Capitalising on femininity
- Demarcating boundaries

Having a face that fits
- Becoming one of the lads
9.3 Adopting a military identity

9.3.1 Having a face that fits

‘Having a face that fits’ was a concept that arose in five interviews; it related to both themes of ‘getting on’, and of ‘fitting in’. When participants were probed as to what this phrase actually meant, they indicated that fitting into the military was partly about whether or not you as an individual fit into schemas about military cultural norms, and partly about whether you as an individual would fit into the immediate social environment. This was not necessarily directly related to being female but in some cases it could be, for example in terms of not being part of the ‘boys club’.

“I think we were kind of all treated similarly, but there was very much a feeling that if your face fitted you were fine and if it didn’t then you would never get anywhere, and my face didn’t fit – which I think is pretty standard across the whole of the Armed Forces to be honest with you, if you’re in you’re in, if you’re not you are not then you are always gonna struggle.” No. 16, left service, Navy, other rank

“I think it’s um, favouritism with, on depending on who your line manager is. If you have a better relationship with them I think it’s easier ...depending on where you work, it’s if your face fits, um, with the hierarchy there...there doesn’t seem to be kind of set, um, kind of set rules for what they want – if they want someone to be promoted or to do a course, so they keep kind of changing the goal posts on that one.” No. 59, serving, Navy, JNCO

The concept of having a face that fits also links to the typology identified in Table 43 (p170), ‘keeping your head down’. Those who are perceived to ask too many questions or question authority would not have a face that fits. Having a face that fits also involves ‘playing the game’; for example, going along with behaviours, vocabulary, or viewpoints that they did not necessarily agree with.

“[A friend of mine] was just sick and tired of having to sit and listen to the foul-mouths and what have you...and I said, ‘do you not think maybe it’s time you complained about it? You shouldn’t have to sit at your desk doing a day’s work listening to that all day long?’, and she said, ‘well what’s the point, as soon as I say something it’ll just be, ‘Oh you’re in the effing Army what do you think?’.” No. 77, left service, Army, JNCO

No clear pattern emerged among those who fit into this theme in terms of the sampling criteria.

9.3.2 Banter

Banter is defined as, “the playful and friendly exchange of teasing remarks”, (www.dictionary.com) or to include more subtle aspects of the term, “[a] supple term
used to describe activities or chat that is playful, intelligent and original. Banter is something you either possess or lack, there is no middle ground. It is also something inherently English, stemming as it does from traditional hi-jinks and tomfoolery of British yesteryear”, or even, “Conversation that is witty and at the same time abusive” (www.urbandictionary.com).

The ability to handle, understand and produce banter was described as a key component of social integration (fitting in). This was also reflected in the identifying characteristics of the typologies outlined in Table 43 (p170). Having a good sense of humour and the ability to give and take banter was identified by 12 participants as a key characteristic suited to the Armed Forces.

“Definitely with the lads...it’s all about the banter, it’s all about the taking the piss out of each other and having a laugh, um – and as long as you’re all on the same wave-length, you know, and no one’s taking it seriously sort of thing...that is really how the military operates.” No. 12, serving, Army, SNCO

In addition, aspects of the ‘robust’ and ‘mental strength’ typology relate to the ability to take banter that to some, particularly outside of the military context, may take personally. For example, being not too sensitive or to take things to heart, robustness/thick-skinned/broad shouldered, and a good self esteem/self worth/self confidence.

“I think that one of the things you need in the Air Force is, you can’t be offended easily – there’s so many people from different backgrounds and different – you know walks of life that if you hear stuff, somebody saying something and get offended – and it really quite – and you go and complain – you’ll probably get bullied for going to complain, so yeah I think not easily offended. You’ve got to be broad shouldered, take things with a pinch of salt I guess.” No. 88, left service, RAF, other rank

9.4 Masculinity vs femininity

Concepts of masculinity and femininity permeated the theme of integration, both in terms of ‘getting on’, and of ‘fitting in’. Three related main sub-themes were identified; adopting masculine traits, avoiding negative gendered stereotypes, and assimilating gendered stereotypes.

9.4.1 Adopting masculine traits

Of 22 participants directly asked if they felt they behaved differently in the military environment, eight women perceived that they did; most commonly adaptations reflected exaggerations of more ‘male’ typed behaviours or stifling of more ‘female’
traits. This theme also arose in five other interviews at different times. In addition, being a tom boy, being able to ‘get stuck in’ and ‘get your hands dirty’, were characteristics mentioned by over half (22/41) participants as outlined in the typologies in Table 43, p170. Three participants also made reference to ‘types of women’, which were defined by their position on the spectrum between masculinity and femininity, and which had implications for fitting in.

“I think there are two sorts of girls in the military, and again this is gonna sound very sort of judgemental, but – you either, you either turn yourself into a bloke to fit in and get on, or you stay who you are but then you don’t always feel like you fit in.”  
No. 22, serving, RAF, Officer

Two sub-categories of the adopting masculine traits theme were identified – becoming one of the lads (such as stepping up banter and minimising some feminine traits) and behaving more agentically (such as acting more confidently, aggressively and authoritatively, or putting up a tougher front). The former was described more commonly by women in lower ranks and/or pertained typically to the theme of ‘fitting in’.

“I almost, like turned into one of the lads…just changed my way of banter really, to interact with them better…I think initially it was sort of, this will make life easier, and then, um – it was just sort of sub-consciously really, it’s like I started and then you don’t think about it anymore and um, like I’ve noticed now I’m working with females and that – I’m not changed, I’m just sort of toned down, I’m back to my normal self.”  
No. 14, serving, Army, JNCO

In contrast, the latter was described more commonly by higher ranked women who described such adaptations as necessary to get on with their jobs and for career success (‘getting on’).

“If you are not one of the boys so you are viewed a bit differently and because you are viewed a bit differently sometimes you are judged a bit differently – be that in a … report or on a course, or whatever.”  
No. 22, Officer, RAF, serving

“You are just a bit more – I call it a bit more man-like (laughs)...you have to be that bit louder, that bit bolshier sort of thing and um, appear really confident, even if you’re not.”  
No. 12, serving, Army, SNCO

Both sub-categories referred to working in predominantly male environments, although women of higher ranks in otherwise mixed environments may work alongside a predominantly male peer group at similar rank levels. Those working in predominantly female environments did not endorse adopting male traits. The interviews indicated that the purpose behind such behavioural adaptations was to avoid negative stereotype expectations associated with female gender.
Avoiding negative gender stereotypes/consequences of femininity

Avoiding negative gender stereotypes explicitly arose in eight interviews, in which participants actively adapted their behaviours in ways that contradicted the actual or anticipated expectations of them associated with their status as women.

Adopting male traits

Adopting male traits was one such way of doing this; described as necessary in a male-dominated environment to avoid the consequences of gendered expectations. These included being undermined, questions about their competence, being seen as weak, losing respect, not fitting in, or not being taken seriously.

“The girls that I was working with on the Army one they all got treated – some of them were really girly, and I think they had a pretty awful time, so...[How would they get treated if they were really girly?]...Well they just – they just get spoken down to, and just a get a rubbish job or something like that – get told to go and do the admin, you know.” No. 61, left service, RAF, JNCO

“One of my friends, who was this woman...she had quite a – you know, feminine, you know, voice, you know that – it was implied that, you know, that she was being looked down upon because she was a feminine person, um – and wasn’t, and because under pressure she was also being sort of her feminine wiles rather than being very militaristic about things, um, you know that was deemed as a weakness and she failed the course.” No. 5, serving, Army, Officer

Women may be fully aware of these adaptations, ‘playing the game’, or less aware, realising only when confronted with a different type of environment.

“I mean there’s a lot of pushy chicks in the Army...I think sometimes...maybe their peers thought they were easy game, one night and then their like, ‘right well I’m not easy game’, and you start to make yourself far more aggressive and pushy, and you know – you sort of change the dynamics of the relat- the working relationship that you have with those around you.” No. 75, serving, Army, Officer

“Quite often you will be working in a very macho, testosterone filled environment where, you know, people are trying to score points and it’s generally the blokes, now you either play that game or you don’t, um, and generally I would play that game, cos you know, from a professional point of view I wouldn’t want to be singled out. But you have to adjust your behaviour in order to seek parity, um, and er also to be respected.” No. 5, serving, Army, Officer

Rejecting femininity

In addition to adopting male traits, another way to avoid negative stereotypes was to actively reject feminine traits, ‘rejecting femininity’ (Figure 6, p174). For example, three women reported actively ‘trying not to be a girl’. Being feminine was seen by some participants as a ‘risk factor’ for inciting and perpetuating prejudicial views, being
associated with weakness, not pulling one’s weight, and with sexuality. Feminine traits and behaviours served to highlight boundaries separating women from men and shifted emphasis away from their work competency. They were seen as representative of gender stereotypes that many wanted to steer away from, not only in order to integrate, but also to ensure that their performance was judged on its merits as opposed to reflecting assumptions about their gender.

Dissociation from other women

A third way to avoid negative stereotypes associated with gender was to dissociate themselves from other women. This sub-theme is of interest because, unlike adopting male traits and rejecting femininity – which were often, if not always, explicitly portrayed – dissociation was implied within their accounts but not explicitly referred to. Specifically, in 15 separate interviews, participants dissociated themselves, or their own behaviour, from one or more of the following: women who they felt cried to avoid discipline; those who played on expectations of physical weakness to get out of physical demands; who played on their sexuality to get out of things or to get what they want; who behaved promiscuously; who did not meet physical standards, or - as seen in the parenthood chapter – who used their children as an excuse to get out of things.

“Well some girls did, like ‘oh they couldn’t carry this’, or – it would be like, flutter their eyelids, a bit to get a bit of extra help, but I just wasn’t one of them. I mean I heard the lads talking about it but um, I think I had a bit more respect from the lads cos I was never a slag or anything like that.” No. 41, left service, Army, other rank

She was the sort... who gives girls in the military a bad name... when she was out running, doing the exercises and running and stuff, she’d be like ‘oh, oh my knees are really bad, oh I can’t run’, you know, ‘I need to be on crutches’, but then in the evening she’d go out, have a few beers, lose the crutches, and seem to be absolutely fine.” No.22, serving, RAF, Officer

In dissociating from these situations, participants often made reference to ‘some’, ‘one or two’, or ‘the sort of’ girl that gave women in the military a bad name. This implies that they themselves generalised, or were concerned that such behaviours would be generalised, to others (including themselves).

9.6 Assimilating gendered expectations

Dissociation from other women therefore implies a degree of assimilation of stereotyped expectations, and/or of an awareness of gender as a status value upon which performance expectations may be made. Other, more disparate, codes were linked together into the theme of assimilating gendered expectations and included: perceptions
that they worked hard ‘for a girl’ (two women); acceding that women could or should not do certain roles (three women); accepting as appropriate that they will be perceived differently to men (two women); and, lastly, monopolising on their feminine status (two women). This last behaviour is notable because it pertained to two women serving in male-dominated environments and directly contradicted the trend in which feminine traits were downplayed or masculine traits emphasised. These women behaved more flirtatiously, and/or allowed the fact that they were female to get their own way, or to obtain things. This illustrates an explicit awareness of the utility of women’s ‘sexual capital’ by men as well as women and may be a way of playing up to a presumed stereotype because it is too much effort or deemed futile to attempt to change how they feel others see them. Alternatively, it could be a compromise between losing credibility and gaining the advantage by ‘playing them at their own game’ to make life easier. The contradictory views of the following participant support both assertions, while on the one hand she knew that using her femininity would make her life easier, on the other she felt angry at men in her unit making comments about other women.

“I mean, the more that you sort of flutter your eyelashes and things like that, the more help that you will get – which just makes your life easier – which I suppose is quite derogatory to females to do that! Um, but, you know, if it’s an easier life it’s an easier life!...the lads in the band will sometimes use that to their advantage – if they need something, they might send a female down to go and get it.” No. 44, serving, Army, other rank

“The way the males shamelessly letch at other women in front of us all...everywhere we go, if you see a particularly obese, ugly or beautiful woman, you will without fail get the blokes staring and making comments of some sort. It is highly embarrassing for us ladies...but it also makes a bad atmosphere” No. 44, serving, Army, other rank

Demarcating boundaries

In four interviews, the need to actively establish boundaries arose. These boundaries referred to clarifying that the nature of their interactions with male peers did not have a sexual undertone.

“You have to kind of keep a real boundary with men in the military...I kind of keep that boundary so that men don’t approach me in that way sort of thing, so – you can be friends with guys, but there’s always that element of, you know, slipperiness.” No. 12, serving, Army, SNCO

Such boundaries may have implications for the availability of social support, if the nature of friendships between genders is questioned –especially if women are also aware of and trying to avoid gendered stereotypes.

“I always particularly got on with one bloke...but the knock-on effect of that is, when you get a girl and a boy who get on well together, rumours start, but then that is part of military life – if you’re
gonna get on with a bloke and you’re a girl, then in the eyes of everyone else you are sleeping together.” No. 98, left service, Army, JNCO

Circumstances which influence whether and how women adapt their behaviour are discussed next.

9.7 Contextual influences on integration

The degree to which women felt integrated into the military was influenced by individual and environmental factors. Individual factors were explored in the typologies above, and include the degree to which women felt their personality fit into the military mould, where they fit on the continuum between masculinity and femininity and whether they could adapt to different environments. Environmental factors include two related main sub-themes; how ‘military’ the environment is, and the gender composition. In addition, another sub-theme relates to a sense of identity related to affiliation with a particular service branch or cap-badge.

9.7.1 ‘Military’ environments

Military environments refer to situations in which the ‘soldier identity’ is salient, when the emphasis is on ‘combat’. It is related to whether or not the situation is male-dominated since military environments are typically male-dominated, but is separate because it refers to role rather than numbers. A combat environment is highly gender-typed, thus when women are in these environments, it is when they occupy the most gender-inappropriate role. Being in a military environment may include being on some types of exercise, on the firing ranges or in the tank park, and in some deployment roles in which individuals may be exposed to combat. The relevance of this circumstance was emphasised by those women who said that they had not changed who they were, but would adapt and behave differently in certain environments.

“I think because my job isn’t um, you know I don’t sit on a tank park all day or I’m not on the ranges, it’s not that type of environment – it’s very much a welfare office environment, so I’d say no I am myself …I don’t feel I need to fit in, that might be different if you put me on the ranges or if you put me in combats on exercise or something though [In what way?]...It’s almost like in that environment there’s a banter, and you have to fit in with the banter, and if you don’t or you’re offended by it, then you don’t fit in.” No. 78, serving, Army, SNCO

9.7.2 Gender composition

A related theme is the gender composition of the working environment, whether or not the role is male-dominated (18/41), female-dominated (13/41), or more mixed (10/41).
When referring to each type of environment (which occurred in various contexts across interviews, in addition to in response to questions asking about whether they worked with mainly men, women or a mixture), positive and negative aspects of each arose.

**Male-dominated environments**

Male-dominated environments often were synonymous with working in or alongside roles that were highly gender-typed, thus any distinction between the influence of gender appropriateness and numerical minority was blurred. Negative aspects of a male-dominated environment (from the accounts of seven women) included it being macho, testosterone-filled, overly competitive, and tough. It negatively impacted the well-being of women in those environments by making them feel isolated, lonely, left out, depressed, that they were made an example of, that they had to keep up to fit in, or that interactions with men had sexual undertones. In contrast, seven different women emphasised positive aspects of a male-dominated environment. In general, the positive aspects of being in a male-dominated environment were that it was preferable to working with women rather than positive for any other reason. Indeed, 14 of 20 participants who expressed a preference to work with either gender said that they got on better with male personnel (none of which mentioned negative aspects of working in a male-dominated environment). They felt that they could adapt to work alongside men or work harder to prove their worth – but that women were bitchy or that they react to attempts to work harder with hostility. Six women felt that men were easier to work with, that they knew where they stood around men but not women, and were in general easier to get on with.

**Female-dominated environments**

Those who worked in female-dominated environments were predominantly in nursing/medical, welfare, or administrative roles, thus these were stereotypically ‘gender appropriate’ workplaces within a male-dominated organisation. Only two of 20 participants who expressed a preference to work with either gender preferred to work with women. Overall, 12 participants from male, female, and mixed environments reported that working alongside women could be a negative experience, describing other female personnel as ‘bitchy’, ‘backstabbing’, ‘cliquey’, ‘competitive’, ‘jealous’ and, ‘hostile to other women’. Nonetheless four women also brought up positive aspects of female company, in particular emotional support availability.
“I think it’s better when it’s more of a mixed environment. I think potentially when all of the girls are together, or there was a lot of girls at X, it can have the potential to become a very bitchy back-stabbing environment yeah! No. 81, serving, RAF, Officer

Female personnel may also be more likely to understand and able to offer emotional support. The most beneficial source of support may be other women in the military who also understand the particulars of the trade or cap badge in which they work, or who work alongside the same people. For some, not only was it beneficial to have women around per se, it was important to have other females around that understood the specifics of their situation. This suggests that women working in environments with none, or only a few, other women may be isolated from effective social support.

“I didn’t have any other girls to talk to – and all the girls are in one particular living quarter, so you can’t talk to other girls down the mess, well you can talk to them about what’s going on, but they don’t understand what you mean, because they don’t live in your work area, you know, they don’t work in the same work area – so they don’t understand what I mean by people like erm, making me feel quite small or fairly unhappy, erm, and – then you try and talk to one of the lads – but then you get accused of being their girlfriend and erm – like oh you fancy somebody... if there was another girl on the ship in my department – it would have been a lot easier to handle.” No. 18, left service, Navy, SNCO

Mixed environments

Mixed gender work environments were typically identified as the most favourable situation, with only positive aspects. Positives of having some women around included the availability of emotional support, and a sense that they balanced the environment.

“When I had a job when it was like 50:50 that was office-based anyway, but everyone was equal and it was really obvious everyone was equal, but my other one when it was mostly guys – it was definitely like a macho environment.” No. 61, left service, RAF, JNCO

“The office now is much easier, because with the other girl there...if you kind of have a bad day, she can see that you are upset and immediately goes, ‘come on, let’s go and have a cup of tea’ – as opposed to blokes, which if you go in and look slightly upset, they all run away to do other things, hide in another office, avoid looking at you ... it’s a much nicer working environment having other females around that you can talk to – and I think it kind of softens the atmosphere as well, there’s less of a, you know, trying to compete with blokes atmosphere.” No. 22, serving, RAF, Officer

The above suggests that female personnel may prefer to be one of a few women rather than surrounded by women, as being in a female-dominated environment or in an environment where there are groups of women may be hostile - while being the only woman can be isolating.

“Especially in a male-dominated environment. It’s always very exciting that there’s a new girl there! Um, and I think sometimes, the ladies that are already there and established, can potentially be
threatened by that – especially if you’ve got a queen bee or somebody around...you’re initial impression of them is, to be quite stand-offish because people seem to be almost threatened that a new girl is coming into the group?” No. 81, serving, RAF, Officer

In contrast, four women were indifferent to the gender composition of the environment, finding that the gender divide was not problematic and that they were able to get on with everybody, all of these fit into the integrator typology.

“It was never really an issue, um where I worked...certainly, the units that I’ve worked in there’s never been any – I’ve never noticed that people got treated any differently, depending on how many women there were – or if they were women I don’t think.” No. 74, left service, Army, Officer

9.7.3 Service branch, cap badge

The importance of other status characteristics to integration was highlighted by three participants who felt that they had been isolated at some times during their career, not just because they were female, but because they did not share the same cap badge as their peers. The additive impact of being different in respect to both factors was a hindrance to integration - an example of occupying multiple disadvantaged social statuses.

“Because they were all Infantry and I’m a clerk, so they kind of – you’re not on the same wavelength work wise, um – so it was really isolating, so I think even if there was a male clerk – if there was another clerk, even if it was a bloke, I would have been happier.” No. 12, serving, Army, SNCO

9.7.4 Summary

This chapter began by identifying core typologies of characteristics that participants rated as suited to the Armed Forces for a woman. Nearly 80% of participants identified mental strength as important – this included self-confidence, being strong-willed, good self-esteem, and generally being ‘mentally strong’. Over half felt that being a ‘tomboy’, or not being overly precious about appearance, getting dirty – and being able to get on well ‘with the lads’, was important. Approximately 40% prescribed the need to be out-going and sociable, and a similar number reported the need to be thick-skinned and broad-shouldered (‘robust’). A third of participants emphasised the need to be able to give and take banter, and to have a good sense of humour, and a third again highlighted physical fitness as important. Over 20% reported the need to be able to keep our head down and not question authority. All these typologies reflect in different ways a need for resilience, strength of character, confidence – as well as flexibility and open-mindedness.
However, in describing how they integrate to fit into the military, and/or embedded in the accounts of everyday life, participants tended to refer to concepts related to masculinity and femininity. The concepts of ‘mental strength’ and so on, were referred to in ways that meant they adopted more ‘masculine’ demeanours in order to avoid the consequences of gendered stereotypes associated with being female. The majority of women felt that they did integrate into the military and did not adapt their behaviour – though this included several caveats according to the circumstances they were in – for example the gender composition of the environment, or whether it was a ‘military’ context or not. A minority felt that they did not fit into the military, that their personality did not ‘fit the mould’. This was not necessarily related to gender, however, and ‘having a face that fits’ may in part depend on the ability to tow the line and become one of the lads. The remaining participants reporting adapting their behaviour to integrate, whether that meant that they consciously adopted a more ‘military’ persona – which was difficult to distinguish from the ‘masculine traits’ they emphasised; or, subconsciously altered their sense of identity to fit in with the prevailing social or work context.

Regardless of whether or not they adapted their behaviour to integrate, participants often seemed to assimilate gendered stereotypes – either by adapting to avoid the negative consequences they expected to be associated with being female – seen as weak, not respected, not taken seriously or undermined – or by dissociating themselves from other women that they perceived to be ‘giving other girls a bad name’. While working in a purely male-dominated environment could be isolating, macho and pressured, working with only other females could bring its own problems. While participants felt able to cope with and adapt to the former, the hostility promoted by the latter seemed less tolerable. In general, a mixed environment was preferable, balancing the pro’s and con’s of either extreme. Nonetheless, there remained individuals who preferred either to be the only woman among men or to work in a female-dominated environment.

In general, women were positive about their experiences, however, problems with integration at times turned into problems with unfair treatment.
9.8 Unfair treatment

Over half (n=24) of participants perceived that they - or women in the military in general - were treated unfairly. Of these, over half (54%) worked in predominantly male, rather than predominantly female (21%) or mixed (25%) environments. In contrast, of the 17 women who did not perceive unfair treatment, the majority (47%) worked in female, rather than male (29%) or mixed (24%) environments. There was a greater proportion of participants who perceived unfair treatment among the deployed than the non-deployed; a greater proportion of those in a relationship and those that had left service that perceived unfair treatment. Similar proportions with and without children reported unfair treatment. Direct (personal) and indirect (generalised) experiences of unfair treatment pertained to two main themes: gender-based and sexual harassment.

9.8.1 Gender-based harassment

As identified in Miller’s (1997) account of active duty women in the US Army, which used data from between 1992 and 1994, the current study participants identified several forms of non-sexual behaviour that aimed to, or had the effect of, excluding women or undermining their position. These behaviours took four related forms; resistance to service, undermining, performance pressures, and bullying. While bullying was typically an easily definable and detectable occurrence (or series of occurrences), the other behaviours were both covertly and overtly manifested. Endorsement of gender harassment arose mainly in response to a specific question asking if participants had an opinion about the experiences of being undermined, not taken seriously, or perceiving the need to work harder, though in several cases these behaviours were described in other areas of the interview.

Resistance to service

Resistance to service represented a reluctance to accept women into the military. It was enacted by predominantly older men, either directly through comments about the acceptability of women, or more indirectly. It was endorsed by over half of the participants and was not linked to a specific interview question. Participants perceived that men who were not used to serving with women were more likely to be resistant to change, while younger generations are less hostile to the inclusion of women in the
military. Others perceived that changing attitudes reflected a sense of resignation rather than acceptance per se.

“Just like little comments and their attitude towards you... that they don’t want you there... they don’t do it in specific, like, sort of bullying ways or anything like that, it’s just a general thing that you get from them.” No. 44, serving, Army, other rank

“Blokes have just kind of resigned themselves to it now, and where there’s enough women, that, um, it’s a visible presence now so I think they are kind of more accepting of it?” No. 16, left service, Navy, other rank

Nevertheless, concern that resistance could be perpetuated through the ranks remained for some participants – particularly with regards to men in male-dominated and male-typed roles, who could be influenced by the views of their superiors.

“The engineering department is such a male-orientated world though, it’s, it’s phenomenal it really is, and some of the younger ones coming in, if they have an old dinosaur as their boss they – it rubs off on them – so they actually start saying, women are useless at sea.” No. 18, left service, Navy, SNCO

Where resistance to service was perceived to directly influence the well-being of individuals, as was the case for two participants, it may be a result of a depletion of the perceived availability of social support and isolation from wider institutional support networks. Working in an environment or alongside others who are resistant to women’s service may also be hypothesised as a chronic stressor that could potentially heighten the salience of other sources of stress. Resistance was reported by women of all ranks, and there appeared to be no pattern according to the purposive sampling criteria.

**Being undermined**

Eleven participants endorsed being, or feeling, undermined at times by male colleagues, and one by a female. This included those from all three the service branches, though typically was referred to by junior non-commissioned officers. Again, no specific pattern was identified according to the purposive sampling criteria – with just under half with children and serving, and just over half in a long term relationship. Undermining behaviours included not obeying orders – or expressing that they would not – from a woman, putting the achievements or opinions of women down, going behind their back to counteract decisions and not working properly with women. Two participants described how they were made to feel like ‘a silly little girl’, or like ‘a hormonal woman’.
“I just had – a couple of instances where male Sergeants would try and put women down in the Army at any given opportunity.” No. 77, left service, Army, JNCO

“When I was with the Army I was just some silly little girl and wasn’t to be listened to.” No. 61, left service, RAF, JNCO

“They would listen to sometimes, a male – and make a decision – maybe the same rank, as a female, and they’d listen to the male instead.” No. 84, left service, Army, SNCO

While the authority associated with greater rank may restrict opportunities to blatantly undermine women, resistance to the authority of women in higher ranks may be particularly detrimental given the salience of rank as an indicator of power.

The mental strength typology outlined in Table 43 (p170) includes characteristics of self-confidence and strong will, which were sometimes referenced as necessary to avoid or to mitigate the impact of undermining attempts. Further, the ‘robust’ typology was cited as important so that experiences such as being undermined are not internalised. These characteristics thus appear as protective against the depletion of resources such as self-esteem and mastery as a result of undermining attempts.

_Differential performance evaluation_

Resistance to women in service and/or undermining behaviours reflect unequal evaluation of women in the military. Exposure to certain types of gender harassment, such as undermining comments like, ‘I would never take orders from a woman’, may cause or confirm suspicion that their performance is being judged differently. Not all participants endorsed such encounters, particularly those of lower rank and in female-dominated environments. Akin to Kanter’s (1977) identification of token responses, many participants nonetheless felt that their visibility as women elicited performance pressures. In this instance, it is not always clear whether such performance pressures are in response to differential evaluation (i.e. clear-cut discrimination); perceived differences based on environmental attitudes towards women; expected differences based on exposure to such attitudes; or, anticipations otherwise based on their own views about gender status.

“The first day that he arrived, I’d been there, what, a good 18 months before he arrived, and on my very - on his very first day he said to me, ‘I have never worked with a good female practice manager’. I thought to myself, ‘Oh my God, this doesn’t bode well does it?’” No. 82, left service, RAF, SNCO
“If you are not one of the boys so you are viewed a bit differently and because you are viewed a bit differently sometimes you are judged a bit differently – be that in a (unclear) report or on a course.”
No. 22, serving, RAF, Officer

“When you arrive in a new unit, a bloke is expected to be competent until he proves otherwise; they will assume that he’s competent unless he does something really stupid. My experience of women turning up is everyone is waiting for them to make a mistake and show that they’re not competent.”
No. 99, serving, Army, Officer

In light of this finding, participant’s views about performance pressures and the perceived need to work harder to prove themselves. Eight participants disagreed with this statement, while the majority (n=22), agreed, including nine who felt they had to prove themselves in terms of fitness. Fitness is an important part of the military culture and social integration; and, as outlined in Table 43 above, was perceived as an integral characteristic for women serving in the Armed Forces by 12 participants. The perceived lack of willing, or ability, of some females to maintain fitness standards pushed other women to try harder to prove that they were not like that. In addition, 16 participants agreed that they felt they had to work harder to prove themselves in terms of work ethic and competency. Working harder reflects a strategy to draw attention towards work capability, as opposed to gender-based status characteristics. It reflected expectations about differential evaluation, as well as experiences of unequal treatment

“I struggled working with the Marines I think, because of their mindset, so I had to try and prove myself ...they wouldn’t really listen even though they took me out for a reason, because I was the specialist in that area, but they wouldn’t listen cos they thought that I was talking rubbish.”
No. 47, serving, Army, JNCO

“I just work harder to make sure that I’m not – you know, the butt of jokes, or seen as the, you know, the dumb blonde or the weaker woman.”
No. 5, serving, Army, Officer

Bullying

Ten participants reported experiencing some form of bullying, of which 70% did not have children, and 70% had left the military. 60% were not in a long term relationship. Four of this ten reported bullying perceived to be related to their gender. Gender-based bullying took verbal, mental, and physical forms; it was a form of intimidation that monopolised upon their minority status in order to exclude them. These participants described a range of consequences, including wanting to leave the military, physical injury, anxiety, depression, and reduced self-esteem.

“He basically fronted right up to me and went to full height, and tried to intimidate me ...I was the only person in that office with him...it was verbal and physical – he was trying to grab me, and basically telling me that he was gonna kick my head in....”
No. 77, left service, Army, JNCO
“I was um physically abused in Germany, and I know of other women who were as well and I just was a bit frightened and ... I got quite depressed ..., just basically it was a lot of bullying - a lot of bullying, and mentally... they made you feel completely and utterly worthless, and you know they would call you names all day – and believe it or not, after so long you start believing it.” No. 4, left service, Army, other rank

The perpetrators of bullying were not necessarily men. Three additional women reported being bullied by their female superiors. They perceived this bullying to be gender-related because it was the result of ‘female jealousy’.

“She suddenly started picking holes in little things that I did...just lots of chipping away really, um – and she didn’t mark me particularly well on my appraisals and things like that ... said I wasn’t fit when I was...I mean ultimately she was just jealous of everything I had...her marriage was crumbling, um, her husband was playing around, and she didn’t have children.” No. 9, left service, Army, JNCO

9.8.2 Sexual-based harassment

The majority of women described instances of inappropriate sexualised behaviours, usually while working in predominantly male environments. The ‘ubiquitous environment of sexualised behaviours’ identified in the tri-service study of UK female personnel outlined in the introduction (Rutherford et al. 2006) is likely to be a reflection of the pervasive culture of banter in the military. The current interviews suggest the finding that only a proportion of those experiencing sexualised behaviours report it to be harassing and/or upsetting relates to the fact that there is a line between acceptable and unacceptable banter.

Banter is a component of military culture that creates and propagates social networks. Understanding, reacting appropriately to, and utilising banter was seen as key to effective integration and acceptance, and was in many situations perceived as enjoyable, part of being in the military, and ‘just a laugh’. It was this understanding that underlined a degree of uncertainty about when it constituted harassment. This blurred boundary led some women to perceive a ‘lose-lose’ situation - having too low a threshold may lead to being perceived as prudish and/or otherwise excluded from the group, while not keeping it in check could lead them open to comments perceived as degrading, hostile or otherwise exclusionary. Banter could cross the boundary into harassment when it was unwelcome, pervasive, and created a hostile environment – including deliberate exclusion. This nearly always had a sexual basis, and emerged in ten of the interviews in various contexts.
“Banter’s been completely over the top at times...some of it goes to the point of bullying...sort of sexual, oh I can’t think of what – like if someone’s says like sexual innuendo’s but they actually mean it as well?” No. 14, serving, Army, JNCO

From a review of literature identifying sexually harassing behaviours, Gruber (1992) defined 11 distinctive typologies of harassment. The types of inappropriate sexualised behaviours identified by participants transpose onto Gruber’s typologies. Unacceptable sexualised banter relates to several of these, including ‘subtle pressures and advances’, ‘sexual categorical remarks’, and ‘personal remarks’, often with blurred boundaries between them.

Other types of sexually harassing behaviours were reported by fourteen participants. These behaviours ranged in severity, from suggestive remarks to assault, and included four participants who had experienced gossip about their sexual behaviours and/or unequal evaluation of their own sexual relationships.

“Yeah well, it would start off with rumours that would get bigger and bigger and bigger. It would be – you’d be made to feel very cheap about it. With a bloke, they’d just be encouraging and say, ‘Oh good for you crack on’, if you were a woman, they would be implying that you were a slag – sometimes quite overtly.” No. 99, serving, Army, Officer

As with banter that went too far and gossip and rumours - other types of harassing behaviours, such as sexual comments (personally directed and referring to women in general), jokes, and use of materials served to exclude and differentiate women from the group. Such ‘boundary heightening’ (Kanter 1977) could serve to create a negative and lonely environment, as illustrated by the following participant.

“All verbal stuff, you know constant picking, making fun and stuff, and all the time ... it was all very sexist conversations...the crew room everywhere was covered in porn and, you know, dirty pictures up on the wall ... I was completely excluded. It was intentional, you know – because I was a female, and because ... they didn’t want me there.” No. 82, left service, RAF, Officer

Six participants described receiving unwanted sexual advances. These included verbal requests and physical attempts at contact. For three women, declining these sexual advances resulted in the onset of defamatory gossip.

“He says something or tries it on, or what have you and she’ll sort of, you know, mug him off... I’ve seen it before where this person reacts and starts calling her a slag...or, making things up, and I’ve seen that quite few times.” No. 14, serving, Army, JNCO

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Sexual advances could be experienced as intimidation. Two women were exposed to sexual postering (Gruber 1992: 452) that took advantage of the power differential between women, either related to differences in physicality or to their minority status.

“We had a Sergeant in charge of us and he had a few too many beers and completely took advantage of having a girl there – he was just like pesting and pesting and pesting... he wouldn’t budge.” No. 98, left service, Army, JNCO

“I was havin’ a shower, well you could call it a shower, you used to make a bag and put holes in the top, and um – one of the Bombardiers come round and stood watchin’ me, and erm he wouldn’t move – and there was nothing I could do about it – there was nowhere I could run.” No. 4, left serving, Army, other rank

This abuse of a power differential spilled over into sexual assault for four women, two of whom reported experiences during training by instructors and two by senior male personnel.

 “[The] Corporal actually came in the room, and spoke to the girls one-by-one, touching them, touching their breasts, and stuff like that... I was scared – so I stayed quiet ...the girls reported it the next day, he was talking to them about – he was touching their thighs, touching their breasts, touching their, um, vaginas and stuff like that.” No. 84, left service, Army, SNCO

This was the only example of assault within the training environment that emerged from the interviews. However, seven participants, when asked about what they thought of the training environment, brought up the issue of consensual sexual relationships between instructors and recruits.

The perception of most of the participants was that instructor-recruit sexual relationships are inappropriate because of the inherent rank-based power differential between them, even if the contact was deemed consensual. The perceptions of individual participants, in which they or their peers accepted (or even welcomed) sexual advances from instructors because of their ‘idolised’ image, or because of fear of not fitting in, were that these pressures were monopolised upon by the instructors. In the US, such ‘constructive force’ has been used as grounds to prosecute instructors under military law (Rosen 2000).

“When I went through basic training...it certainly was commonplace within my platoon...that the training instructors were like slime bags and they would try it on with all the girls ...and obviously when you’re young...you think they are God, you know... I can’t quite explain to you how much you look up to them...the training team...picked amongst themselves which ones they fancied, or which ones they thought were worth a crack at and – yeah, so first they break you all down and then they start being nice to the ones that they like.” No. 12, serving, Army, SNCO
“A lot of women in the Army have a bad reputation for sleeping around...I think so many people just automatically think, ‘oh it’s just because real slappers join the Army’, but I think what it is, is that – it eats away at your self esteem, things that happen to you whilst you are there [basic training], and – as soon as somebody pays you a bit of attention, and says nice things to you – and you feel, you know you feel so vulnerable...and – you want to be one of the girls, I mean when I was in basic training ... I felt left out because I wasn’t sleeping with the Corporals, I felt like, um – a minority...I wanted to be the same as everybody else.” No. 51, left service, Army, other rank

Further, while some did not find the occurrence a problem, others complained that it created a negative atmosphere in terms of favouritism and an unprofessional training environment.

“There’s a favouritism... I think people, you know, the other girls, erm, who say weren’t getting any attention, or whatever, or if they shunned the instructors – they get, they get shat on more basically.” No. 12, serving, Army, SNCO

The so-called ‘paramour’s advantage’ in the workplace exists where consensual superior-subordinate sexual relationships lead to the preferential treatment of the subordinate to the cost of otherwise equal, but non-preferred, co-workers (Gomes et al. 2006). Inconsistency between participants who viewed instructor-recruit relationships as a problem and those that did not may therefore partly depend on whether or not they felt disadvantaged as a result.

9.8.3 Sexual orientation

There may be differences in the integration process for female personnel who are gay. Aside from any potential difficulties that may arise about their sexuality, they also represent an even more extreme minority group. Further, the patterns of male-female interaction in particularly male-dominated environments that may be shaped by culture and traditional gender roles, in many ways may not apply. This could work in their favour, akin to the impact of ‘becoming one of the lads’, or it may work against them because of the alienation from normative patterns of interpersonal male-female interaction. While some participants felt this ‘sub-sub group’ could be quite cliquey and exclude others, others felt that it was not an issue for them at all.

“I think probably just being gay, cos there was um, I think there was about three or four girls who were gay and they had so much stick for being gay in the Army, and especially a woman [laughs] – that went doubly against them...a lot of women weren’t open about it at all...I know one girl who didn’t say anything until she actually left the Army.” No. 4, left service, Army, other rank

“I mean I’m gay myself, and no one really – no one’s really that bothered. In fact I think most of the blokes love it!” No. 50, serving, Army, JNCO
This was not explored in depth during the interviews thus it is unclear whether being gay represents a ‘double jeopardy’ for women or may, on the other hand, raise other unknown factors relevant to integration and adapting behaviours.

9.9 Reporting unfair treatment

The various channels of reporting unfair treatment and complaints procedures available in the military are outlined in Appendix A, p288. A variety of ways to seek support were mentioned by participants including talking to one’s chain of command, the padre, the medical officer, the welfare advisor, the equality and diversity advisor, and even the independent complaints commissioner. As is encouraged by the military, the majority of participants said that they would first go to their chain of command - preferring to deal with things within their unit before reporting their experiences, or putting in a complaint elsewhere. There were mixed views about reporting unfair treatment depending on the type of issue and the perception of barriers to reporting.

Participants were asked if they were aware of a system to, and/or whether they would be willing to, report experiences of unfair treatment. A variety of ways to seek support were identified, including talking to someone in their chain of command, the padre, medical officer, welfare advisor, equality and diversity advisor, or even the independent complaints commissioner. As is encouraged by the military, the majority of participants said that they would first go to their chain of command - preferring to deal with things within their unit before reporting their experiences, or putting in a complaint elsewhere. There were mixed views about reporting unfair treatment depending on the type of issue and the perception of barriers to reporting. Three types of barriers were reported: concerns about the impact on career and reputation; lack of trust in the system in terms of outcome and confidentiality; and, lack of awareness.

“The moment you redress someone that is on your file, thereafter they will be going, ‘Oh she is the sort of person that redresses you’, and unfortunately that sort of thing comes with you, ... I would be very, very nervous of doing it because...I just don’t think you would be able to get on with your career as well.” No. 22, serving, RAF, Officer

“One of the people that you would normally, you know, talk to would be the chaplain on board – but ... I felt that he was um, he had the ear of the Captain so, you know I felt, I felt that I couldn’t say to him what I wanted to say because um, because I didn’t – I didn’t trust him.” No. 17, left service, Navy, Officer
Not wanting to report unfair treatment for fear of an impact on reputation was likened to the characteristic outlined in Table 43 (p170) referring to ‘not questioning authority’. Although separate concepts, both refer to the informal notion of ‘being the grey man’ – not doing anything to make you stand out; this was not necessarily gender-related, rather a characteristic that places the individual second behind the needs of the institution.

Among those who had reported an instance of unfair treatment, some endorsed very positive outcomes, though the majority were more negative.

“She [the equality and diversity advisor] went through it [the complaints process] with me, she was very very supportive, um – and she just kind of talked me through it step-by-step, and gave me the template that I needed to write everything out onto um, you know, she just – she made herself accessible if I needed to go and have a chat with her – so yeah she was very helpful.” No. 59, serving, Navy, JNCO

“I did tell the first Lieutenant, who was like one below the Captain of the ship, and he had another word with the MEO [Military Equal Opportunities] – and the MEO brought me into his cabin, and basically said – you know, ‘I can’t do anything about it, you’re just gonna have to try and get used to it’, and I was like, ‘no chance, I’m not getting used to it – this is the main reason I’m leaving the Navy’.” No. 18, left service, Navy, SNCO

There may also be differences in awareness of sources of support, compared to awareness of avenues for reporting problems or making complaints. It might be expected that those who joined up most recently would be most aware and willing to use the systems available; however, they may also be less experienced and hold a lower rank, thus experience more barriers to reporting. Among participants were those that were aware and willing to use support facilities (n=19); those that were aware but unwilling to use them (n=14); and, those that were unaware of where to get help (n=7). Of those who were unaware of support systems available, the greatest proportion had joined up recently (2003 onwards), followed by those who had joined up the longest time ago (1992 or earlier) and were (or had been) JNCO’s or below. Additionally, among those who were both aware and willing to use support systems, the greatest proportion were Officers and SNCO’s, though there were discrepancies in how aware individuals were, even within ranks and cohorts. This suggests that the increased promotion of support systems may not be permeating evenly throughout the military and a significant number of personnel may not seek help simply because they unaware of when or where to get help. Among those that were aware, the tendency for people to be willing or unwilling to access support, and the types of barriers to seeking support endorsed, did not differ according to length of service.
Some women may feel more positively about the system in place than others; those who worked in welfare or with the equality and diversity system tended to portray the system particularly positively. Positive views were not limited to senior ranks, six junior NCOs also reported feeling happy that they knew where to seek help and would be happy doing so in principle; however, the majority of these had not been in the situation where they would have needed to.

“Having been the person that advises on the system, and also the person that people come to talk to and that I get to investigate, that I’m 100%, I have 100% faith in the Equality and Diversity system, and the zero tolerance policy that the Ministry of Defence have to bullying and harassment – and diversity complaints.” No. 81, serving, RAF, Officer

“No, there is, now there’s more than enough – um, people used to say that if you can’t approach anyone, you know, strictly immediate to you, there’s plenty of people you can always go to...there’s posters up everywhere, it’s always on all the – but yeah there’s plenty of support.” No. 50, serving, Army, JNCO

9.9.1 Changing times

A theme called ‘changing times’ emerged in 15 interviews, which defines their view that the military is a dynamic organisation in which the experiences of women are changing and are likely to continue changing for the better. The proportion of each purposive sampling criteria that endorsed this theme was examined. No pattern was apparent, with between 28-44% of each sampling strata endorsing changing times. Furthermore, it included a similar proportion of those reporting unfair treatment and those that did not – suggesting that their experiences did not preclude their optimism for positive changes in the military with regards to unfair treatment and integration.

The following quotations illustrate the type of information that fit the theme ‘changing times’, which related not just to gender – but other minorities too – indicating their view that younger generations of recruits will have different attitudes due to changes in the attitudes in the general population, and the older generations who may have been socialised into an ‘all male’ environment are gradually phased out.

“I mean you know, the whole sort of women in the Army thing, I think is not really too much of an issue now... that generation’s now getting old and sort of leaving aren’t they and being pushed out, whereas the new generations coming in is a, kind of open – and also the whole sort of, you know, gay and lesbian thing as well is not really too much of an issue because we’re all used to it aren’t we, and all the younger guys are coming through and –erm society sort of accepts it so its sort of been, filtered through in the Army now I think.” No. 8, serving, Army, Officer
“I think they are more open-minded about it, and you know, the fact that there are parents out there, single parents out there that have proved these other people wrong, you know they can get on with their jobs, they can do duties like everybody else, and I think the younger officers and seniors, you know, and the younger soldiers are more adapted to cope with things like that so, or they are more understanding.” No. 3, serving, Army, JNCO

9.9.2 Summary

The experience of perceived unfair treatment can be seen as a failure of social integration, and reciprocally, unfair views and treatment of women in the military have negative implications for integration. Seventeen of 41 interviewees did not feel that they, or other women, were unfairly treated - of which approximately half worked in predominantly female environments. Of those that did experience unfair treatment (n=24), seven types of experience were described. These ranged from low-level daily interactions, such as banter, to extreme cases of sexual assault. Furthermore, some of these experiences were reported by women who had said that they thought women were treated equally.

Many encounters of unfair treatment involved a power differential between the perpetrator and receiver of the behaviour, particularly involving the exploitation of rank. When training instructors have sexual relationships with recruits, the power differential between them takes advantage of young girls (or boys), who may be flattered and made to feel special by feeling ‘selected’ or cared for. This is particularly the case in the context of a challenging training environment in which many recruits may have left home for the first time. Furthermore, it plays on the potency of peer pressure, the need to fit in, and to avoid negative labels. Integration may differ across ages and career stages, and depend on the dimension of integration and/or unfair treatment being considered; for instance, having one’s authority undermined may have a more potent effect at higher echelons of rank.

As with other stressors, the impact on the well-being of those exposed to unfair treatment may be influenced by the availability of support. This includes aspects of the climate of support-seeking, perceived and/or anticipated support, and actual support sought or received. There were mixed views about reporting (positive and negative), regardless of whether participants felt they themselves or women in general were ever unfairly treated in the military. Some of the themes that arose related to barriers to complaining - many of which tied in closely with integration issues. Barriers to seeking support included worries about the impact on their career and their reputation; that it
would be too much of a hassle and may get blown out of proportion; that their grievance would not be kept confidential or that nothing would be done about it; that their chain of command was part of the problem; or, that they were simply unaware of where to go to for help.

Lastly, 15 participants endorsed a theme, ‘changing times’, indicating their opinion that women in the military would become less of an issue as successive cohorts of recruits joined up with more egalitarian views.
Chapter 10 Discussion

10.1 Overview

This thesis represents the most comprehensive examination of the well-being of female personnel in the UK Armed Forces to date. It uses a mixed methods approach to identify the sources of stress to which female personnel may be exposed while serving in the military, and to understand what influence they may have on their health and well-being. The thesis illustrates that female personnel are potentially exposed to multiple sources of stress, including those which may be generalisable to all military personnel as well as more gender specific stressors. Nevertheless, it identifies that service can also bring rewards and positive outcomes for many women in the Armed Forces.

This chapter will briefly re-visit the study aims before discussing the findings in relation to the relevant literature. The strengths and limitations of the research are then examined with respect to their implications for the study results. The implications for the study of women in the military and for future research are then discussed before outlining some recommendations for future work in the area.

10.2 Key findings in relation to research aims

10.2.1 Aim 1

To estimate the prevalence of specific mental and physical health problems such as PTSD and self-reported somatic symptoms among UK female personnel.

- Rates of PTSD among female personnel were low (<5%), There was borderline evidence that they reported more symptoms of PTSD than male personnel overall. This pattern is similar to that seen in the general population, where women report similar levels of PTSD as those in the military, and are more likely to report symptoms of PTSD than men (18-54 years).

- Nearly a quarter of female personnel reached caseness for symptoms of CMD. Among military personnel, this was significantly greater than that for men (approx 1/5 with CMD symptoms). Both men and women in the general population were less likely to reach caseness for symptoms of CMD than those in the military, and unlike among military personnel, the difference between men and women (18-54 years) was not significant.

- Hazardous alcohol use was identified among nearly 40% of female personnel, which was
significantly lower than rates reported for military men - though still more than twice the proportion reported among civilian women (18-54 years).

- Fair or poor self-reported general health was reported by a similar proportion of male and female personnel (~13%). While the values were similar between men and women in the general population, the association among general population men and women (18-54 years) reached borderline significance after adjustment for socio-demographic characteristics.

- The prevalence of multiple physical symptoms among females was similar to that reported by male personnel (~11% vs 10%); however, after adjustment for socio-demographic variables, there was borderline evidence that women reported a greater number of symptoms. No comparable general population data is available.

Key findings relevant to aims two and three are presented separately below but are subsequently discussed and interpreted together in line with the mixed methods approach.

10.2.2 Aim 2

*To quantitatively examine the relationship between work, family, and interpersonal relationship stressors and physical and psychological health outcomes. Protective factors against poor health outcomes, such as social support and valued social networks will also be investigated.*

- No statistical association was found between deployment overall and any mental health outcome except self-reported general health, which was better among women who had been deployed.

- Among deployed females, greater combat exposure and perceived threat to life or of serious injury was in general associated with poorer health outcomes except hazardous alcohol use. Little evidence for a gender difference in the impact of deployment, combat exposure, or perceived threat was found.

- Deployed women were in general positive about leadership and cohesion during deployment; although almost a third did not feel that they could go to someone in their unit with a personal problem. Negative perceptions about leadership and cohesion during deployment were in general associated with a greater prevalence of adverse health outcomes. This did not always reach statistical significance though small numbers limited the power of analyses to detect significant associations.
- Feeling supported by the military post-deployment and feeling able to access post deployment social support was associated with better health outcomes on all measures except alcohol misuse. However, over 36% of females did not feel supported by the military upon return home, half of deployed women did not think people would understand their experiences, and a third did not want to talk to friends or family about their experiences upon return.

- Approximately a third of women reported high levels of demand at work and low levels of work support, while 40% perceived low levels of job control. The former two did not differ by gender, while women were more likely than men to report low levels of job control. Among women, low perceived job control was associated with symptoms of PTSD and CMD; greater work demands and lower work support were additionally associated with multiple physical symptoms.

- Females with children were less likely to report hazardous alcohol use, no other statistical differences in health outcomes were found by parental status overall. When comparing male and female respondents with children, no differences in health outcomes were found, except women were less likely to report hazardous alcohol use.

- A substantial proportion of mothers felt their military career had had a negative impact on their children, though this was similar to those reporting no impact. After adjustment, perceiving that their military career had a negative impact on their children was associated with more symptoms of CMD but fewer symptoms of hazardous alcohol use. Potential reasons for this are discussed.

- Among regulars, no differences in leaving intentions were found by parental status, though differences in reasons for leaving were found. Those with children more commonly reported factors associated with work-interfering-with family and family-interfering-with-work than non-mothers, who were more likely to cite dissatisfaction with the military.

- No differences in perceptions of job demands or work support were found by parental status among women, and mothers were less likely to perceive low levels of job control – even after adjusting for socio-demographic differences.
Aim 3

To qualitatively explore work, family, and interpersonal relationship stressors in detail (e.g. gender discrimination experiences) and their perceived relationship to health using in-depth qualitative interviews among serving and ex-serving women.

- The interviews provided greater insight into how exposure to combat and appraisals of deployment experiences, as well as adverse experiences of leadership and cohesion, may act alone and in combination to influence the adjustment of female personnel.

- Two adjuster typologies were identified; positive/neutral and negative adjusters. Qualitative analyses revealed differences in the types of stressors that the two adjuster types might be exposed to, as well as differences in internal and external resources – including support factors, coping strategies and appraisals – that may moderate the experience of such stressors.

- The interviews suggested reasons why feeling a sense of comradeship may not necessarily translate into social support availability during deployment, but may nonetheless boost resilience. Participants had mixed views on post-deployment support, though those who accessed support in general found it useful.

- Most women without children interviewed would not choose to have children in the military, while those with children identified several factors positively and negatively influencing their decision to remain in the military.

- Participants identified mainly factors in the work domain to influence strain associated with balancing the two roles in both directions, though individual characteristics such as coping behaviours and appraisals also influenced perceived strain. In general, those that received support from their partner or spouse for managing daily childcare, who were higher ranked, in non-deployable roles, or in roles that included routine working hours were most able to balance the two roles.

- Single mothers and or those without family support, those with unpredictable working hours, and those without bosses that understood the challenges of balancing the two roles in general reported the greatest difficulty. The anticipation of deployment away from young children was a significant source of concern.

- Participants identified a culture of stigma towards military mothers that was most prevalent in relation to single mothers. The interviews did not include male participants thus it was unclear the extent to which such stigma is the result of a desire to dissociate from stereotyped expectations of mothers as less committed to their role, or a view held as a result of experienced stigma.
The military lifestyle provides several costs and benefits to a parent. Costs include instability associated with relocations, exercises, and unpredictable working hours; the fear of deployment away from young children and back-to-back tours with military spouses; and, inflexible working arrangements. Benefits mainly revolved around financial capacity and stability associated with a military career that was seen as beneficial over a civilian one.

Integration into the military for women appeared to have two aims; fitting in on a social or interpersonal level, and getting on or capacity for job success. Participants identified several typologies of characteristics that they deemed suitable to the Armed Forces for a woman. The most common typologies reflected a sense of resilience and fortitude – mainly mental, and to a lesser extent, physical.

While the majority of participants felt that they were themselves in the military context, many of these added caveats reflecting contextual circumstances in which they felt a need to adapt their behaviour – either to fit in or get on. A minority felt that they did not fit into the military mould at all – this was not necessarily perceived as related to gender. The remaining participants adapted their behaviour, to various degrees adopting a ‘persona’ or adapting their identity accordingly.

Adaptations and the reasons behind them drew heavily on concepts of masculinity and femininity – the former representing ‘desired’, or essential traits to enable integration of both kinds, and the latter being avoided to prevent experiencing the ‘consequences of femininity’. A minority stood out in contrast to this trend – either emphasising their feminine traits in order to get on, or maintaining their femininity as a matter of principle. In general, however, many felt able to adapt to a male-dominated environment as and when required.

The gender composition of the working environment, the extent to which the environment was ‘militarised’ or not, and other factors such as service branch and cap-badge, all emerged as contextual influences on the experience of integration.

A majority of interviewees (24/41) reported experiencing or perceiving unfair treatment, including instances of sexual assault, sexual harassment, gender harassment, bullying, differential performance evaluation, and resistance to service. A substantial number (17/41) however did not perceive themselves to be unfairly treated.

15 participants, including similar proportions of those that did and did not perceive unfair treatment, endorsed a theme ‘changing times’, suggesting that they felt the military was adapting to the presence of women in the military. They felt that a greater proportion of serving women and their greater involvement in military operations would help to increase acceptance of women – and that by proving they could do the job as well as others, women would command respect in their roles.
These findings are discussed and elaborated upon below in relation to the relevant empirical and theoretical literature.

### 10.3 Prevalence of health outcomes

An overview of the findings relating to the prevalence of health outcomes is presented on p199. The prevalence of hazardous alcohol use was greatest in the youngest age group (<25 years) among both military women and those in the general population. The gap between the two groups was also greatest at the youngest age group (difference of 29.2%), only narrowing slightly in the 25-34 years (difference of 26.4%). The difference between general population and military women dropped in the next two age groups, to only 4.4% in those aged 45-54 years. This suggests that female military personnel in the youngest age groups have a proportionately greater risk of hazardous alcohol use. The finding that women in the military are much more likely to report hazardous alcohol use behaviours has been previously reported by Fear et al. (2007). As alluded to by Fear et al. 2007, younger (and more junior) personnel are likely to be living in military accommodation with highly subsidised rent, food and bill payments. Part of the increase may therefore be related to greater financial capacity to buy alcohol – particularly at a time when many may be leaving home for the first time; and, partly because of the social opportunities afforded by living, working and socialising with their peers. In addition, alcohol consumption is a part of military culture (Fear et al. 2007), and – as illustrated in the findings of the current thesis, younger female personnel may adapt their behaviour to ‘become one of the lads’. As men in general drink more than women, this adaptation may also serve to push up the prevalence of risky alcohol use among female personnel.

The higher prevalence of self-reported symptoms of CMD among military women compared to civilian women is of potential concern. Analysis of the prevalence of symptoms of CMD across age groups suggests this difference particularly relates to those aged 25-44 years. In addition, unlike in the general population, women in the military overall are significantly more likely to report symptoms of CMD than male personnel, even after adjustment for socio-demographic characteristics. When male and female personnel are compared across the age groups, the difference is only significantly different among those aged 25-34 years. One explanation may lie in a
contextual effect - in that other studies examining occupational samples tend to find higher GHQ-12 scores (indicating greater levels of CMD) than those examining general population samples (McManus et al. 1999). This might suggest that individuals may be more likely to report psychological symptoms with reference to work, compared to those responding to non-work-related questionnaires (personal communication\(^1\)). While this would explain the overall higher level of CMD in the military than general population sample, it does not explain why women aged 25-44 years (compared to general population women) and female personnel aged 25-34 years (compared to military men), are more likely to report symptoms of CMD. A comparison of socio-demographic characteristics among this age group by gender revealed no additional differences to those found among male and female personnel overall. In addition, women in this age group were less likely to be deployed and less likely to have a child than men in this age group. The reasons for this difference therefore remain unclear. Speculative reasons from the thesis (both qualitative and quantitative results) include: concerns about delaying childbearing; difficulties managing primary caregiver and work roles at a time when women may have young children (women aged 25-34 years are five times more likely than those under 25 years to have children (see p102); concerns about deploying away from young children (the highest proportion of deployed women were aged 25-29 years). Further work in this area should aim to untangle this association that does not appear to be present in the general population. One possible path for future research that has thus far not been mentioned in this thesis is the issues of intimate partner violence (IPV). Though research in general among military couples is lacking, research in the UK is scarce. IPV has been found to be significantly associated with adverse mental health consequences (e.g. Golding 1999); and, available evidence from the US indicates that IPV may be more prevalent among military couples (Jones 2012).

A significant difference in self-reported general health exists in the general population by gender among those aged 18-54 years, but was not present in the military sample. This is likely to be due to reflect a selective effect due to the standards for health and fitness required of military personnel. Lastly, different measures were used to identify probable PTSD in the current study and the general population sample, thus

\(^1\) Personal communication with Dr Laura Goodwin, King’s Centre for Military Health Research.

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comparisons should be treated with caution. However, in both the military and general population samples, there was borderline evidence that women are more likely to report greater symptoms of PTSD than men. This finding has been previously found in a review by Tolin & Foa (2006), who reported that the greater prevalence of PTSD among women could only be partially accounted for by differences in potentially traumatic events.
10.4 Deployment

10.4.1 Deployment, combat exposure and post-deployment adjustment

The study found no statistical effect of deployment overall on the health of female personnel among those outcomes measured, with the exception of better self–reported general health among deployed women. This is likely to reflect a ‘healthy-warrior’ effect, in that those who are deployed selectively have better health than those who are not (e.g. Wilson et al. 2009). Examination of post-deployment health among UK deployed male and female personnel has previously found little evidence for a health effect of deployment per se, while reservists and combat-deployed have been identified as at greater risk for adverse post-deployment health (Hotopf et al. 2006; Fear et al. 2010). When UK women have been examined separately the data supports that outlined here. Using phase one of the current cohort study, Rona et al. (2006) also found no impact of deployment to the Iraq war among female personnel. On the other hand, qualitative data suggested that relying on the outcome measures alone may mask an effect of deployment on the individual level. While many female interviewees reported little or no negative outcomes from deployment and most reported enjoying their tour, a minority nevertheless reported negative adjustment outcomes that were not included in the survey. Unlike in the UK deployed population overall, the current study found no increase in adverse health outcomes among female reserve personnel. The small numbers of deployed reserves reaching caseness may, however, reduce the generalisability of that result to all deployed reserve female personnel.

While most research examining the impact of combat stressors on well-being focuses on psychiatric symptoms, few data are available to examine the potential physical health consequences of stress among female personnel. Pierce et al. (2011) examined health correlates of deployment stressors (location, combat exposure, and financial strain) among a random stratified sample of US female Air Force personnel (n=1114). They found substantial numbers of physical symptoms were reported more frequently following deployment, in particular, fatigue; muscle pain or stiffness; irritability, and loss of energy. Nearly a third of respondents felt their health had got worse as a result of deployment, while nearly 15% felt their health had improved. Deterioration in health was associated with lower rank and reserve/National Guard status, and parents were more likely to report that their health interfered with social functioning. That study was
useful in highlighting the salience of non-psychological reactions, or possible psychosomatic responses, to deployment, though it is limited in its generalisability to other service branches. While overall this study found deployed women to report better general health, those exposed to higher levels of combat and perceived threat to life or of serious injury were more likely to reach caseness for multiple physical symptoms. Furthermore, exposure to a greater number of ‘trauma to others’ events, but not ‘risk to self’ events, was associated with worse self-reported general health among deployed women. It may be that the ‘trauma to others’ events (such as seeing others wounded or killed and handling bodies) may be more strongly linked to perceived threat to life or serious injury and act as a direct reminder of the outcomes of combat compared to the ‘risk to self’ events.

10.4.2 Comparisons with US data

Due to the similar recent military commitments of the UK and US, and the dominance of US literature in the military health sphere examining women, the findings are compared with US data. However, comparisons with US studies examining post-deployment health among female personnel can be difficult to make due to considerable inconsistencies between measures used, types, and sizes of sample. Variations between studies arise in the following: screening instruments; cut-off values; clinical diagnoses; whether or not the sample is treatment-seeking; geographical coverage; pre/post-deployment measurements; whether or not probability sampling is used; and, post-military follow-up. With these limitations in mind, the most recent US estimates find higher rates of PTSD (8.4%-31.0%) (Owens et al. 2009; Dutra et al. 2011; Haskell et al. 2010; 2011; Maguen et al. 2010; 2012) than those reported in the UK (4.8%). They also report lower rates of alcohol misuse (3.0-5.0% compared to 50.0% in the UK), though the US alcohol data refer to clinical diagnoses and thus are likely to be lower than screening measures (Maguen et al. 2010; 2012). This thesis uses a measure of general psychological distress (the GHQ-12) which, as a construct, is distinct from specific measures of outcomes such as depression and anxiety more commonly measured in US studies, thus the prevalence rates of psychological distress reported here (26.0%) cannot be directly compared with other studies. Recent US studies find depression rates of between 3.3% and 48% among female post-deployment samples (Haskell et al. 2010; 2011; Maguen et al. 2010; 2012). These studies do not make comparisons between deployed and non-deployed women and often utilise treatment-seeking samples. Thus it is unclear what the baseline levels of psychopathology might be. Wells et al. (2010)
used a prospective analysis of non-treatment-seeking personnel deployed to Iraq and Afghanistan as part of the Millennium Cohort Study, to control for baseline levels of depression. They found that deployment was associated with new onset depression among women but that the prevalence was three times greater among those who were exposed to combat during their deployment compared to those who were not (15.0% vs 5.1% respectively).

Consistent with the well-documented effect of combat exposure on post-deployment mental health (e.g. Kessler et al. 1995; Iversen et al. 2008; Fear et al. 2010), the current study found that females who reported the greatest frequency of exposure to combat events were at an increased risk of experiencing symptoms of PTSD, symptoms of common mental disorder, and hazardous alcohol use. With the exception of hazardous alcohol use, an increased frequency of perceived threat to life was additionally associated with reporting of multiple physical symptoms and worse self-reported general health. Furthermore, survey data identified that a notable proportion of deployed women reported difficulties adjusting upon return from deployment (22-29%), and that these variables were significantly associated with measures of both well-being and combat exposure. The finding that greater exposure to combat is associated with poorer post-deployment adjustment is well documented among all, or predominantly, male samples (e.g. Hoge et al. 2006; Fear et al. 2010). In addition, similar patterns of post-deployment adjustment have been reported among men and women exposed to similar levels of combat among both UK and US samples (Woodhead et al. 2012; Maguen et al. 2012).

The finding that experiencing a perceived threat to life or of serious injury is associated with adverse mental health is supported by research examining both civilian (Ozer et al. 2003) and military (Iversen et al. 2008; Mulligan et al. 2010; Vogt et al. 2011) populations. Iversen et al. (2008) examined regular personnel deployed to the first phase of the Iraq war and found that perceived threat to life demonstrated a strong association with PTSD symptoms after controlling for ‘risk to self’ combat events. Similarly, the current study found that while both perceived threat to life and exposure to ‘risk to self’ events were associated with symptoms of PTSD, the former was additionally associated with all other outcomes except for hazardous alcohol use. As put forward by Iversen et al. (2008), these findings are in line with previous research suggesting that subjective,
rather than objective, appraisals of trauma are more relevant to adverse health outcomes (Ehlers & Clark 2000).

The qualitative data supported and extended these findings, revealing that those who did have difficulties adjusting upon return from deployment reported a range of experiences which were influenced by many inter-dependent factors. These included, but were not limited to, combat exposure; institutional and interpersonal support factors during and after deployment; and, individual characteristics. For instance, the cumulative impact of exposure to combat in addition to interpersonal stressors may exacerbate any psychosocial consequences. In line with the findings relating to the importance of perceived threat, interviews suggested that such interpersonal problems may increase the potency of combat events, but may also act in other ways to change the way in which the experiences are appraised. Pietrzak et al. (2010) found evidence to support the hypothesis that resilience, unit support during deployment, and post-deployment support act as psychosocial buffers against PTSD and symptoms of depression. Path analyses suggested that the relationship between unit support and post-deployment mental health were fully mediated by resilience. They proposed that unit support may increase resilience by increasing feelings of control and self efficacy, and that this would promote the use of active coping and positive appraisals. Prior qualitative research examining these issues is not available to disentangle how support may increase resilience.

10.4.3 Non-combat-related stressors

Separation from children
As referred to in chapter three, studies of post-deployment health usually focus on combat exposure as the source of deployment stress, which may omit other contextual factors important to well-being. One such stressor is separation from family and children. Quantitative studies investigating the impact of deployment on the well-being of mothers are limited, and the survey data available for this thesis did not include a sufficient number of mothers who had been deployed to examine their post-deployment outcomes quantitatively. The qualitative data suggested that among parents and non-parents alike, the prospect of deploying away from their children was a major source of stress and a potent reason for leaving the military. Counter to this, was that all interviewees who had deployed as mothers reported the experience to have been manageable. There may therefore be an experiential difference between anticipated and
actual separation. One possible reason is that those mothers who had been deployed had children who were slightly older (five or more years), thus concerns about missing out on important development stages and/or guilt at leaving a younger, more dependent child may have been less salient. Furthermore, those who had been deployed reported having solid family/partner support they could rely on to care for their child while they were away, which may have ameliorated their concerns.

That anticipation of, rather than actual, deployment might have a greater impact on the well-being of female personnel - and that females may be more affected by concerns about deployment than men, is supported by prior research. Concerns about life and family function during deployment were found to have a stronger relationship with depression and PTSD for women than men prior to deployment (Carter-Visscher et al. 2010); and, anticipated deployment was not associated with intentions to leave among a sample of US Air Force mothers who had already deployed (Pierce 1998). In a sample of Navy mothers, Kelley et al. (1994) reported that parents who had deployed experienced less parenting stress than those that were anticipating deployment.

For mothers, confidence in childcare provision and difficulties reintegrating into the motherhood role following deployment, have been identified as potential stressors among US female personnel (Mattocks et al. 2012). The women in the current study who had deployed as mothers did not report any problems reintegrating with their children on return from deployment, which may in part reflect the considerably longer length of time spent deployed among the US sample (up to two years). In a qualitative study of Australian Defence Force (ADF) female personnel, Feldman & Hanlon (2011) identified that separation from family was a significant source of anxiety, particularly in terms of adequate childcare provision. As in the current study, some interviewees felt there were gender differences in the burden of deploying. The male counterparts of ADF women more commonly had civilian wives to stay at home, while they often had primary responsibility for childcare - and/or military partners who themselves were eligible for deployment. ADF mothers felt most stress arising from accusations that they were abandoning their child or placing a burden on the caregivers left behind, which led to feelings of guilt and uncertainties about priorities. These sentiments most closely relate to those put forward in the current interviews, both by non-mothers who felt that it was ‘not right’ to leave children and mothers who felt that their priorities in relation to deployment were different having had a child. An extension of the current findings was
that the ADF sample often reported the additional burden of care for elderly relatives to consider. This was not identified as an issue in the current study, but it may be a consideration particularly among older personnel who could face the dual burden of responsibility for care of their children and parents.

Sexual-harassment

Other stressors that female personnel may be exposed to while on deployment include sexual and gender-based harassment. Little research is available to quantitatively determine how common such experiences occur while women are on deployment. The US Workplace and Gender Relations Survey of Active Duty Members (Lipari et al. 2008; Rock et al. 2010) find that 25% of women who endorsed experiencing unwanted sexual contact and 29% of those experiencing sexist behaviours (verbal/non-verbal behaviours conveying insulting, offensive, or condescending attitudes based on gender), reported that these events occurred during deployment. Such stressors were not examined quantitatively in the current study as they were not included in the survey questionnaire. Among interviewees, three women reported upsetting experiences related to sexual and gender-based harassment during deployment, though it was not possible to gauge how common such experiences might be. US research examining the impact of deployment-related sexual harassment/trauma finds it to be independently associated with post-deployment PTSD after accounting for other childhood and adult trauma (Luterek et al. 2011); with post-deployment physical health problems (Smith et al. 2011); and, with maladaptive coping strategies (Mattocks et al. 2012). It is unknown whether UK female personnel face a similar threat during deployment and if so, to what extent and what impact this has on their well-being.

Unit cohesion and leadership

In addition to sexual and gender-based interpersonal stressors, those relating to issues such as a perceived lack of peer cohesion and/or peer or supervisor support have been identified as predictors of post-deployment ill health among female personnel (e.g. Pietrzak et al. 2010; Dickstein et al. 2010; Nayback-Beebe & Yoder 2011). The current study supports and extends those findings; support (unit and supervisor) was described as both a stressor and a protective factor. Survey data revealed that negative experiences with leadership and unit cohesion were reported by a substantial proportion of female personnel, while evidence from both quantitative and qualitative data found that these may be significantly associated with well-being. A lack of unit support could influence
the well-being of both men and women. Nevertheless, some females - especially if deployed with a majority male group - may feel particularly isolated from support. Jones et al. (2012) examined the experiences of leadership, cohesion, and morale among UK personnel during deployment to Afghanistan. They found that positive responses to all three measures were associated with both lower levels of probable PTSD and symptoms of CMD. The authors conclude that good leadership is an important factor influencing mental health and that modifying the behaviour of leaders may positively influence both cohesion and morale. The current study supports these sentiments and extends their findings to relate them to support-seeking behaviour. The impact of integration problems, such as a perceived need to prove one's capability and being undermined, was described by some participants as stressors during deployment. These are discussed further in the ‘interpersonal stress and integration’ section of the discussion.

10.4.4 Support and help-seeking

During deployment
Help and/or support-seeking during and after deployment involved peers, leaders, family, and the military ‘system’, including many barriers to seeking support. The majority of participants did not perceive a need to seek help and/or that being part of a close military team with a coherent goal provided sufficient support. Interviewees who felt excluded from their unit members, isolated from female company, or who felt unsupported by their leaders, were the least likely to seek support. Barriers to seeking support from military sources included worries that nothing would be done or that it would make things worse; that the chain of command was part of the problem; that they would be labelled a trouble-maker; or, that they would no longer be allowed to carry on with their role. Many of the concerns about seeking help for stress-related concerns were also relevant to seeking help or making complaints about perceived unfair treatment. Participants identified a need to postpone help-seeking while they were in theatre because there was a job to do which they need to get on with. Wright et al. (2009) explored the relationship between leadership and unit cohesion on mental health stigma and barriers to care among combat support and combat soldiers three months post-deployment, of which 118 (17.4%) were female. They found that Officer leadership and unit cohesion were associated with lower levels of stigma and perceived barriers to care, regardless of mental health status. Leadership and cohesion had both
independent and multiplicative effects on stigma and barriers to care for mental health problems.

Barriers to accessing support from peers identified in the current study included a perceived need to put up a front, physical isolation due to separate accommodation and behavioural exclusion for some in all-male environments. In a qualitative study of 56 female Australian Defence Force (ADF) personnel, Feldman & Hanlon (2011) reported that women who felt pressured to prove their legitimacy in a male-dominant environment were often hesitant to talk to peers about their deployment experiences or to seek help if they needed it because of fears they would be seen as weak. This resonates with some of the interviews, in which women in particularly male-typed roles/environments felt pressure to prove themselves against the implicit assumption (perceived or real) that they would be a liability, and as such, showing any kind of weakness would undermine these attempts. Stigma in the military may be particularly pertinent during deployment because of the requirement and expectation that personnel are consistently able to perform at a high level of readiness, upon which the performance and safety of the unit depend. There may be a perception therefore that those who show a need for support are showing weakness and impaired readiness (Wright et al. 2009). Whether this stigma is external (from peers or leaders) - or internal (akin to the concept of ‘self-stigma’ (Corrigan & Watson 2002; Corrigan et al. 2006), women may feel particularly sensitive to such perceptions if they already feel more pressure to prove their competency and work ethic.

Participants in the current study were often reticent to seek support from family members due to not wanting to worry them; being restricted in what they could say for security reasons; wanting to keep contact with family as ‘normal as possible’; and, assumptions that they would not understand. In the main, participants did not identify family as a source of support for deployment-related stressors. Most participants felt that they had adequate opportunity to contact home, while some viewed it as disruptive - reminding them on what they were missing out on. Other research examining the impact of contact with home during deployment is limited. Ferrier-Auerbach et al. (2010) report that inadequate (too little/unpleasant) contact with home was a significant risk factor for emotional distress during deployment among a sample of National Guard soldiers, though the results were not presented separately for women.
Post-deployment

Despite the reticence to identify family members as sources of support among interviewees, quantitative analyses suggested that those who did feel able to talk to family/friends about their experiences following deployment, or that they understood what they had been through, were significantly less likely to be identified with all outcomes except hazardous alcohol use. While the direction of causation cannot be affirmed due to the cross-sectional nature of the data (i.e. those experiencing problems post-deployment may be more likely to endorse negative experiences), these findings suggest that there is better post-deployment health among those reporting greater post-deployment support. The importance of post-deployment support to the well-being of personnel post-deployment has also been documented in other studies (Pietrzak & Southwick 2011; Harvey et al. 2011). In Harvey et al. (2011), comparisons of UK regulars and reserve personnel found that reserves reported lower levels of post-deployment military and social support, and that lower levels of support were associated with poorer mental health outcomes. The authors postulated that these factors reflected a deficiency in the social networks of reserve personnel compared to regulars, and that this might influence well-being though any of the pathways identified in Berkman et al.’s. (2000) model of social networks, social integration, and health (as described in chapter three).

Barriers to formal support-seeking after deployment included a lack of awareness that they needed help or where to go to get help, which may be surprising given the publicity given to support services in the military. These barriers included attitudinal and stigma-related concerns, as well as practical barriers to treatment-seeking. The former reflect stigma-related barriers identified in the literature (e.g. Kim et al. 2011) and included concerns that help-seeking might harm their career, cause them to be treated differently, or be viewed as weak. The latter practical barriers (such as where to get help) have been identified in both civilian (Kessler et al. 2001) and military studies (Wright et al. 2009; Kim et al. 2011), and reflect more organisational problems. While decompression (a short period spent in Cyprus following deployment) and receipt of a homecoming brief are not mandatory aspects of post-deployment for all personnel, many participants felt they would have benefitted from such interventions. As with post-deployment social support from family and friends, post-deployment support from the military (in terms of feeling well supported by the military and going through decompression) was also found to be associated with well-being.
10.4.5 Coping behaviours

Empirical examination of the coping behaviours of female personnel in response to deployment-related stressors is limited. Qualitative data from US VA treatment-seeking female veterans revealed a range of coping mechanisms, including behavioural avoidance strategies such as eating/purging; prescription drug use and over-exercise; cognitive avoidance strategies such as isolation; as well as more positive behavioural approaches - such as (not excessive) exercise, yoga, and talking to friends (Mattocks et al. 2012). This study did not have data available to measure coping mechanisms quantitatively, though the interviews identified some different strategies utilised by female personnel during and after deployment. Alcohol misuse and isolation/withdrawal were behavioural avoidance coping strategies employed by some women. More adaptive behavioural coping mechanisms were also identified, including the use of exercise, talking to peers, and watching DVDs/ listening to music. As identified in chapter five, those who reported more positive adjustment experiences also endorsed more positive coping strategies and vice versa for those reporting more negative adjustment experiences. Pietrzak & Southwick (2011) found that among a sample of 167 US OIF/OEF treatment-seeking veterans, avoidance coping strategies (such as not talking to family/friends about their problems) and negative thought control strategies (such as dwelling on worries, self-punishment, and comparing oneself with others) were associated with being identified with PTSD. They suggested that these findings supported cognitive models indicating that such coping strategies reduced the cognitive flexibility required for adaptive recovery. Coping behaviours are further discussed in section 10.11, ‘overarching themes’.

10.5 Parenthood

10.5.1 Parenthood, well-being, and the decision to leave the military

The qualitative and quantitative findings were in many ways contradictory in relation to parenthood. No statistical association between parenthood and mental health outcomes were identified in the current study and no differences in career intentions were found between mothers and non-mothers who were still serving. While the survey data suggested family commitments were implicated in the decision to leave the military, no differences in outcomes were identified among mothers who were serving and those who had left the military. These findings do not preclude the possibility that balancing parenthood and a military career influences other aspects of well-being, nor that the
decision to leave is unrelated to (anticipated or felt) strain associated with the interplay of the two roles. This is because a) for those that have left the military, any strains may have dissipated once the source of stress had been removed, i.e. upon leaving; b) those who stay in the military may perceive lower incompatibility and/or strain associated with balancing the roles due to other unmeasured factors; and, c) the measures of well-being used in the survey data may not adequately capture the experiences of female personnel with children. Women with children did not endorse greater job demands or lower job control than those without, and were more likely to report a greater sense of control in their job. This suggests that the perception of demands from the work environment were not greater among women. The survey did not include items to allow examination of perceived family demands, nor measurement of conflict between the two roles. The interviews suggested that any strain may arise from problems fitting their childcare around working hours, worries about deployment, and perceived stigma. These issues were not covered by the questionnaire, however, the lack of difference in health outcomes overall between women with and without children suggests that any conflict may not lead to an increased risk of poor health among women overall. Other research examining antecedents and consequences of conflict between work and family domains have included outcomes relating to subjective well-being, such as satisfaction with life, family and work, positive affect, and emotional exhaustion. No data was available to compare such outcomes by parental status.

The decision about whether to remain in employment, and the experience of conflict between the work and family domains, is not unique to women in the military environment. The interviews suggested that for some women, individual preferences and changes in priorities both anticipate (among non-mothers) and predict (among mothers) the decision to leave. This was partly connected to a desire to provide stability for their children, concerns about deploying away from them, and assumptions that they would not want to, or be able to, put the expectations of the military ahead of their expectations of themselves as a mother. Such individual propensities have been identified elsewhere. In an analysis of the fifth round of longitudinal employment data from the UK 1958 cohort National Child Development Study, Dex et al. (1998) report that continuity of employment following childbirth was associated with high educational attainment and high wage. Yet, even after adjusting for an extensive range of covariates, unobserved heterogeneity accounted for a significant amount of variance.
in employment. The authors suggested that this indicated the importance of individual factors/preferences in the propensity to remain in work.

The interviews identified that some mothers may feel unsupported by the military, perceive stigma associated with being a mother, and feel let down by perceived double standards in expectations. Previous research has shown unit leader support to ameliorate the negative impact of work-family conflict on family functioning among a sample of US Army personnel (Bowen 1998). Similarly, supervisor support (but not co-worker support) has been found to be associated with reduced role overload, role ambiguity, and in turn, emotional exhaustion, among a UK sample of policewomen (Thompson et al. 2005).

In contrast, the survey data suggested that (serving regular) mothers were approximately twice as likely to report that the people they work with were helpful in getting their work done, that they had a lot of say about what happens on the job, and that they had the freedom to decide how they worked than (serving regular) non-mothers. Rank and to a greater extent, age, attenuated the strength of the association but they remained significant when adjusting for both factors in addition to marital status. There was no significant difference in the proportion of mothers and non-mothers who reported experiencing hostility or conflict from their supervisors, who felt that the people they worked with were friendly, or who thought that their boss/supervisor were helpful in getting the job done.

This apparent contradiction between qualitative and quantitative findings may partly reflect the self-selecting nature of the qualitative sample, in that those with particular problems or with something they want to share about their experiences may be more likely to respond to a request to being interviewed. Indeed, some participants were selected because they had indicated perceived problems with balancing military and family roles. Also, the survey questions were not framed as pertaining to children and were only asked of women who were still serving; those who had left service might have different views or experiences about their supervisors and people they work with. In addition, mothers who have had positive experiences may be likely to rate these aspects more highly because they may be more noticeable or meaningful to them than to non-mothers. In any case, the difficulties of balancing the two roles identified in the
interviews are important given the impact on operational effectiveness that may occur through not retaining personnel who want to have, or already have had, children.

10.5.2 Work-family conflict

Consistent with previous research, the interviewees most commonly discussed work interfering with family roles as opposed to vice versa; that work factors contributed more strongly to conflict arising from work-interfering-with-family than family factors; and, that some family factors could contribute both to conflict arising from family-interfering-with-work and to work-interfering-with-family (e.g. Byron et al. 2005; Fox et al. 2011). In a meta-analysis of work-family conflict (WFC) studies, Byron et al. (2005) report that women may benefit more than men from protective attributes such as flexible working schedules and family support, factors identified as important consistently across interviews. Other considerations included support from partners, friends, and work (including both institutional and interpersonal support from supervisors); rank; job type/patterns of work and workload; age and number of children; and, individual characteristics (personal principles and coping styles). Such individual variables were also identified in the study by Byron et al. (2005), who found that those with better time management skills and active coping styles tended to report less WFC.

Among interviewees, WFC manifested as time-based and strain-based conflict. The demands of the military lifestyle, particularly for those anticipating deployment and those working long or irregular working hours, impacted upon time spent in the family role. Similarly (but to a lesser extent), their parental roles induced difficulties for some in devoting the required time to their military roles. Strain-based conflict was also bi-directional, particularly for those caring for young children and/or with physically and psychologically demanding work roles. This supports a non-linear model of stressor-strain relations between job demands, WFC, and strain (Hall et al. 2010) - in that job demands appeared to influence strain via their impact on WFC, but also to influence WFC via an impact on perceived strain.

Nevertheless, the survey data revealed that although a greater proportion of (serving, regular) mothers reported having excessive work to do, this difference did not reach statistical significance. There was also no difference in the proportion of mothers and non-mothers who reported having to work very hard. Conclusions cannot be drawn from this alone however, since these variables are potential antecedents of WFC in the
work domain and do not measure conflict or strain arising from WFC themselves. They also only measure a limited subset of potential antecedents of WFC in the work domain, omitting other issues raised in the interviews such as working hours, flexibility of schedules, anticipation of deployment, and so on. Furthermore, in line with the interviews and with the literature (Byron et al. 2005), family demands reflected in variables, such as age of youngest child, spousal employment, marital status, and number of children, could be as strongly related to work-interfering-with-family conflict as vice versa. In other words, as proposed by Byron et al. (2005), and corroborated in the interviews - but not apparent from the measures used in the survey data - family demands could lead to conflict arising from family-interfering-with-work demands and from work interfering with the (relatively greater) family demands.

Research suggests that despite a narrowing gender gap in the burden of household and parental responsibility, women remain primarily responsible for both child-caring and household labour. This may be due to time availability (impacted by marital, parental, and employment status), differential resource availability (income and education), and differential gender ideology (Bianchi et al. 2000). Interview participants with partners who took equal responsibility for childcare were most likely to remain in the services; though the instability associated with military life could still be an overriding factor in the decision whether or not to remain in service. Furthermore, participants identified single mothers and more junior personnel with children as particularly vulnerable to stress and stress-related outcomes; but, due to small numbers the survey data did not allow for an examination of sub-groups who may be at greater risk for parenthood-related strain in the military.

10.5.3 Single parenthood

The military is an organisation which upholds traditional standards. Marriage and family formation are rewarded with benefits that unmarried parents and cohabiting parents are not eligible for. The interviews suggested that single mothers represented a kind of ‘triple deviant’, being women, mothers, and unmarried. Nationally representative survey data from Denmark (Bull & Mittelmark 2009), Australia (Crosier et al. 2007), and the UK (Targosz et al. 2003) routinely find lone mothers to be at increased risk of mental health problems than partnered mothers or women without children. In the main, this increase is accounted for by measures of financial hardship and lack of social support. As borne out by the qualitative data, military single mothers
may be in a better financial position than civilian single mothers. This is due to subsidised housing and childcare, medical care and schooling, job stability, and stable income. In contrast, single mothers may be less able to rely on family support as a result of relocating away from their home area and, as discussed below, may perceive less social support from work due to their parenthood status. Tucker & Kelley (2009) examined the influence of life stressors and various measures of social support on depression and anxiety symptoms among a small sample (n=50) of US Navy single mothers. They found that lack of support from friends and negative life events were significant predictors of depression, while lack of support at work and negative life events significantly predicted anxiety. Although based on a small non-representative sample, these findings help emphasise the salience of support to single mothers in the military.

Many participants felt that motherhood could be stigmatised as a consequence of compromises that might be made in terms of military commitments and the perception that they might shirk duties or deployment, be unreliable, or inflexible. Single mothers perceived themselves to be judged particularly harshly in this respect, and this was upheld by the critical opinions of some other women. Further, some women felt unfairly treated or the need to prove themselves due to their parent status, but not due their gender.

10.5.4 Stigma and motherhood

Together, these findings suggest that there may be a combination of characteristics that cause some women with children to feel devalued in the military: being a primary caregiver; being a woman; and for single parents, not adhering to the traditional family model. On one hand, being a mother could act to highlight the divisions between genders; as they are generally the primary caregivers, motherhood could be seen to represent the epitome of ‘what it is to be female’ - thus discriminatory views and behaviours could act as a kind of extreme gender bias. On the other hand, there may be stigma attached to the role of mother (or primary caregiver) itself, independent of gender. Ridgeway & Correll (2004) argue that motherhood is a status characteristic independent of gender, i.e. that shared cultural norms dictate that non-mothers have greater status and expected competence than mothers. Such norms create stereotypes subsequently attached to mothers in general, which in turn affects task-oriented behaviours and evaluations of others and of mothers themselves. They argue that the
effects of motherhood as a status characteristic will be greatest when the characteristics associated with mother are significant to the task and that multiple status characteristics can combine to form a kind of weighted expectation of an individual’s performance. This is translatable to the military setting, where the cultural values of nurturance may be in opposition to the values of strength and aggression traditionally linked with soldiering. Further, as indicated by the interviews, rank as a status characteristic can combine with, and moderate, the negative characteristics associated with gender. Since rank is the most prominent hierarchical discriminator in the military, it may outweigh gender and motherhood.

While findings from the current study fit may such a theory for a proportion of military women, the interviews suggest that even those who work in environments where traditionally male traits, such as strength and aggression, are not significant to their job task (such as medics or those in administrative roles), may still face an antagonistic work climate as a mother. Furthermore, the interviews suggested that rank was ‘protective’ for most mothers, but not all. In these circumstances the source of antagonism may nonetheless be informed by Ridgeway & Correll’s (2004) description of motherhood as a status characteristic. They argue that mothers will be expected to be less competent at their work roles due to reduced effort and reduced ability. This is based on the conflicting expectations of ‘good mothers’, who are always there for and available to their children, and ‘good workers’ who are always there for their employers. This extends Segal’s (1986) description of the military and the family as ‘greedy institutions’ and places it within the framework of expectation states theory (Berger et al. 1977). In other words, motherhood may be particularly pertinent in the military context, due to the strong demands and expectations of military personnel for commitment, time, and energy - which run counter to the expectations of primary caregiver. As in the interviews, where women expressed scorn at mothers who ‘shirked duties’, or did less work, or felt pressure to prove that they ‘were not like mothers who did’; it may be expected that mothers will put in less effort to their work in an environment where work ethic is an important characteristic. Mothers who have adapted their working hours to fit around childcare, left early or taken time off for a sick child, or left a vacant post during their maternity leave, may be viewed with scepticism and hostility. Further, their own beliefs that the role of motherhood is incompatible with military service cause many to leave the military. Such a negative work climate may contribute to social or interpersonal stress over and above the actual stress associated
with balancing work and family roles. Hoobler et al. (2010) carried out a meta-analysis of studies of WFC, finding that it may impact career prospects via reduced performance perceived via both supervisors and self-evaluation. This is of interest since one of the negative attitudes towards flexible working arrangements (FWA) identified by personnel was the potential impact on career prospects that taking up FWA might have.

10.5.5 Non-standard working hours

Unlike civilian employees who are backed up by legislative rights to non-standard working hours, military personnel rely on the discretion of individual bosses to permit flexibility. Since personnel tend to be relocated every couple of years and will have many different bosses during the course of their career, this variability added to ill feeling and confusion. Therefore while the requirement for childcare and flexibility remains relatively constant for a parent, particularly a primary caregiver, the flexibility offered varies with different superiors. Although Commanding Officers/line managers are encouraged to be consistent in their judgements, participants reported that they experienced varied degrees of support which could - in their view - be influenced by personality, the bosses own parental status, understanding, and personal opinions.

As part of an investigation into how to formalise arrangements for flexibility, a study was carried out on behalf of the Deputy Chief of Defence Staff (personnel) into FWA (Dietmann & Brown 2008). The findings are limited by a low response rate (35%) but suggest that a majority of personnel were unsatisfied with provisions for FWA; childcare and family factors were the most common sources of a desire for FWA; there was limited awareness of the options available to them; and, there was a large discrepancy between desired and requested FWA. Women more commonly expressed a desire for variable start/finish times, part time working/reduced hours or job sharing than men, with similar proportions of male and female personnel desiring other forms of FWA. This indicates that female personnel may be more likely to require time to perform extra duties, in particular childcare, than male personnel. Indeed, significantly more women reported wanting FWA for childcare needs but significantly fewer reported wanting FWA to spend more time with their families than men. Furthermore, a greater proportion of personnel leaving the services reported a desire for some form of FWA, suggesting that offering FWA could be important for personnel retention.
The study also revealed negative attitudes towards FWA despite a considerable level of desire for it. This resonates with qualitative findings from this thesis which indicate perceived and expressed stigma towards mothers in the military. The most common negative view was a perception that FWA would allow a person to shirk their responsibilities, identified in the interviews as a particularly sensitive issue. In addition, women were more likely than men to report not feeling confident enough to ask for FWA and worry that asking would impact their career/promotion prospects. Negative views of FWA among respondents (male and female) were also listed as reasons not to request it. This supports the current findings with regard to the interplay between perceived support, the desire to leave the services, and ease of balancing work and family requirements. Only 9% of personnel felt they should have access to FWA, including significantly fewer women than men, despite their greater desire for it. Furthermore, significantly more women thought FWA allowed people to shirk their responsibilities. This is an interesting finding in light of a) the fact that many FWA options involve a redistribution of hours worked rather than a reduction; and, b) the interview data, which suggested that many women had negative views of other mothers - reflecting a kind of ‘self-stereotyping’, prompting them to distance themselves from ‘other women’. They may be distancing themselves from the characteristics associated with motherhood as a status characteristic, or attempting to validate their own work ethic credentials by being tougher on other women than men; pre-empting expected perceptions of women by being the first to depreciate them.

These data partially support the assertion that negative attitudes towards women with children may be at least partially associated with parenthood rather than gender per se, but that shared perceptions of differential role requirements of mothers and fathers genderise these views. The importance attached to hard work, commitment to the military, and that everyone should have to ‘suffer’ the same as everyone else, means that any deviation from this can be strongly stigmatised. This resembles the concept of ‘Queen Bee’ syndrome, in which senior women in male-dominated organisations are posited to achieve career success by distancing themselves from other women. ‘Queen Bee’ responses are proposed to include masculine self-descriptions, denial of discrimination and distancing from other women (e.g. Derks et al. 2011). These behaviours were identified throughout many interviews as indicated by results in all three chapters referring to deployment, parenthood, and integration and were expressed not just by senior personnel but by women of all ranks. Indeed, more senior women...
seemed more objectively aware of such behaviours, which could be due to several factors, including education as well as the comfort and confidence associated with rank.

10.5.6 Changing times?

Despite the negative attitudes held by many interview participants with regards to remaining in the military with children and the prominence of family factors identified in the survey data as reasons for leaving the military, some evidence from DASA statistics suggests that mothers are more likely than ever before to take maternity leave and to return to service afterwards. The UK Armed Forces maternity report 2009 (DASA 2012) reports that in all three service branches (Naval Services, Army and RAF), the proportion of females (both Officers and other ranks) taking maternity leave increased from 2000 to 2009. Among the services, Army Officers have the largest percentage of women taking maternity leave (5.3%), compared to 5.2% and 4.1% in the RAF and Naval Services respectively. Similarly, Army other ranks have the greatest proportion of women taking maternity leave (6.6%) compared to 6.3% and 5.7% in the RAF and Naval Services respectively. Furthermore, the proportion of female other ranks (results are not reported for Officers due to small numbers) not returning to work in the military after maternity leave has also decreased during this period to 6.8 – 7.1%. This is most notable in the Army and RAF, where the proportion not returning to work in 2000 was 35.4% and 23.1% respectively. The report also finds that women (other ranks only - results are not reported among Officers due to small numbers) in all three services are more likely to take longer than 27 weeks maternity leave now than in 2000, including between 49.5% and 57.4% of all women who take maternity leave. It is unclear whether such changes reflect differences in work climate, reporting or legislation since the report acknowledges that earlier personnel records may not have accurately reported numbers, thus may have under-reported values in the earlier years. However, they do tentatively indicate that fewer women may be leaving the military immediately as a result of pregnancy. Further work validating these findings that includes data for Officers should focus on exploring the drivers of change – and whether other factors affect return to service (such as number of children).

10.6 Interpersonal stress and integration

The cohort survey covered little aspects of integration beyond measures of unit cohesion during deployment, and provided limited information on interpersonal sources
of stress. Yet as evidenced in the deployment and parenthood sections, the interviews consistently highlighted the pertinence of interpersonal sources of stress, including problems with integration, to female service personnel. This topic covered a broad range of experiences including exposure to gender-based harassment and discrimination; sexual harassment; non-gender-based unfair treatment; social support; and, difficulties integrating with both male and with female counterparts. Previous US research has acknowledged some types and contexts of interpersonal stress among female military personnel, in particular exposure to sexual assault during deployment and to a lesser extent, sexual harassment more generally. Although sexual assault is potentially highly detrimental to the well-being of the victim, focusing exclusively on this may mask identification of other interpersonal stressors, including other types of sexual and gender-based harassment. These may be pertinent to the day-to-day lives of female personnel, and as chronic stressors, may exert a greater influence on the overall well-being of a greater proportion of women in the military.

Workplace interpersonal stressors have been identified as affecting the lives of policewomen and that such stressors may be less commonly experienced by policemen (Morash & Haarr 1995; Haarr 1997). Morash & Haarr (1995) revealed discriminatory hiring, duty allocation and promotion practices; ridicule; invisibility; and, lack of influence, as interpersonal stressors in their study of female police officers. While much research has examined work-related stressors such as role overload, WFC, autonomy, and control; less emphasis has been placed on more social sources of stress (Dormann & Zapf 2002; Thompson et al. 2006). Interpersonal stress at work may be hypothesised both as a source of stress as well as a moderator, acting to intensify in its presence or ameliorate in its absence, other stressors. As noted by Thompson et al. (2006: 310), ‘interpersonal stressors are a salient feature of policewomen’s work environment and are not sufficiently acknowledged in existing conceptualizations of sources of police stress’.

Notions of uniform social cohesion across the military may be a tempting goal to aspire to. Nonetheless, disagreements, personal incompatibilities, tensions, cliques, arguments, and even bullying, are perhaps inevitable and normal consequences of such potentially socially claustrophobic conditions. This study has highlighted that the experience of women in the military may be tainted by exposure to several sources of stress. While the current literature focuses exclusively on sexual harassment and the impact of
aligning ‘masculine and feminine’ identities, this study emphasises that in addition to these stressors, every day chronic strain arising from negotiating interpersonal interactions may nevertheless be particularly influential to their well-being.

This section will discuss findings associated with sexual and gender-based harassment and discrimination; interpersonal conflict; and perceived issues with social support. Contributory factors, such as gender composition of the working environment, are discussed alongside types of coping behaviours that interviewees described to deal with integration problems and interpersonal stressors.

10.6.1 Sexual harassment

As noted by Hannagan (2011: 317), ‘Our evolutionary framework suggests that sexual tensions per se cannot be erased because they are structural, the result of thousands of years of natural and sexual selection. Yet male sexual coercion of women in the military varies greatly in different circumstances and contexts, so it is not an immutable fact of nature.’

The current study had no quantitative data on harassment to assess its association with well-being, though the interviews corroborated the results of a tri-service survey of female personnel carried out by Rutherford et al. (2006). They found that a sizable proportion (15%) of female personnel reported being exposed to a particularly upsetting harassing experience in the past year and nearly all (99%) respondents reported being exposed to sexualised behaviours in the workplace - of which over half had found them offensive. The current interview data suggested that such behaviours are likely to be perceived as offensive if they are felt to have been used to exclude or isolate them from the social group, or if a power differential had been exploited – such as that inherent between ranks. Interviewees reported instances of feeling unfairly evaluated in terms of their sexual behaviour; being deliberately excluded via the use of sexualised behaviours; experiencing unwanted sexual advances; witnessing sexual relationships between instructors and female recruits; and, sexual assault. Although not a representative sample, these data shed light on the context and consequences of such an environment.

While many brushed off more minor incidents, in particular banter and jokes, as part of being in the military, a sizeable number reported feeling threatened, isolated, excluded, unfairly evaluated, manipulated, and even traumatised by these events. Indeed reviews of the impact of sexual harassment in both the civilian and military workplace literature,
find it to be associated with lower job satisfaction, commitment, and performance as well as both psychological and physical ill health (Chan et al. 2008; Suris & Lind 2008).

Exposure to sexual harassment during deployment has been discussed in the ‘Non-combat-related stressors’ section above thus is not repeated here. Other contexts in which sexualised interactions may be a source of stress are discussed below; namely, when the behaviours are deemed to cause exclusion, and/or when they exploit power differentials.

**Instructor-recruit relationships**

Whether or not sexualised encounters between instructors and recruits constitute sexual harassment is potentially contentious in situations in which the recruit willingly engaged in such behaviour. In some circumstances described by participants, the sexual contact was clearly unwanted and constituted harassing behaviour. Even if the contact was deemed consensual, the perception of most of the participants was that it was inappropriate because of the power differential between the recruits and instructors. The perceptions of individual participants, in which they or their peers accepted (or even welcomed) sexual advances from instructors because of their ‘idolised’ image, or because of fear of not fitting in, were that these pressures were monopolised upon by the instructors. For them, this constituted an abuse of power despite the consensual nature of the interaction. In the US, such ‘constructive force’ has been used as grounds to prosecute instructors under military law (Rosen 2000). The views of the interviewee who felt that some instructors ‘picked’ between them which recruits they wanted to target at the beginning of the training period, were mirrored by the testimony of an instructor testifying for the prosecution in a US sexual harassment case (Rosen 2000).

Another dimension to consider when addressing consensual relationships between instructors and recruits is the environment that such relationships create for other recruits not involved in relationships/sexual interactions with instructors. While some did not find the occurrence a problem, others complained that it created a negative atmosphere in terms of favouritism and an unprofessional training environment. The so-called ‘paramour’s advantage’ in the workplace exists where consensual superior-subordinate sexual relationships lead to the preferential treatment of the subordinate to the cost of otherwise equal, but non-preferred, co-workers (Gomes et al. 2006). According to Gomes et al. (2006), depending on how widespread these experiences are,
such situations may be considered discriminatory to the co-workers due to the
generation of a hostile work environment even if they are not involved, and regardless
of whether the contact is consensual. Inconsistency between participants who viewed
instructor-recruit relationships as a problem and those that did not may therefore partly
depend on whether or not they felt disadvantaged as a result.

Basic training may be a particularly vulnerable time for recruits for several reasons.
Although mirrored at all hierarchical levels, rank-based power differentials may be
particularly pervasive for recruits. They occupy the lowest rank position, are likely to be
young, and may have less personal resources (including mastery and self-esteem) to
cope with the stresses associated with training. Additionally, training facilities exist as
separate entities from the wider military population (for example, are on geographically
distinct specialised bases), which may shelter or make detection of inappropriate
practices more difficult. The initial training period is thus a time which, for recruits, the
military is most closely aligned to the concept of a ‘total institution’; ‘a place of
residence and work where a large number of like-situated individuals cut off from the
wider society for an appreciable period of time together lead an enclosed formally
administered round of life’ (Goffman, 1968: 11).

The Code of Practice for Instructors (Army Training and Recruitment Agency, ATRA
2005: 11) acknowledges the likelihood that relationships might occur and warns against
them, saying, ‘the relationship between an instructor and a trainee is inevitably a close
one. Some trainees, particularly young recruits, can develop a sense of awe and hero
worship which goes beyond professional respect and admiration. Instructors must
recognise this and not allow their egos to be inflated which might lead to an unhealthy
abuse of their authority or the trainee taking advantage of the situation. At all times a
professional distance must be rigorously maintained. Failure to do so can lead to
unacceptable personal relationships, accusations of favouritism or even allegations of
misconduct.’

While most participants felt that allegations of severe sexual misconduct would be taken
seriously and acted upon immediately, a minority felt they might be swept under the
carpet. Participants more consistently thought that relationships between instructors and
recruits were ignored or accepted by other instructors by ‘turning a blind eye’. Such
organisational tolerance may be more likely during training where instruction primarily
occurs under personnel at more immediate rank levels rather than Senior Officers, and in a climate in which social norms are created and maintained by immediate superiors and managers (Pryor et al. 1993). Murdoch et al. (2009) reported that among 611 male and female Army VA enrolees, the perceived tolerance of sexual harassment by unit and immediate supervisors, but not of Senior Officers, was associated with self-reported sexual harassment experiences. They suggested that organisational-level approaches to limit sexual harassment may not filter down to the experiences of recruits because they are relatively unconnected to the influence of the behaviour of senior managers.

*Using sexualised behaviours to exclude*

As noted above, four participants felt that sexualised behaviours had been used to exclude them and that this had been a stressful experience. In addition to this, other women described instances in which verbal sexualised interactions could cross the boundary to unacceptable behaviour, particularly with regards to banter. Being able to take part in banter (both giving and receiving) has been identified as an integral part of male-to-male interaction and of constructing a soldier identity (Green et al. 2010). This was partly mirrored by participants in the current study who described the military banter and humour as positive and part of what gave them their military identity, standing them apart from civilians. However, the boundaries between acceptable and unacceptable banter were blurred for many participants. Some research suggests that men may have higher thresholds for behaviours deemed as offensive than women (Schumann & Ross 2010) and that women may be less used to coping with banter than men since the latter may be socialised into such interactions from school years (Kehily & Nayak 1997). In her study of female construction workers, Watts (2009) describes how women perceived much of the banter they received from men as emphasising their ‘other’ status, thus reinforcing the boundaries between them. In line with the current findings, Watts (2009) also reports that women responded to banter with a range of emotions, from anger to indifference. The difference between these women is likely to lie in the way in which they appraise the situation, the frequency of exposure, and on how close to the boundary of acceptability the experience lays.

The use of sexualised behaviours and banter to exclude women are akin to Kanter’s (1977) description of ‘boundary heightening’, which occurs as a result of a perceived threat to the dominant group arising from the token group. She asserted that exaggerated behaviours (crude banter et cetera) serve to strengthen the ties between males while
simultaneously excluding the females from the group. ‘Tokens’ were reported to respond to such behaviours by colluding with prejudicial views about other women, and participating in the exaggerated behaviour. This allowed themselves to be seen as ‘exceptions to the rule’ and signalled that they accept the culture on the terms of the dominant group. Such behaviours were exhibited or described by many participants as ‘becoming one of the lads’, disapproving of other women, and increasing their threshold for acceptable banter.

10.6.2 Gender discrimination

As outlined in chapter three, Miller (1997) identified several forms of non-sexual harassment experienced by women in her military sample. Examples of such gender harassment included resistance to women’s authority; constant scrutiny (of work ethic and competency); gossip and rumours (particularly about sexuality and relationships); sabotage; and, indirect threats. These behaviours were postulated as forms of resistance by men feeling threatened by the appearance of women in a traditionally male arena and in violation of traditional gender roles. She posits that women working in particularly non-traditional environments within the military may be more likely to experience gender harassment. These findings closely corroborate findings from the current interviews.

Miller (1997: 37) described ‘constant scrutiny’ of individual women, whose mistakes are then used to criticise the ability of women generally, leading women to feel pressure to reach higher standards. This aligns with Kanter’s (1977) concept of ‘token visibility’ in which women are automatically noticed as they stand out, their mistakes are difficult to hide and their actions may be generalised as symbolic of the performance of other women. Kanter (1977) asserts that attributes associated with female gender (and thus which evoke stereotyped beliefs associated with female status) are more likely to be noticed than their work efforts. She suggests that women therefore respond by overachieving to have their work efforts noticed and by minimising traits associated with female gender to limit visibility. A minority of the current participants did not perceive the need to work harder than men but emphasised that being seen as competent was relevant to all personnel. Yet, the majority of interviewees did endorse feeling the need to work harder even if they did not perceive women to be treated unfairly in the military.
Such pressures may also reflect women’s own anticipated differential performance evaluation. Gorman & Kmec (2007) note the prevailing survey finding that women are more likely to report being required to work harder at work than men. Controlling for job characteristics associated with difficulty (physical and mental) and for differences in energy demands of family responsibilities, that may account for gender discrepancies in perceived required effort, did not account for the association. Given research findings that work performance and competence of women is repeatedly evaluated more negatively than men, the authors concluded that women perceive the need to reach higher standards to be evaluated on a par with their male colleagues. This finding was borne out by some of the current study participants who felt that they worked harder and who attributed this to feeling that they were evaluated less favourably because they were not ‘one of the boys’. These concerns were endorsed by participants in all three branches and included Officers as well as both Junior and Senior NCOs.

Thompson et al. (2001; 2006) used data from in-depth interviews with female police officers to develop a list of survey items measuring sources of stress at work. The responses to the survey were used to generate and test a three-factor model of stress which included operational (e.g. risk of physical trauma and public threat), management/administrative (e.g. poor leadership and workload), and interpersonal stressors. Interpersonal stressors, which included a lack of support from colleagues, interpersonal conflict and lack of confidentiality, as well as sexual harassment and gender discrimination, were thus identified as an independent source of stress. Although they were rated as less stress-inducing than other events (in particular workload and risk of physical trauma), they were experienced more often and therefore, as in the current study, may be more relevant to the daily lives of females.

10.7 Institutional support and help-seeking

Reporting unfair treatment and seeking institutional support for issues relating to well-being are discussed together because there was considerable overlap in themes. Over half of interviewees were either unwilling to seek support formally for issues associated with well-being, to report perceived unfair treatment, or were unaware of procedure. There were discrepancies between rank and time served in the awareness and willingness to seek help or report problems. Barriers to reporting and/or support-seeking included concerns that it would impact upon their reputation and career, the issue would
be blown out of proportion or not kept confidential, nothing would be done, or, of negative interpersonal repercussions.

As previously alluded to, other barriers included an uncertainty of whether their experiences crossed the boundary into unacceptable treatment, or whether their problems constituted the need for support. Surveys entitled with the phrase ‘sexual harassment’ may therefore discourage individuals from reporting their experiences, even if they found them distressing or unacceptable, because they did not label them as such. Proponents of this view suggest that this may lead to underreporting; for instance, Lee (2001) asserted that there should be a distinction between ‘sexual harassment’, ‘sexism’ and ‘working in a sexualised environment’ to minimise this bias.

Pershing (2003) examined survey responses of female US naval academy recruits and revealed that, despite 96% reporting experiences of some form of sexual harassment, only 26% formally reported such experiences. As in the current study, barriers to reporting included perceptions that nothing would be done and fears about negative consequences – including retaliation and ostracism. Fears such as those of being labelled as a trouble-maker, were linked to the concept of ‘playing the game’ which permeated many of the study findings. In a similar way that ‘not questioning authority’ and ‘keeping your head down’ may provide for a smooth transition through periods like basic training, making complaints can be seen as a challenge to authority which is discouraged through the actual or perceived threat of social recrimination. In an environment in which social integration and interaction are paramount due to the nature of the military lifestyle, such threats may prevent many from reporting adverse experiences. These concerns may not be exclusively a gender-related phenomenon and may reflect general concerns about stigma and ‘standing out’, in a similar way in which stigma associated with seeking help for mental health concerns has been reported to prevent help-seeking behaviours (e.g. Thornicroft 2006). As supported by the concerns outlined by many participants in this study, Magley et al. (1999) point out that research finds that reporting harassment in the workplace may result in women being viewed as ‘whistleblowers’. Organisations may respond defensively by not taking the complaint seriously; in ways which compound her feelings of victimisation by calling her ‘oversensitive’; or, by reacting with a heavy-handed investigation. These concerns were mirrored by participants who were worried that reporting would jeopardise integration.
For some women, laughing their experiences of unfair treatment off as banter may transform a ‘failure’ of integration into a perceived ‘success’. Labelling experiences as unfair or not, and/or indicating a sense of acceptance or resignation to unfair treatment, may be a coping strategy to minimise the impact of these behaviours. Behaviours such as sexualised banter, resistance to service, undermining, and even sexual harassment could be appraised as just a joke, part of being in the military, ‘only the old and bold’, inevitable, and/or no different from the experiences of women in any other male dominated environment. As noted by Magley et al. (1999: 392), ‘labelling should act as a cognitive mediator between the harassment and the outcomes of harassment’.

Nevertheless, their study of female employees working in three different organisations found that regardless of whether or not women considered their experiences to be sexually harassing, they were associated with negative outcomes in the psychological, work and physical health domains. This suggests that the actual experience, rather than the label of the experience may impact well-being.

In a similar way in which individuals may be reluctant to be labelled with a mental health diagnosis, they may also be reluctant to be labelled as ‘victims’ of unfair treatment. Victim status may be associated with derogatory connotations and make individuals subject to the evaluation of being helpless or weak (Magley et al. 1999) - incongruent with a ‘military’ identity. In contrast, there is also likely to be genuine differences between individuals in their threshold of tolerance for which behaviours are deemed unacceptable. This may in turn reflect differences in environmental context, prior experiences, and expectations.

10.8 Social Support

In light of the barriers to help-seeking and reporting discussed above and the reality that many problems will not be brought to the attention of formal channels, the pertinence of informal sources of support is emphasised. Seeking social support for problems connected to integration and well-being was described as both a coping strategy and resource, while a lack of social support was a source of stress perceived to impact upon the well-being. This was identified by participants who described support as a medium to let off steam, vent frustrations and relieve tension; to get advice about what to do; and, to gain a sense of perspective on the situation. These mechanisms reflect emotion-focussed coping strategies that lead indirectly to cognitive reappraisal of the situation,
reducing the impact of the stressor. Whether the source of social support for these functions arose from civilian or military friends was less important. This was contrary to emotional support, which was important to receive from someone who understood and could empathise with their situation.

A hierarchy of emotional support sources (for problems relating to their military environment) arose based on the degree of understanding and empathy they could provide. Civilian friends and family sat at the bottom of this hierarchy and other women in their direct work environment sat at the top. This in part contradicts many other sentiments described here - in which other women could be a source of threat, competition, and derogatory views. While getting on with other women in the military may bring its own difficulties, the availability of other women to seek emotional support from was deemed important. Understanding more about why such contradictions arise; whether, for example, it relates to the gender composition of the environment or the presence of females in the chain of command, would help clarify inter-relationships between women in the military.

10.9 Coping behaviours

Participants described a myriad of coping strategies to deal with integration problems and other interpersonal stressors. Some have already be described, such as emotion-focussed strategies aimed at reappraising experiences that could be potentially be perceived as unfair. Others represent more fundamental strategies that involve actively adapting ones behaviours and sense of self.

10.9.1 Adapting behaviours: masculinity and femininity

This study identified issues relating to the concepts of ‘masculinity’ and ‘femininity’ - both traits and enacted behaviours - as integral features of integration. These were apparent in the typologies of traits recognised as suited to life in the military; the ways in which participants described adapting their behaviour to fit in; the experience of unfair treatment; and, in the dynamics of support-seeking. This was exemplified by the characteristics suited to the Armed Forces laid out in the ‘integration’ chapter. Several typologies represent ‘masculine’ traits (e.g. being a tom-boy, robust, physically strong and fit, ability to give and take banter); others are more gender neutral (e.g. mental strength, self esteem, out-going, not questioning authority); and, some reflect the
importance of both qualities (e.g. balancing being strict and compassionate).
Nonetheless, even those who denied the need for any particular characteristics implied a
gendered division of labour within the military (e.g. desk jobs for feminine girls,
engineering for those who do not mind getting dirty etc).

The literature discussing identity and integration into the military often focuses on
socially prominent characteristics, in particular gender. It suggests that women in the
military are faced with the problem of balancing traditional expectations of femininity
and masculinity as a result of conflicting socially constructed norms pertaining to
gender and the military culture (e.g. Herbert 1998; Sasson-Levy 2003; Silva 2008).
Herbert (1998: 6) states, ‘Both institutional and interpersonal barriers [to integration]
derive at least in part from a gender ideology that views military service as the domain
of men and that affirms masculinity as one medium by which men become soldiers’.
Furthermore, West & Zimmerman (1987) famously propose that gender is performed
rather than a state of being; that actions socially defined as ‘masculine or feminine’ are
enacted and perpetuated via social interaction - as well as via the perceived and actual
consequences of these interactions. Much of the literature discussing the integration of
women into the military describes such gendered expectations and pressures placed
upon them by their male counterparts.

While such research usually aims to break down barriers to integration, their method of
questioning could be criticised for leading participants to put gender at the forefront;
interpreting results in a way which almost self-perpetuates divisions between men and
women. This gives credence to the norms of masculinity and femininity while
simultaneously ignoring other factors pertinent to a military identity. Woodward &
Jenkings (2011) criticised studies of military identities for being contextualised within,
and focussed upon, sociological concepts. They asserted that if not deliberately directed,
individuals will not identify such concepts as salient to their ‘military identity’. The
authors used data from in-depth interviews with ex-service personnel (including two
women), reporting that participants highlighted performative aspects of service rather
than referring to issues of masculinity and femininity. These included displays and
assertions of professional ability and skill; camaraderie and ‘fictive kinship’; and,
participation in nationally/globally relevant events.
The construction of military identity as male vs female, masculinity vs femininity, and accusations of patriarchy and parochialism is pervasive. However, as Woodward & Jenkings (2011) did, King (2006) argues in favour of understanding military identity in terms of what individuals do, and that formal rather than informal rituals typified by intense and repeated task specific training is what promotes cohesion; ‘[I]t is important to recognize that only those who have already proven themselves capable of contributing to the collective military goals of the group will be allowed access to more genuinely personal and intimate interactions. Only those who are already good professional comrades will be allowed to participate in those masculine and hypermasculine rituals that too many military sociologists regard as fundamental to the formation of primary groups. Although these rituals may indeed be more fascinating than tactical drills, the evidence suggests that they must be relegated to a subordinate position in explaining social cohesion in the military’ (King, 2006: 510).

Nevertheless, the current study and previous research finds that women themselves do emphasise features associated with sexuality as fundamental to integration. Herbert (1998) examined the integration strategies of serving and ex-service active duty US female personnel specifically in relation to masculinity and femininity. In contrast to the current findings, she found that 30% felt they employed strategies to be perceived as feminine (such as wearing make-up, skirts instead of trouser uniforms, keeping hair long etc), but only 6% to be perceived as masculine (such as wanting to be considered ‘one of the guys’, ‘working out’ and not wearing make-up). One possible explanation lies in the perceived consequences of not being seen as either ‘masculine’ or ‘feminine’ enough. In her study, women were concerned that being perceived as masculine would be synonymous with being perceived as a lesbian and that they would rather run the risk of the penalties associated with being too feminine than be perceived as gay. This may in part reflect the US regulation at the time (though now no longer the case) which disallowed openly homosexual individuals to be employed in the military.

Sasson-Levy (2003) argues that women who try and behave like ‘one of the lads’ may simply perpetuate the dominancy of masculinity as a cultural norm. In contradiction to this, other adaptations identified here as being strategies to accentuate ‘masculine’ traits - such as becoming more bolshy, more assertive, or forceful - are not necessarily consciously or unconsciously gender-related. Rather, they may reflect more general traits associated with ‘effectiveness’. In other words, in order to lead successfully, to
give clear direction under challenging and stressful circumstances, to compete with peers for promotion, and so on, any individual – female or male – may need to promote themselves in a way in which underlines their competence and credibility.

The current study revealed differences by rank. Respondents in junior positions were more likely to endorse being, or wanting to be, ‘one of the lads’. Senior personnel, on the other hand, were more likely to report that they were themselves; no longer felt the need to adapt; or, adapted in ways to accentuate masculine traits. Unlike the younger personnel, the purpose of the latter adaptations seemed more associated with being taken seriously, ensuring that their rank was respected, and being able to ‘hold their own’, rather than to ‘blend in’ and/or minimise the attention associated with femininity. In contrast, two women spoke outwardly about their willingness to emphasise their femininity through, for example, flirtatious behaviour - despite this being, in their own words, ‘derogatory to females’. These participants were resigned to feeling that they would not be fully integrated and that their male counterparts would think poorly of women anyway. This behaviour may be explained with reference to Kanter’s (1977) description of token responses to role entrapment. She described how ‘the time and awkwardness involved in correcting mistaken impressions often lead to a preference for already-established relationships...it is often easier to accept stereotyped roles than to fight them’ (Kanter, 1977: 984).

The literature on military masculinities also asserts that women’s well-being may be affected as a result of trying to negotiate an identity both as a woman and as a soldier, and that such negotiation may cause conflict (e.g. Herbert 1998). For the majority of participants, such conflict did not impact their well-being; they emphasised more directive traits when necessary or adapted to be ‘one of the lads’ in certain situations, but reverted to their normal selves in other situations. However, as warned by Lazarus & Folkman (1984), those strategies which involve behaving in ways that run counter to ones core values and beliefs could counterproductively cause stress. Indeed, for some interview participants, their well-being and desire to serve was strongly adversely affected by an inability to integrate and to form a military identity. Feeling that they needed to become more masculine or switch on directive behaviour in order to be accepted and/or respected, was fundamentally incongruous to their understanding of their own identity. This prevented them from being able to identify with the larger military family, leading to feelings of ‘outsider’ status.
10.10 Inconsistencies

The interviewees represented a diverse view of life in the military, and although the aim of qualitative research is partly to identify themes, it is also to highlight contradictions and inconsistencies which might have illuminating implications for the understanding of the topic under study. Inconsistencies arose within and across interviews, and also between the interview data and the quantitative results, as implied throughout the discussion.

For example, not all participants identified gender as relevant to integration, while among those that did, there was considerable inconsistency in when they viewed it as such. Individuals may have agreed that they felt the need to work harder to achieve parity with men, but did not feel that women were treated unfairly; may have described instances of unfair treatment, even abuse, but maintain that women were judged on their merits regardless of gender; or, may have adapted their behaviour to become one of the lads, but did not feel they had ever been unfairly treated. Often, participants seemed unsure whether to label their [negative] experiences as associated with being female; whether they were one off events or representative of systematic bias; or, whether they were attached to individual personalities rather than gender.

Whether individuals adapted their behaviour or felt able to be themselves was apparently unrelated to rank, service, or gender composition; although whether or not they perceived that they - or women in general - were treated unfairly was associated with gender composition of the work environment and rank. Such inconsistencies may reflect that gender is only one of several value characteristics by which individuals are evaluated and/or anticipate being evaluated upon. Within the military, several layers of status and identity coexist and combine in different ways for different individuals. This could include numerous factors such as rank, cap badge, role, geographic location, parental status, sexuality, race, gender composition, and so on. As consistently stipulated by participants, ones experience is also likely to be strongly influenced by the attitudes and personalities of individual immediate superiors. One may hold multiple disadvantaged statuses, or be disadvantaged with respect to some but advantaged with respect to others. As already seen, other inconsistencies in experience arise from a
combination of individual coping styles, appraisals, and resources available to individuals.

10.11 Overarching themes

10.11.1 Stress

The background section in chapter 3 used the operationalisation of ‘stressor’ and ‘stress’ outlined by Holmes & Rahe (1967) - demand from environmental, internal, or social origin which causes an individual to adapt their usual patterns of behaviour. This broad concept of stress did not account for the different types of stressors commonly referred to in the literature, and which were identified in the qualitative findings of the current study. The phenomena described as ‘stressors’ throughout the qualitative results section may more accurately be broken down into the concepts of ‘life events’, ‘chronic stressors’, and ‘daily hassles’ (e.g. Pearlin & Schooler 1978; Pearlin 1982; Lazarus & DeLongis 1983; Lazarus & Folkman 1984).

While a minority of the stressors outlined in the results section represent ‘stressful life events’ – such as exposure to combat events and sexual trauma, these events were rare; the majority of ‘stressors’ identified were lower level chronic role-related stressors and role-related daily hassles. Chronic role-related stressors refer to those occurring while carrying out social roles, such as job strain and work overload. They also refer to strains associated with conflict between social roles (such as between the work and family domain). These are ongoing and open ended and strain may arise from a sense of lack of control over their occurrence (e.g. Pearlin & Schooler 1978). On the other hand, ‘daily hassles are: ‘irritating, frustrating, distressing demands and troubled relationships that plague us day in and day out’ (Lazarus & DeLongis 1983: 247). They are both relatively small unanticipated events that occur during day-to-day life (such as an argument with a supervisor), as well as anticipated daily occurrences (such as demands arising from commuting to work, household chores, and so on.

Both chronic stressors and daily hassles have been widely documented as associated with psychological distress, and to have a stronger (and independent) association with physical and psychological well-being than life events alone (e.g. DeLongis et al. 1982; Lazarus & Folkman 1984; Chamberlain & Zika 1990) Studies that have looked at different types of stress indicate that it is their interaction and accumulation that leads to
adverse health outcomes, rather than a single event or type of stressor (e.g. Pearlin et al. 1981; Turner et al. 2000). As proposed by Kanner (1981), since daily hassles and chronic stressors may be present in most, if not all, people’s lives, any impact on mental or physical health must depend on how these are experienced. For example, whether they occur with exceptionally high frequency, coincide with other forms of major stress, or are of particular psychological salience.

The finding that patterns of mental health outcomes were broadly similar in military and general population samples suggest that potential stressors associated with working in the military do not place them at greater risk of adverse health over and above any differences seen in the general population. On the other hand, two caveats may be made to this statement. Firstly, a significant difference between men and women in the proportion reporting symptoms of CMD was found in the military, while no such difference existed among those in the general population of comparable age. As discussed on p204, this difference pertained to those aged 25-34 years, which may reflect a time when the daily hassles and chronic day-to-day stresses associated with balancing roles of primary caregiver and work are most likely to accumulate. However, since no difference in health outcomes were found among women with or without children, further work to discern whether this relationship is related to differential exposure to stressors of any kind, and which types of stressors these might be, is required. Secondly, the health outcomes investigated in the current thesis may not adequately capture the experiences of female personnel. Previous work examining the impact of daily hassles and chronic role-related stressors (e.g. work-family conflict) has examined more general measures of well-being; such as life; work and family satisfaction; emotional exhaustion; and, positive and negative affect.

10.11.2 Coping

In the context of stress theory, coping acts as a mediator between stressful events and chronic strains, and the consequences of stress. The coping strategies employed are influenced by the resources that an individual has available. These include aspects of self-concept such as mastery and self-esteem, as well as social support; which may themselves be influenced by the nature of the stressors (Pearlin et al. 1981). Pearlin & Schooler (1978) identify three purposes of coping: modifying situations that lead to the stressful exposure; modification of the meaning of the stressors so as to reduce their perceived threat; and, management of stress symptoms. Coping strategies may vary with
the nature of the problems and the resources available to deal with them at any one time; and, whether the problem is seen as immutable or subject to manipulation. The effectiveness of coping strategies can vary according to whether the situation is a specific encounter or an on-going stressor and whether the coping strategy employed is congruent with the individuals own values and beliefs (Lazarus & Folkman 1984).

While no information on coping was available from the quantitative data, the interviews revealed an array of coping strategies among female personnel in response to stressors.

These both transcended and distinguished boundaries between rank, job type, deployment experiences, parenthood status, integration experiences, and perceptions of unfair treatment. Both problem-focused and emotion-focused strategies were identified. Problem-focused strategies include both internally and externally oriented approaches that aim to define a problem and generate alternative solutions. Emotion-focused strategies change the way the stressor is perceived directly or indirectly to reduce psychological distress (Lazarus & Folkman 1984).

Problem-focused strategies aimed at the environment identified in the interviews were usually employed by women of a higher rank. The agency afforded by their status permitted greater manipulation of their surroundings, such as having more leeway to negotiate flexible working hours, planning ahead to organise courses and childcare, and manoeuvring into more family-congruent roles. Having support from supervisors and colleagues was a resource that enabled women of any rank to utilise problem-focused strategies, particularly pertaining to parenthood and FWA. Furthermore, having positive beliefs about one’s ability to control their surroundings was also associated with harnessing environment-oriented problem-focused strategies regardless of rank. Problem-focused strategies that were directed at the self were more commonly displayed, and reflected attempts to change aspirations or expectations. In relation to integration, some women were resigned to, or accepting of, perceived resistance to their service. This precluded feelings of anger or exclusion that others felt unable to accept. In addition to the three purposes of coping outlined by Pearlin & Schooler (1978), ‘proactive coping’ refers to coping strategies undertaken in order to forestall or minimise potential stressors that might occur in the future. Such coping is not directed at any specific stressor; it involves the accumulation of skills and resources in the recognition that stressors might occur in future - and to identify potential stressors.
before they occur (Aspinwall & Taylor 1997). Adapting one’s behaviour to become more masculine or directive, and/or being disparaging towards other women, may be examples of such coping strategies. They were often applied, not in response to any particular event, rather to preclude discriminatory views or exclusionary behaviours in the recognition (or expectation) that they might occur.

Emotion-focussed strategies include ways to directly or indirectly change the way a stressful experience is perceived, leading to a cognitive reappraisal of the stressor. These were evidenced, for example, in the avoidance strategies harnessed in response to combat-related stressors; in the positive comparisons made with women in other male-dominated environments; in venting anger at friends; and, in seeking support from friends and family to get perspective on their situation, gain advice, and seek emotional reassurance. The importance of support from different domains has been highlighted throughout the thesis, with different types of support being useful in different situations. Furthermore, interpersonal support has been identified under various circumstances as a coping strategy, a potential source of stress (in its absence), and as a resource in itself.

10.11.3 Social integration and support

Macro-level factors affecting integration have been discussed in terms of socio-cultural norms and expectations influencing the experience of women in a male-dominated environment, women in the military as mothers, and so on. Social networks are a set of interconnected relationships themselves shaped by a social structure which influence the resources and opportunities available to individuals. Research examining the influence of social integration and social networks on health infers that this relationship is partly mediated via their various social support functions (Berkman et al. 2000). Furthermore there may be gender differences in the importance of these mechanisms to well-being. For instance, women may value more, and gain more benefit from, emotional support - while men may get greater return from feeling socially connected (Cohen 2004). The importance of social support to the well-being of female personnel has been demonstrated throughout the thesis. This includes peer and leadership support during deployment; post-deployment social support; moral and practical support from the military and from supervisors for balancing work and family roles; and, emotional support from family and from friends inside and outside of the military. These mechanisms reflect three types of resources: instrumental support (e.g. financial assistance); informational support (e.g. advice and guidance); and, emotional support
(e.g. empathy, emotional expression, and the venting of frustrations) (House & Kahn 1985).

Social integration and social support are thought to influence health through different pathways - the former by ‘main effects’ and the latter by ‘stress buffering’ effects (Cohen et al. 2000; Cohen 2004). Social support is proposed to influence well-being by removing or ameliorating the effects of stressors by promoting cognitive reappraisal of the situation as less threatening and by encouraging active coping strategies (Cohen 2004). This provides a partial explanation for the individual differences in well-being among those exposed to similar stressors identified in the interviews. Those participants who perceived the military to be a supportive institution, who believed that they would be supported if they had a problem, and/or felt able to go to others for support if they needed, may have greater perceived ability to cope. Evidence for the influence of such perceptions on health have been extensively reviewed and is supported by the literature (e.g. Kawachi & Berkman 2001). Further, while the buffering effects of instrumental and informational support may be context specific, emotional support may influence well-being across a range of stressors (Cohen 2004).

On the other hand, social integration is thought to promote well-being regardless of the presence of stress via a ‘main effect’, influencing well-being by engendering positive psychological states, motivation, and social pressure to care for oneself (Cohen et al. 2000; Cohen 2004). This was supported in the interviews in that the sense of belonging to the military, being part of the military family and identifying with a military identity were all positive aspects of service. Participants who identified with the military garnered a sense of self-worth, purpose, and esteem from being part of the ‘family’. Those who found integrating into the military difficult, and/or did not feel that their sense of self was congruent with the military identity, did not benefit from these effects. Social connectedness is also thought to directly influence health by impacting health behaviours (e.g. Berkman et al. 2000). The most obvious example of how military social integration and networks influence health is in the peer pressure attached to physical fitness. Individuals are encouraged to keep fit, not only by regulations, but by the cultural importance attached to personal fitness. On the contrary, however, are the cultural norms attached to mental health - which may be detrimental to well-being because of the potential impact on willingness to express or seek help.
10.12 Strengths and weaknesses

10.12.1 Qualitative

The qualitative data analysis process is often criticised for a lack of transparency and rigour (Barbour 2001). Therefore, several approaches described below were adopted to counteract such criticisms.

Firstly, rather than using a convenience sample, participants were purposively sampled in a deliberate attempt to include participants who might provide diverse accounts of being a woman in the Armed Forces. For example, convenience sampling may bias findings since older age, higher rank, and greater educational achievement are all associated with response in military samples (e.g. Fear et al. 2010). In contrast, purposive sampling aims to access those who would otherwise not be represented - such as younger, more mobile personnel in lower ranks. Discussion of the results aims to reflect and compare the experiences of women according to the purposive sampling criteria. Secondly, during the coding stage, two transcripts were chosen that covered a large variety of the themes to be coded by two independent researchers and supervisors with experience of qualitative data analysis. The number of transcripts chosen was a compromise between data coverage and limitations due to the time demand of the coding process. This process stimulated conversation about the data and identified some new insights which facilitated interpretation. The themes identified by the other researchers largely corroborated those already generated, providing evidence for the reliability of the analysis. Thirdly, while the research does not aim to adhere to a purely grounded theory approach, the categories and themes generated in the analysis were not restricted to those identified prior to commencing the research. Several of the themes were generated from and reflected the data rather than the questions on the topic guide. The fact that many of the interviews demonstrated contradictions as well as commonalities is reflected in the analysis and discussion. Lastly, respondent validation is another method sometimes used to enhance rigour, in which interim findings are cross-checked with participants. This study did not ask participants to comment on interim findings for several reasons. In particular, the process would have added considerable time pressures within the constraints of the thesis timescale. Also, as noted by Mays & Pope (2000), while participants have individual agendas and motivations, the analyst aims to provide an overview – thus the process of participant validation may do more to add confusion than to corroboration. As a compromise, participants will be
provided with a summary of the findings at the end of the research process to give them an opportunity to comment.

Criticism of the interpretation of the data and of the relevance of the findings may arise for several inter-related reasons. The thesis is explicitly focussed on women in the military; there may be a degree of self-selection into the study among those with issues about being a woman in the military for whom gender may be especially pertinent; participants were interviewed by a female researcher; and, were actively asked whether they agreed with the statement that ‘some women report being discriminated against or having to work harder to prove themselves’, thus highlighting potential divisions. Counter to these criticisms, however, is that not all women endorsed being treated unfairly, adapting their behaviour, or feeling differentially evaluated due to their gender. Many participants were unwaveringly positive throughout their interviews, thus undermining the issue of self-selection and bias. The themes encompassing aspects of masculinity and femininity arose entirely from the data and were not identified a priori. Further, the question about discrimination was posed towards the end of the interviews before many participants had spontaneously brought up concepts of masculinity and femininity, and also of unfair treatment or perceived differential evaluation.

The qualitative aspect of this thesis, which is the driver of analysis and interpretation, adds to the current knowledge - not least because of the rarity of research attention focussed on the individual in the military (Woodward & Jenkins 2011) - but also because of the depth of understanding that the interviews provide.

10.12.2  Quantitative
The survey data is cross-sectional, precluding causal inferences. It uses subjective self-reported measures, thus any reporting biases cannot be accounted for. Survey data may have been collected several years after deployment, such that reporting may have been influenced by recall bias. Furthermore, some post-deployment difficulties, while significantly impacting a person’s well-being at the time, may have abated by the time the survey was collected.

Further, as alluded to in the qualitative findings, reliance on a few selected screening measures of health to assess the well-being of personnel may not adequately represent the experiences of female personnel. Including a more comprehensive list of outcomes,
such as those measuring general well-being (such as life or job satisfaction and so on), and other perhaps more gender specific outcomes, may provide a more holistic picture of health and well-being in this population. For example, Jacobsen et al. (2009) examined the prospective association between measures of disordered eating/weight loss (which may be more pertinent among female personnel) and deployment using data from the Millennium Cohort study. The authors found a significant association between self-reported exposure to combat and disordered eating, and extreme weight loss among deployed women. In a qualitative study of female personnel deployed to Iraq and Afghanistan, Mattocks et al. (2012) found that women identified bingeing/purging, overeating and food restriction behaviours as coping strategies to avoid stressful thoughts about their deployment, while others employed excessive exercise as a strategy.

Small numbers of women in the deployed sample - and in particular, small numbers of cases, precluded more complex multivariable (or multivariate) analyses of the relative influence of deployment and post-deployment factors associated with post-deployment health. Available data provided evidence that post-deployment support factors, deployment support factors, combat-exposure and perceived threat were all independently associated with post-deployment adjustment. However, models including all these variables to identify their relative importance could not be measured due to limited power.

The survey data were also limited due to practical considerations, preventing a wider range of topic areas from being covered. This is particularly pertinent to this thesis since several sources of stress, mediators, and outcomes proposed to be relevant to female personnel (either from previous literature or identified in the qualitative study) were omitted or covered in limited detail.

Despite these limitations, the survey data comes from a representative sample of service and ex-service personnel from all service branches. Overall, the response rate was comparable or better than other surveys of military personnel (see Fear et al. 2010). Analyses were weighted to adjust both for sampling design and for differential response. Findings are therefore generalisable to the wider population of serving and ex-service female personnel.
10.12.3 The mixed methods approach

The primary reasons for utilising a mixed methods approach were pragmatic in origin; the choice of methods was related to fulfilling the research aims.

The quantitative data were used to assess the prevalence of certain health outcomes among female personnel, and to examine evidence for statistical associations between risk/protective factors and health outcomes. The qualitative approach, in contrast, explored how individual women might perceive their day-to-day experiences of being a woman in the military; how various combinations of risk and protective factors and other contextual relevancies might influence such experiences locally; provided depth and understanding to putative interpretations otherwise inferred from quantitative data; and, explored issues not included in the survey which may be pertinent to their well-being. Thus, while mixed methods research may be criticised by those who argue that the divergent philosophical underpinnings of quantitative and qualitative methodologies render them incompatible (Tashakkori & Teddlie 2003; Greene 2008); this thesis assumes that such divergence is not necessarily practially incompatible given the nature of the knowledge desired and their associated epistemological stances.

The qualitative and quantitative findings were not always corroborative. While this may appear to bring uncertainty to conclusions, the aim of the mixed methods approach was not to corroborate findings (especially in light of the contrasting epistemological stances of each approach), but to deepen understanding and expand knowledge (Johnson & Onwuegbuzie 2004; Bazeley 2004). Seeking convergence and corroboration does not necessarily make sense, not just because of the different stances of the two approaches, but also because of the sequential nature of data collection. Survey items are framed differently from research questions, with often very different contexts to those questions asked during interviews. Furthermore, individuals are likely to respond differently when working through a questionnaire in comparison to being asked personally about their experiences.

Some of the strengths of a mixed method approach revolve around the capacity of one method to address the inherent weaknesses of the other and vice versa, and for the potential to harness the benefits of both approaches simultaneously (Greene et al. 1989; Johnson & Onwuegbuzie 2004). Thus, while the qualitative approach may be criticised for a lack of objectivity, the quantitative approach is limited in its ability to describe the
experiences of local situations, individuals and contexts. This was evidenced during the course of the thesis, as it became apparent that disregarding a non-significant result on the population level may omit understanding of a range of experiences on the individual level. Additionally, while the quantitative sample may not have had enough overall numbers or cases to examine sub-groups, the qualitative data helped to identify which sub-groups of female personnel may be more or less at risk of adverse outcomes – which in turn may inform future quantitative research.

Due to practical constraints, there were some restrictions that limited the full potential of the mixed methods approach. The quantitative data came from a survey that had been set up and carried out with the aim of examining the influence of deployment on post-deployment health outcomes. The survey was not intended to examine the well-being of women per se, thus many areas of interest arising in the interviews were not covered quantitatively. In contrast, while the qualitative approach allowed for issues of importance to be identified from the viewpoint of the personnel themselves rather than by the researcher, the breadth of topics covered in the interviews meant that some areas were not explored as fully as they could have been, had the interviews focussed solely on any one topic. However, these limitations are contextualised within the nature of the research; the methods were mixed in order to expand and deepen understanding of the experiences of women in the UK Armed Forces. Future research may hope to extend the findings to a further quantitative phase, such that qualitative data may be used to inform future survey items or scale instruments grounded in the experiences of female interviewees.

10.13 What this study adds to the literature

The thesis adds to current knowledge by taking a holistic approach to the study of women in the military, rather than focussing on any one area - as evidenced in the current literature, such as that pertaining to work-family-conflict, sexual harassment, and the debate surrounding women in combat. Furthermore, the thesis provides a basis for future examination of women in the UK Armed Forces which builds upon limited research in the UK and extends findings from the US. At a time point twenty years after the integration of women into the British Armed Forces, and as longstanding conflicts in Iraq and Afghanistan draw to a close, this thesis presents a snapshot of life in the military for women now playing an active role in military operations.
10.14 Policy recommendations

The following outline examples of some potential interventions that may assist women in the Armed Forces arising from the thesis. The future research outlined below would help identify and target further practical interventions.

1. Evaluate whether the opening hours of military childcare facilities could be expanded to match the working schedule of a greater proportion of serving parents.
2. Consideration of crèche arrangements to allow primary caregivers to meet ‘extra-curricular’ criteria such as extra fitness/sport sessions.
3. Provision of cover for maternity leave. Where this is a non-deployable role consideration of part time/job-share options for those covering, who themselves have young children.
4. Initiatives to raise awareness among those in the chain of command of the issues faced by mothers (particularly single mothers) in balancing work and family roles, to reduce the stigma of motherhood.
5. Consideration of a female mentoring system for advice. For example, how to manage unwanted sexual contact or banter, and what constitutes harassing behaviour; other tips for managing interpersonal hotspots; support-sharing forums, and so on.
6. Continuation of efforts to reduce stigma associated with reporting complaints and seeking support. In particular, reassurance about confidentiality and protective measures to avoid individuals being labelled for coming forward.
7. Ensuring that awareness of support and reporting facilities is evenly promulgated down the command structure.

10.15 Recommendations for future research

1. Include measures of sexual and gender-based harassment behaviours in post-deployment surveys to identify whether, and the degree to which, UK female (and male) personnel may be exposed to such stressors while on operational tour; risk factors for exposure; and, the impact of exposure on post-deployment adjustment.
2. To generate a list of items representing sources of interpersonal stressors, and include in future surveys so that stress models more broadly representative of the experience of female personnel can be identified and tested quantitatively, to provide evidence for intervention targeting.

3. To examine a broader array of health outcomes among female personnel that may represent more gender-specific consequences of stress.

4. The importance of post-deployment social and military support and individual coping strategies have been found to be influential in the experience of female personnel post-deployment, as has been found for other groups including all-male and reservist samples. A comparison of the impact of these factors between women and these other groups may help to identify if any of these variables are more or less salient to female personnel, and may therefore help to target interventions.

5. To study in more depth the circumstances around balancing a family and a military career for female personnel; factors that influence their decisions to leave and those that encourage them to stay. To identify potentially modifiable factors that influence retention and to estimate what numerical effect this may have on the proportion of women who leave the services as a result of having, or to have, children.

6. To identify the extent to which female personnel may face the dual burden of caring for elderly relatives as well as their own offspring. This may be particularly difficult for military personnel due to the requirement for regular relocation.
10.16 Conclusions

Female personnel are potentially exposed to gender-specific stressors as well as those affecting all military personnel. While some stressors may be labelled as more ‘severe’ than others, such as exposure to combat events, sexual trauma, and bullying, these are likely to be less frequently experienced than other more chronic day-to-day stressors and daily hassles. These may include inflexible working schedules; dilemmas in prioritising family and work demands; interpersonal stressors; and, difficulties with integration. While many or most women may have positive views about their military careers, there remains several areas open to intervention that could potentially be improved.

Unlike ‘operational’ stressors in the military (such as deployment, relocations, and risk of injury and death), and ‘management/administrative’ stressors (such as workload), interventions aimed at reducing interpersonal stressors are amenable to practical implementation. Further, data from the current thesis suggests that other potential sources of stress, such as deployment and balancing work and family commitments, are heavily influenced by interpersonal factors. Therefore, reducing interpersonal stressors may help reduce the felt effects of these other stressors.

Despite these concerns, the prevalence of the mental and physical health outcomes measured in the current thesis among women is in general comparable to that in the general population; and, differences between men and women mirror those identified in general population studies. The evidence for an elevated risk of symptoms of common mental disorder among military men and women compared to the general population may be accounted for by the occupational nature of the sample; however, the increased risk among women aged 25-44 compared to the general population should be examined further. The study findings provide a basis for future work investigating the well-being of women in the UK Armed Forces.
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Appendix A: General information
Table 1 Rank categories by service branch

Taken from Defence Analytical Services and Advice, DASA NATO rank codes and UK Service ranks (http://www.dasa.mod.uk/modintranet/UKDS/UKDS2010/c2/table224.php)

<table>
<thead>
<tr>
<th>Category</th>
<th>Royal Navy</th>
<th>Army</th>
<th>RAF</th>
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</thead>
<tbody>
<tr>
<td>Lower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other rank</td>
<td>-</td>
<td>Private (class 4)</td>
<td>Aircraftsman Leading aircraftsman/Senior Aircraftsman /Junior technician</td>
</tr>
<tr>
<td>Able Rating</td>
<td></td>
<td>Private (class 1-3)</td>
<td></td>
</tr>
<tr>
<td>Junior Non-Commissioned Officer (JNCO)</td>
<td>-</td>
<td>Lance Corporal Corporal</td>
<td>Corporal</td>
</tr>
<tr>
<td>Leading rate</td>
<td></td>
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</tr>
<tr>
<td>Senior Non-Commissioned Officer (SNCO)</td>
<td>Petty Officer</td>
<td>Sergeant Staff Sergeant</td>
<td>Sergeant Flight Sergeant/ Chief Technician Warrant Officer (Class 1 equivalent)</td>
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<tr>
<td></td>
<td>Chief Petty Officer</td>
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<td></td>
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<tr>
<td></td>
<td>Warrant Officer (class 1 and 2)</td>
<td>Warrant Officers (class 1 and 2)</td>
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<tr>
<td>Higher</td>
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<td></td>
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<tr>
<td>Officer</td>
<td>OF-(0) Midshipman</td>
<td>Officer Designate</td>
<td>Officer Designate Pilot/Flying Officer</td>
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<tr>
<td></td>
<td>OF-1 Sub Lieutenant</td>
<td>Lieutenant / 2\textsuperscript{nd} Lieutenant Captain</td>
<td>Flight Lieutenant Squadron Leader</td>
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<tr>
<td></td>
<td>OF-2 Lieutenant</td>
<td>Captain</td>
<td>Wing Commander Group Captain</td>
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<tr>
<td></td>
<td>OF-3 Lieutenant Commander</td>
<td>Major Lieutenant Colonel</td>
<td>Air Commodore Air Vice-Marshal</td>
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<tr>
<td></td>
<td>OF-4 Commander</td>
<td>Colonel</td>
<td>Air Marshal</td>
</tr>
<tr>
<td></td>
<td>OF-5 Captain</td>
<td>Brigadier</td>
<td>Air Chief Marshal Marshal of the RAF</td>
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<tr>
<td></td>
<td>OF-6 Commodore</td>
<td>Major General</td>
<td></td>
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<tr>
<td></td>
<td>OF-7 Rear admiral</td>
<td>Lieutenant General</td>
<td></td>
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<tr>
<td></td>
<td>OF-8 Vice Admiral</td>
<td>General</td>
<td></td>
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<tr>
<td></td>
<td>OF-9 Admiral</td>
<td>Field Marshal</td>
<td></td>
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<tr>
<td></td>
<td>OF-10 Admiral of the Fleet</td>
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</tbody>
</table>

Glossary of policy and terms

The section below briefly outlines particular terms used in the thesis as well as policies, legislation and regulations that are useful to aid understanding of the results of the thesis. Note this is not an exhaustive list and more information can be obtained from the documents referenced.

General terms

Basic training: New recruits go through two initial training phases: basic training (phase one) and trade training (phase two). Army basic training for non-commissioned recruits lasts 14 weeks (if aged over 17 years), or 23-42 weeks (if enlisting between 16 years and 17 years and five months). The Army commissioning (Officer) course at Sandhurst lasts 44 weeks; there is usually one female platoon per intake. RAF basic training lasts 9 weeks (non-commissioned) plus 10 weeks if aircrew, while Officer training at RAF Cranwell is 30 weeks. Royal Navy ratings recruit training is 10 weeks, while the Officer course in Dartmouth can last up to 12 Months.

Cap badge: A badge worn on the headgear of military uniform which denotes the regiment/corps that the wearer belongs to.
Decompression: For UK personnel, it is mandatory for formed units to spend time in Cyprus on return from deployment for a process called ‘decompression’, during which time individuals that have deployed together have an opportunity to ‘unwind’ together. Decompression aims to begin the transition home process, and was initiated in response to concerns that the transition from being in a busy, often stressful operational environment to being at home with family and friends could be too sudden and may cause difficulties. Personnel spend 24-36 hours at a military facility, during which time a structured schedule of activity takes place. This includes time for recreational activities and a series of psycho-educational briefings, a video to promote safe driving, and controlled access to limited amounts of alcohol.

Forward Operating Bases (FOBs): A secured forward military position used to support tactical operations.

HERRICK: The UK operational name given to military operations in Afghanistan since 2001.

KCMHR: King’s Centre for Military Health Research.

MoD: Ministry of Defence.

Naval Service: This includes the Royal Navy, Royal Marines and Royal Fleet Auxiliary.

Operational tour/tour: Refers to a period of deployment to a ‘theatre of operations’, i.e. an area in which active military operations are in progress. Tours typically last on average 6 months depending on Service branch and trade. The ‘Harmony guidelines’ dictate the amount of time per unit of time that personnel should spend deployed on an operational tour. These also differ by Service, for example Army guidelines sanction one six-month tour in every 30 months, during which they should not expect to be away from their usual place of work for more than 415 days in total.

Option point: Depending on Service branch and type of engagement (e.g. non-commissioned, commissioned - either short service or permanent), personnel are enlisted for a certain minimum number of years, after which they may or may not be granted an extension. For example these points may be at 12 years, 16/18 years and 22 years service. The pension to which personnel are entitled to also depends on the number of years served.

Phase two training: After basic training recruits go through phase two, or trade training, during which they learn skills specific to their military role – such as engineering, intelligence or medical skills.

RAF: Royal Air Force.

TA: Territorial Army.

TELIC: The UK operational name given to military operations in Iraq from 2003.
X-factor: Personnel are paid an ‘X factor’ – additional pay to recognise the ways in which the demands of a military career differ from a civilian one. This money is given partly in return for an agreement to serve where and when required, for potential redeployments at short notice and for non-regular working hours.

Deployment
Deployment and parenthood
Mothers have immunity from deployment for 6 months after the birth of their child if they return to work (unless they volunteer to deploy), after which they become liable for their full range of duties, including deployment. In some cases, however, there may be more leeway available: ‘Single Service arrangements may permit further screening from deployment where this does not compromise operational capability’ (2007DIN02-005). There is no set rule on deploying both parents simultaneously; however the military will ‘endeavour not to deploy both serving parents of dependent children at the same time, where this does not affect operational capability’ (2007DIN02-005). Again, individual services may have separate arrangements.

Contact with family during deployment
Parents are responsible for organising and paying for their own childcare whilst on deployment, they do however have a variety of methods freely available to contact their children during this time. These include: e-mail, internet, blueys and e-blueys, and phone cards. Blueys are free aerogrammes that deployed personnel and their families are entitled to send to each other, so called because of their blue colour. E-blueys are a quicker electronic version which allow letters to be sent (bi-directionally) in private and for free via an e-mail-type system that are printed out and passed on to the recipient. There is also a Concessionary Travel for Families grant (CTF) for soldiers deployed for more than four months to provide funds towards travel for immediate families to visit or be visited by two close relatives. In addition, units are provided with funds for each deployed soldier to spend on providing welfare support to their families.

Post-deployment
For UK personnel, it is mandatory for formed units to spend time in Cyprus on return from deployment for a process called ‘decompression’, during which time individuals that have deployed together have an opportunity to ‘unwind’ together. Decompression aims to begin the transition home process, and was initiated in response to concerns that the transition from being in a busy, often stressful operational environment to being at home with family and friends could be too sudden and may cause difficulties. Personnel spend 24-36 hours at a military facility, during which time a structured schedule of activity takes place. This includes time for recreational activities and a series of psycho-educational briefings, a video to promote safe driving, and controlled access to limited amounts of alcohol. Personnel that go out as individuals (rather than as part of a formed unit) may not go through decompression and due to various logistical reasons even some that have gone out as part of a formed unit may in reality fly straight home.

Post-operational tour leave (POTL)
A period of time equivalent to 1 day per every 9 calendar days deployed on Operations, intended to recognises the stresses that such deployments bring to personnel and their families (JSP 760)

Pay and leave
Pension
In brief, personnel are entitled to a taxable pension for life and a tax-free pension lump sum if they leave the Regular Armed Forces at or beyond normal retirement age (55 years). Those leaving before retirement age are entitled to a taxable pension for life and a tax-free one-off lump sum that is payable at age 65 years provided they have at least 2 years qualifying service or had rights to such under an occupational pension scheme. The pensions are calculated by multiplying 1/70th of their final pensionable earnings by the length of their reckonable service in years. The lump sum is three times the amount of annual pension (JSP 764).

Maternity/paternity leave and pay
All Service women are entitled to 26 weeks of Ordinary Maternity Leave (OML) and 26 weeks Additional Maternity Leave (AML). If they have a year’s continuous service and wish to return to duty following maternity leave for at least a year they are entitled to 26 weeks’ OML during which they are entitled to full pay under the Armed Forces Occupational Maternity Scheme (AFOMS) and 26 weeks’ AML, for the first 13 weeks of which they will receive the standard Statutory Maternity Pay (SMP). In addition, women (and men) are entitled to (non-reckonable, unpaid) prenatal leave and parental leave (which allows parents up to 13 weeks off to care for a child under the age of five (2007DIN02-005)). As of April 2011, in line with changes in the general population, The Armed Forces Occupational Paternity Leave Scheme (AFOPLS) will allow new fathers up to 26 weeks of Additional Paternity Leave (APL) to care for their child in the first year. If the mother has returned to work (and no longer claims maternity pay) with at least two weeks remaining of unexpired maternity leave and if they are the husband or partner (of either sex, who lives with the mother in a long term relationship) of the mother, they will also be entitled to Additional Statutory Paternity Pay (ASPP). The current system (two weeks allowance) will remain as ‘Ordinary Paternity Leave’

Family policies
Flexible working hours (e.g. allowing varying start/finish times) are not a legal entitlement in the Armed Forces although it is recognised that this may be beneficial to certain individuals. Many personnel work flexibly under local informal arrangements. Commanding Officers or line managers (CO/LM) are encouraged to consider requests for non standard working hours on a case by case basis where it does not affect operational capability. Part time work and reduced hours work are generally not available except for temporary exceptional circumstances (2005DIN02-012). Although not strictly flexible working arrangements, time off in lieu (TOIL)/stand down, special unpaid leave and career breaks are also considered on a case by case basis (Dietmann & Brown 2008).

Career breaks
The military do have opportunities to take career breaks (for periods over 93 days and up to 3 years) which are unpaid and non-reckonable; however after 93 days personnel are no longer entitled to remain living in Service Funded Accommodation (SFA) if they do take a career break (JSP 760).

Marriage, housing, and co-location
Being married does not guarantee that if both parents are serving they will be co-located (2007DIN02-005). Single mothers who remain in Service are entitled to publically funded Service Families Accommodation (SFA) or Substitute Service Families Accommodation (SSFA), though cohabitation in such accommodation (whether a
parent or not) with a (non-spouse/Civil Partner) partner is forbidden. Married women or those in a Civil Partnership with another Serviceperson may cohabit in SFA/SSFA (JSP 464).

**Salary sacrifice scheme**

This scheme has been adopted to assist with paying for childcare costs and is best described as outlined here, “Salary sacrifice is a voluntary reduction in cash salary in order to receive the value of that reduction as a non-cash benefit of a type allowed by HM Revenue & Customs (HMRC). The employee benefits because they only pay tax and National Insurance Contributions (NIC) on the reduced salary; in effect the childcare vouchers are tax/NIC exempt....the Service person can elect to receive between £30 and £243 pounds per month in childcare vouchers instead of cash from their salary. The vouchers can then be used to pay (or part pay) for the childcare costs from a regulated (formally registered), approved childcare provider.” (2009DIN01-096)

**Welfare**

**Equality and Diversity Scheme**

Established in April 2006 and revised in 2008, the Equality and Diversity Scheme sets out how the Armed Forces will meet statutory race, disability and gender equality duties. It takes account of existing and future legislation likely to be passed in order to promote equality and diversity. Equality outcomes and reporting mechanisms are to be annually reviewed by senior management, with adverse effects acted upon (http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/PersonnelPublications/EqualityandDiversity/DiversityInformation/EqualityDiversityScheme.htm)

**Support and complaints procedures for bullying and harassment**

The military formally outline four main sources of support and advice (JSP 763):

1) Moral advice and support – for example, support and advice from friends, family, colleagues, padre or unit Medical Officer.

2) Impartial advice and support – provided by trained Equality and Diversity Advisers (EDA), personnel who work within their Service unit to provide impartial advice with regard to Equality and Diversity issues, including alleged harassment and the MOD complaints procedures.

3) Practical assistance – the first point of contact for an individual is their immediate superior or line manager, unless they are involved in the problem, in which case it should be the unit EDA. Such contact does NOT necessarily mean that the Commanding Officer (CO)/Superior Line Manager (SLM) will be made aware, particularly if an informal resolution is wanted. If a formal complaint is likely then Assisting Officers (AO) provide support to those making complaint or who have been complained about.

4) Confidential advice and support – can be sought from dedicated welfare officers or personnel staff, e.g. the Soldiers, Sailors, Airmen’s Families Association, SSAFA; the padre or chaplain; Service agencies e.g. the Naval Personal Family Service and Royal Marines Welfare Service (NPFS & RMW); and help lines.
Complaint options

Personnel have four options after seeking advice for allegations of bullying or harassment:

1) No further action

2) Informal resolution - an informal complaint is recommended in the first instance where appropriate/possible, namely because often complainants simply want the behaviour to stop or for the impact it has had on them to be acknowledged. In addition, the person being complained about may be unaware of the impact they are having on the complainant and be willing to change, thus action at the lowest level when taken promptly can achieve a mutually acceptable solution. This can be done by speaking directly to the person being complained about, writing to them, or asking their immediate chain of command or line manager to speak to them on their behalf.

3) Formal complaint - formal complaints can be made up to three months following the incident/last of a series of incidents. Personnel are advised to consult their EDA for advice on procedures and help in identification of an AO. Complaints are submitted via a complaints form. Anonymous complaints cannot be considered as they may be unfair to the recipient, for example if the complaint is a ‘grudge attack’, however: ‘complainants should not feel discouraged from making a formal complaint for fear of negative consequences and should be reassured that they will be protected against victimisation’ (JSP 763 pp 20).

4) Service Complaints Commissioner - an independent complaints body that allows complaints to be made circumnavigating the chain of command. The Armed Forces Act 2006 introduced the role of independent Service Complaints Commissioner and Service Complaint Panels (SCPs) were later introduced to improve the process. SCPs include a publically appointed independent panel member to consider complaints regarding, for example: unlawful discrimination; harassment; bullying; and, dishonest, improper or biased behaviour. They are independent of the chain of command and of the Service Complaints Commissioner with the aim of providing an objective, external, independent view on the complaint being considered.

Welfare Services
Welfare services such as ‘HIVE’ are available which aim to provide support to personnel and their family upon relocation; confidential support service on a range of issues, including relationship problems, bereavement, housing, debt and childcare, provide information about one’s unit and Service, provide support to partners/families during periods of separation; talk to other groups and organisations on behalf of personnel, including schools and housing authorities. In addition, each unit also has a team of Welfare Officers (WOs) who are trained and supported by the welfare services, and who can offer advice on MOD housing, social issues, career management and personal problems.

Chaplain/Padre
Every large unit and has its own Padre. Their role is to look after the emotional and spiritual wellbeing of its personnel. They can advise on religious matters, as well as any other problems in Service or personal lives. They are officers, but are expected to minister to everyone, regardless of rank or seniority. You do not have to be religious to talk to them, and anything you say will be kept confidential. If a member of another
faith with religious concerns, the military has spiritual advisers who represent the Buddhist, Sikh, Hindu and Muslim faiths, as well as a rabbi who acts as honorary chaplain for Jewish soldiers.

**Advice lines**
A range of advice lines are available to deal with all manner of problems or requests for advice, including service operated and charity based support. This includes advice on welfare issues, mental health, finance, housing, schooling, equality and diversity issues and so on. Access to such help lines is available to personnel in the UK, abroad and on operational deployments.

**Army Benevolent Fund**
Supports soldiers, former soldiers and their families by providing financial grants. These cover everything from general needs to holidays for families under stress.

0845 241 4820
www.armybenfund.org

**Army Families Federation**
The AFF campaign on behalf of Army families. They can give advice on a range of welfare-related issues, and anything to do with your life as an Army family.

01980 615 525
www.aff.org.uk
us@aff.org.uk

**Army Welfare Information Service**
A professional, confidential welfare support service for soldiers and their families. The AWS has offices in the UK and overseas.

01722 436 569
awis@hqland.army.mod.uk

**Combat Stress**
Provides treatment and support to veterans suffering from mental ill-health, and expert advice for their families.

01372 841600
www.combatstress.org.uk

**Forces Prayer Line**
Open to all service personnel and their families. It is manned by trained volunteers who will listen, provide encouragement and pray with callers.

0845 26 37 223 (or 0800 23 333 23 from Germany)

**Royal British Legion**
The Royal British Legion is a UK charity that provides financial, social and emotional support to millions who have served and are currently serving in the Armed Forces, and their dependants.

08457 725 725
www.britishlegion.org.uk

**SSAFA Forces Help**
Provides financial, practical and emotional support services for soldiers, ex-soldiers and their families. This includes professional health and social work services as well as a confidential helpline.
Confidential Support Lines
UK 0800 731 4880
Germany 0800 1827 395
Cyprus 800 910 65
Falklands #6111
Other locations are served by a call-back service.
Dial +44 1980 630 854

Confidential Support Line
AWOL Support Line 01380 738 137

WRVS
The WRVS has 94 service welfare officers who provide emotional and practical support to single and unaccompanied service personnel in the Armed Forces.
029 2023 2668
www.wrvs.org.uk

Mental health support

Deployment
A range of mental health support options are available to Service personnel. During deployment, community psychiatric nurses (CPN) are available to provide care and treatment. They are supported by visiting consultant psychiatrists. In addition, if needed, two UK-based teams of psychiatrists and mental health nurses are also at hand to deploy at short notice.

In the UK
At home, 15 Departments of Community Mental Health (DCMH) exist across the UK. These provide outpatient mental healthcare and consist of psychiatrists and mental health nurses, supported by mental health social workers and clinical psychologists. Available treatments include medication, psychological therapies and environmental adjustment. In addition, links with NHS Trusts allow for the provision of inpatient care so that personnel may be treated close to their units where possible.

Reserves and ex-service members
The Reserves' Mental Health Programme offers assessment and treatment for reservists who have experienced mental health problems as a result of their service. The MoD is liaising with the NHS and Combat Stress to ensure that GPs and the NHS are informed about aspects of military culture and can inform ex-service personnel about their support options available. Pilot schemes at six NHS trusts in the UK have been set up with the aim of facilitating community mental health help-seeking among veterans. These are advertised for example via GPs and local Royal British Legion branches. ([http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/ImprovedMentalHealthServicesPledgedForArmedForces.htm](http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/ImprovedMentalHealthServicesPledgedForArmedForces.htm))
Appendix B: Supplementary data
Table 2 Health outcomes among female personnel by parental and serving status. Numbers (n), weighted percentages (%) and adjusted odds ratios (OR) with 95% confidence intervals (CI) are shown.

<table>
<thead>
<tr>
<th>Serving</th>
<th>Left service</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No children</td>
<td>Children</td>
<td>Missing</td>
<td>Adjusted OR (95% CI)</td>
<td>No children</td>
<td>Children</td>
</tr>
<tr>
<td></td>
<td>(n=717)</td>
<td>(n=191)</td>
<td>(n)</td>
<td></td>
<td>(n=170)</td>
<td>(n=104)</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>PTSD (caseness/score)†</td>
<td>25 (5.4)</td>
<td>6 (1.4)</td>
<td>9</td>
<td>0.76 (0.57 - 1.01)</td>
<td>9 (6.6)</td>
<td>5 (4.7)</td>
</tr>
<tr>
<td>Common mental disorder</td>
<td>170 (24.4)</td>
<td>45 (25.6)</td>
<td>11</td>
<td>1.12 (0.70 - 1.81)</td>
<td>42 (23.5)</td>
<td>26 (24.3)</td>
</tr>
<tr>
<td>Multiple physical symptoms</td>
<td>64 (11.3)</td>
<td>12 (7.3)</td>
<td>9</td>
<td>0.49 (0.24 - 1.01)</td>
<td>16 (10.9)</td>
<td>11 (10.6)</td>
</tr>
<tr>
<td>General health (fair/poor)</td>
<td>82 (12.8)</td>
<td>21 (10.6)</td>
<td>1</td>
<td>0.72 (0.38 - 1.35)</td>
<td>19 (12.2)</td>
<td>17 (17.0)</td>
</tr>
<tr>
<td>Hazardous alcohol use</td>
<td>344 (51.4)</td>
<td>50 (24.2)</td>
<td>13</td>
<td>0.33 (0.20 - 0.52)</td>
<td>58 (32.0)</td>
<td>18 (20.0)</td>
</tr>
</tbody>
</table>

Adjusted for age (continuous), rank, marital status, enlistment status and service branch
† IRR using PCL score

Table 3 Impact of parental status on leaving intentions among regular personnel, and influence of adjusting for socio-demographic characteristics. Unadjusted and adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown. Non-mothers are the reference category.

<table>
<thead>
<tr>
<th></th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted ORa (95% CI)</th>
<th>Adjusted Orb (95% CI)</th>
<th>Adjusted Or (95% CI)</th>
<th>Adjusted Or (95% CI)</th>
<th>Adjusted Orc (95% CI)</th>
<th>Adjusted Or (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulars</td>
<td>1.08 (0.66 - 1.76)</td>
<td>1.19 (0.71 - 1.97)</td>
<td>1.12 (0.68 - 1.83)</td>
<td>1.06 (0.63 - 1.77)</td>
<td>1.11 (0.68 - 1.82)</td>
<td>1.04 (0.63 - 1.73)</td>
<td>1.15 (0.66 - 1.98)</td>
</tr>
</tbody>
</table>

a age (continuous); b rank; c marital status; d service type; e deployment status; f all variables
Appendix C: Qualitative study documentation
Invitation to participate in a research study

Dear [name],

I am writing to invite you to participate in a study of the experiences and wellbeing of current and ex-service female UK Armed Forces personnel. There is little known about how female personnel experience life in the military and how this relates to their wellbeing. This study therefore has the aim of increasing that understanding so that the needs of female personnel can be increasingly recognised, and that recommendations can be made to improve support for women in the military. The study is being carried out as part of a PhD research project.

You are being contacted because you took part in large study carried out at the King’s Centre for Military Health Research (KCMHR) at King’s College London, and agreed to be re-contacted for further research in the future.

The study involves talking with you over the telephone for approximately one hour. The interview will give you the opportunity to discuss your experiences in the military. For example, issues relating to working in a predominantly male environment, aspects of deployment, balancing work and family life, and accessing sources of support.

Any information you provide will be completely confidential, and no personal information will be passed on to anyone else, including the Armed Forces, the MoD or any other third party. Taking part in this study is voluntary, and if you do decide to take part but change your mind, you are free to withdraw at any point.

I appreciate that this would involve you offering an hour of your time, therefore a thank-you gift of £15 as gift vouchers will be given to all those who complete an interview.

While this study is supported by the MoD, and has received ethical approval from both the MoD and the King’s College Hospital Research Ethics Committees, it is completely independent research.

I would be grateful if you would read the accompanying information sheet to inform your decision to take part. Please fill out and sign the enclosed consent form (which will be kept and stored separately from any information you give), and return it in the envelope provided. Feel free to contact me using the details provided if you have any further questions. You will be contacted by telephone in a week, when you will have the opportunity to ask me for more information. If you are happy to take part, we can arrange a time for the interview that is convenient for you. To help ensure that the questions I ask you are relevant, I will also ask you the following at this time: ‘Did you have experience in any of the cadets, or university cadet schemes before joining the military?’, and, ‘Did you join the military as a Commissioned Officer?’

Yours Sincerely,

Charlotte Woodhead
King’s Centre for Military Health Research, Weston Education Centre, 10 Cutcombe Rd, London, SE5 9RJ. Tel: 0207 848 5342. E-mail: charlotte.c.woodhead@kcl.ac.uk
Information Sheet for Participants

Charlotte Woodhead
King’s Centre for Military Health Research,
Weston Education Centre,
10 Cutcombe Rd,
London, SE5 9RJ
Tel: 0207 848 5342
E-mail: charlotte.c.woodhead@kcl.ac.uk

The experiences and wellbeing of women in the UK Armed Forces

I am writing to ask you to participate in this original research project investigating the experiences and wellbeing of women who have served, or are serving, in the UK Armed Forces. This work is being carried out as part of a PhD study. You are being contacted because you took part in large study carried out at the King’s Centre for Military Health Research (KCMHR) at King’s College London, and agreed to be re-contacted in the future.

This study aims to specifically look at the experiences of female military personnel, so that their needs can be better understood, and that recommendations can be made to improve support for women in the military and after they leave.

You should only participate if you want to; choosing not to will not disadvantage you in any way. Before you decide whether or not to take part, it is important that you understand why the research is being carried out, and what would be involved.

Please read the following carefully and feel free to discuss it with other people. If there is anything that has not been clarified, or if you would like to ask any additional questions, please feel free to contact me.

What is the purpose of the study?

To gain a deeper understanding about issues that may be sources of stress for female personnel. For example, any issues related to adapting to working in a male-dominated environment; balancing family and work roles; and accessing sources of support.

What are the benefits of taking part?

Taking part will provide you with an opportunity to discuss anything, in confidence, that you consider important to your wellbeing during and after military service.

Indirectly, your insights may help inform governmental and institutional policies, as well as to encourage further research in this area, to improve the experiences of a growing number of female military personnel.

You will be offered a copy of the research findings and recommendations.

What is involved?

If you agree to take part you will be contacted at the number you provided on the KCMHR questionnaire to take part in a telephone interview lasting approximately 1 hour. If your contact details have changed, please contact me with your updated details.

If it is more convenient, you can arrange a different time to talk - it may be best if you can arrange a time when you have space to talk in private and are unlikely to be interrupted.
Are there any risks?

There are not likely to be any risks in taking part, although as you will be asked about various sources of stress, there may be some areas that are sensitive to you. **You are not obliged to answer questions if you do not want to.** You can stop the interview at any time if you are not comfortable. Interviews will be recorded; however you may request that this recording be destroyed at any time. Details of support resources will be sent to all participants after completing an interview.

Will it be confidential?

Information that you give will be completely confidential. It will not be possible for your personal details to be linked to the information by anyone else. Your details will be stored in a secure place and kept separate from the information given in the interview. Personal information will not be released to anyone else. The telephone interviews will be recorded so that the information can be written down and coded, but the recordings will then be deleted. The recordings will not be linked to any personal information that could be used identify you. You may request that the recording is destroyed at any time.

The interview data will be stored for 20 years.

You are free to withdraw your data from the study up to a month after the interview before it is transcribed, without the need to provide a reason.

This study will be carried out independently of the MoD, but has been approved by both the MoD and the King’s College Hospital Research Ethics Committees.

If you have any concerns about this study, or feel it has harmed you in any way, you can contact King’s College London using the details below for further advice and information. The independent medical officer, Dr Neil Greenberg, will be available in the event that you are distressed by anything discussed during the interview (Dr Neil Greenberg, Academic Centre for Defence Mental Health, Weston Education Centre, 10 Cutcombe Rd, London, SE5 9RJ. Tel: 0207 848 5351. E-mail: sososanta@aol.com).

What happens next?

If you want to take part, please contact me using the details below, and also fill out the enclosed consent form and return it in the envelope provided.

If you require any more information about the study, or advice about any issues covered, please also contact me using the details below.

Your contact details
If your contact details have changed or you would prefer to be contacted by a different method – please fill out the slip at the bottom of this page and return it to the address below in the provided envelope. If you don’t want to take part in this study but are still willing to be re-contacted in the future, please also fill out the form below with your up to date contact details.

Many thanks,

Charlotte Woodhead
King’s Centre for Military Health Research,
Weston Education Centre,
10 Cutcombe Rd,
London, SE5 9RJ
Tel: 0207 848 5342
Name ________________________________

Address _______________________________________

_____________________________________________

_____________________________________________

Postcode ____________

Telephone (home) _______________________
(work) _______________________
(mobile) _______________________

E-mail ________________________________
Consent Form

Please complete this form and sign below after you have read the information sheet.
Study title: The experiences and wellbeing of women in the UK Armed Forces.
Principle researcher: Charlotte Woodhead, King’s College London.
King’s College Hospital Research Ethics Committee Ref: 07/Q0703/36
MoD Research Ethics Committee Ref: 0732/117

Required consents (please tick the appropriate box):

I have read the information sheet and have kept a copy. I was given the opportunity to ask any questions. I understand the purpose of the research and what will be involved in taking part.  

I understand that if I decide at any time during the research that I no longer wish to take part I can notify the researcher and withdraw immediately. I also understand that I can withdraw without giving any reason. I understand that I will be able to withdraw data up until a month after the interview.

I consent to the processing of my personal information as outlined in the information sheet and understand that the information will be handled in accordance with the terms of the Data Protection Act 1998.

I understand that the information I provide will be published as a research report and that confidentiality and anonymity will be maintained. I understand that my details will not be able to be linked to the information I give in any publications.

I understand that in the event of my sustaining injury, illness or death as a direct result of participating as a volunteer in Ministry of Defence research, I or my dependants may enter a claim with the Ministry of Defence for compensation under the provisions of the no-fault compensation scheme, details of which are attached.

I would like information about the findings of the study

Name: Signature: Date:
ARRANGEMENTS FOR THE PAYMENT OF NO-FAULT COMPENSATION TO RESEARCH PARTICIPANTS

1. This Annex sets out the arrangements for the payment of no-fault compensation to volunteers who suffer illness and/or personal injury as a direct result of participating as a non-patient (healthy) volunteer in research conducted on behalf of the Ministry of Defence. The no-fault compensation arrangements only apply to research participants (Military, Civilian, or non-Ministry of Defence) who take part in a Trial that has been approved by the MoD Research Ethics Committee.

2. A research participant wishing to seek no-fault compensation under these arrangements should contact the Directorate of Safety & Claims (DS&C) St. George’s Court, 2 -12 Bloomsbury Way, London, WC1A 2SH who may need to ask the Claimant to be seen by a MoD medical adviser.

3. DS&C will consider reasonable requests for reimbursement of legal or other expenses incurred by research participants in relation to pursuing their claim (e.g. private medical advice, clinical tests, legal advice on the level of compensation offered) provided that they have been notified of the Claimant’s intention to make such a Claim.

4. If an injury is sufficiently serious to warrant an internal MoD inquiry, any settlement may be delayed at the request of the research participant until the outcome is known and made available to the participant in order to inform his or her decision about whether to accept no-fault compensation or proceed with a common law claim. An interim payment pending any inquiry outcome may be made in cases of special need. It is the Claimant’s responsibility to do all that he or she can to mitigate his or her loss.

5. In order to claim compensation under these no-fault arrangements, a research participant must have sustained an illness and/or personal injury as a direct result of participation in a Trial. A claim must be submitted within three years of when the incident giving rise to the claim occurred, or, if symptoms develop at a later stage, within three years of such symptoms being medically documented.

6. The fact that a research participant has been formally warned of possible injurious effects of the trial upon which a claim is subsequently based does not remove MoD’s responsibility for payment of no-fault compensation. The level of compensation offered shall be determined by taking account of the level of compensation that a court would have awarded for the same injury, illness or death had it resulted from the Department’s negligence.

7. In assessing the level of compensation, DS&C, in line with common law principles, will take into account the degree to which the Claimant may have been responsible for his or her injury or illness and a deduction may be made for contributory negligence accordingly.

8. In the event of DS&C and the injured party being unable to reach a mutually acceptable decision about compensation, the claim will be presented for arbitration to a nominated Queen’s Counsel. DS&C will undertake to accept the outcome of any such arbitration. This does not affect in any way the rights of the injured party to withdraw from the negotiation and pursue his or her case as a common law claim through the Courts.
Interview Guide

NB not all questions were necessarily asked and exact wording/order of interview may have differed across interviews.

Pre-interview
- Introduction
- Nature and purpose of study
- Why doing and briefly what kinds of areas will be covered

Confidentiality
- Reiterate confidentiality of data
- Remind interview tape recorded, details of storage and deletion of tapes
- Details of how personal info kept
- Remind free to terminate interview and request for info to be removed from study
- How findings will be used

Consent
- Before we start can we go over the consent form I sent you by post to confirm that you are happy with everything on there……

[Read through consent form and confirm]

[If not received consent form]
- Can I also ask you to send me the signed form in the envelope provided – if you did not receive the form or need another I can send it to you again.
- Do you have any questions before we start?

Warm-up questions
- How much did you know about the military before you joined up?
- Do you come from a military background?
- How long have you been/were you in service?

Start
- Firstly, going back to when you first joined the military, what did you think about the environment or atmosphere? [Amend questions according to first experience]:

(Army) at initial soldier training/initial officer training-Sandhurst; (Navy) initial Naval training (HMS Raleigh)/Initial officer training-Dartmouth; (RAF) Recruiting training course (RTC)/ Basic recruit training RAF (FAF Halton)/Initial officer training - Cranwell; (reserves) regular reserve/TA; (cadets) university cadet/other cadets; (family) whether from military background.

Probe: Did you have any expectations of, or worries about, how you would get on with other recruits/others you were due to start work with?
Probe: Was it similar or different to what you expected?

Probe: Did your superiors treat you the same or differently to your peers? Can you give me a couple of examples as to how it was the same or different?

- When you first started in the military, were you surprised by any of the language or behaviour used?

Probe: Do you think these behaviours happen more, or less, or the same when the group is male, or female, or both?

Probe: Why do you think this is?

Probe: If you can think back to the time of your first post, and think about if you were talking to a new potential female recruit at that time, what insights would you give her about military life/what advise would you give to prepare her?

[Ask about any status changes since survey completion date [reference period = date of questionnaire – present] in relation to serving status, parental status, deployment status, rank, relationship status, enlistment status.]

- In the last two years, from [questionnaire date] to the present have there been any changes in your employment status, [e.g.] in relation to your rank?

**Occupational contexts/daily experiences**

- Can you describe a typical working day from when you wake up, including who you come into contact with and what you do?

Probe: Are your colleagues mainly male, female or a mixture?

Probe: How would the advice you might give now to a new woman be different from the advice you may have offered when you first started? (i.e. with hindsight, with experience)

- Can you describe any aspects of the military way of life that you particularly like?
- Are there aspects that you don’t like?
- Thinking back to before you joined the military, and also to how you are when you are not in a military environment, do you think you change your behaviour in any way?
- Do you behave any differently to integrate with military people you come into contact with, or do you feel you can be yourself?

**Deployment and homecoming**

- On balance, did you feel part of a closely-knit team while on deployment?
- Can you guide me through your role on deployment?

Probe: Do you think your colleagues understood your role?
• Do you think everybody’s contribution was valued equally, or not?

Probe: Why do you think this is?

Probe: Did your superiors make you feel that your contribution was important?

• Were there times when you felt more stressed than usual during your deployment, or not?

Probe: Did you feel you could seek support when you felt like this?

Probe: From where? Why not?

Deployment: family

• How much were you able to communicate with your family whilst on deployment?

Probe: How did you react after speaking to/hearing from your children/(and/or) your partner while you were away?

Probe: Did you feel that you had to/were able to maintain your parental role while you were away – e.g. dealing with issues of discipline/arranging child care etc

Probe: How did your family respond to you when you got back from your deployment? (probe specifically about children and partner)

Probe: How was their initial reaction to you similar or different over time?

• Can you describe what it was like when you came home from your deployment?

Work-family balance

[NB if already talked about family be prepared to skip probes]

• Moving on to a different topic, can you tell me about how your work life fits in with your life at home?
• In what way does your work life benefit your family?
• Can you think of any disadvantages of your military career to your family?

[If has children]

• Can you tell me, in terms of your children, about any decision processes you went through when you joined the military (and/or) when you had a child while you were serving in relation to whether or not you would join/stay on?
• Can you tell me how you balance your time with your children and your work commitments?

Probe: How much of your time do you spend arranging child care arrangements?

Probe: Do childcare arrangements have an impact on you financially?

• Do you use the childcare voucher scheme available?
Probe: How do you think your child/children view your career?

- Do you feel supported in meeting the needs of your family and/or children?

[If been deployed]

- What were your family/childcare arrangements when you were deployed?

Probe: Was there anything you would have liked to be different about these arrangements?

Unfair treatment/ discrimination
I am going to ask you some questions about your experiences with other people in the military now…

- Have you ever received surveys asking you about discrimination or harassment?
  - What did you think of the survey – did it ask relevant questions?
  - Were there questions you would have liked them to ask that weren’t covered?
  - Why did you or didn’t you fill it out?

[Some women in the military report feeling that they have at times been undermined or not taken seriously, or have felt the need to work harder to achieve the same goals as their male colleagues…]

- Do you feel all members of your rank or in your role are treated equally?

Probe: Why do you think this is?

- Do you think military women ever experience unfair treatment, or not?

Probe: [If yes] why do you think this occurs? Not asking you to give names, but are there certain types of people who are usually the perpetrators/recipients?

- Have you ever felt that your peers and/or your superiors behaved unfairly towards you?

Probe: Can you describe what happened?

Probe: Why do you think this was?

- Do you think there is an adequate system in place to prevent harassment or unfair treatment?

- Have you ever experienced your peers (and/or) superiors treating other women in a hostile or intimidating way (felt they were verbally or physically threatening) that was different from others?

Probe: Can you describe what happened?

Probe: Why do you think this was?
• Has this ever happened to you?
• There have been several reports by women in both the US and UK military of experiencing harassment whilst on deployment – have you or anyone you know ever experienced this?
• If you ever experienced any form of unfair treatment, what would you do? Why?

Probe: Do you think people behave any differently around any women for fear of being reprimanded/ fear of someone pulling the ‘harassment card’? Have you experienced this?

Probe: Have you experienced other women ever abusing the system in place to protect against any discrimination or unfair treatment? Would this make you more cautious about reporting it?

Probe: If yes, why do you think they feel they need to abuse the system?

Probe: Would this make you more cautious about reporting it? Why?

• Do you have someone you could confide in if something were to happen to you?

Social support/cohesion
• In general, do you have someone that you are able to share your feelings with, or go to for advice?

Probe: How often do you have contact with this person?

• If you had a personal issue you wanted to talk through with someone, would you discuss it with friends inside, or outside of the military?

Probe: How important is this for you?

• Do you consider your partner to be someone you can talk to about things that are really important to you?
• Do you have a role model or mentor at work?
• What are your plans for the future – do you intend to stay in the military?
• Lastly, if you could describe a set of characteristics or personality traits that would be best suited to the Armed Forces for a woman, what would she be like?

Finish
• Is there anything else you can think of that I might not have known to ask?

[Thank respondent, remind about advice leaflet, confirm address to which gift vouchers are to be sent and notification of study results etc]
Appendix D: Quantitative study documentation