The Experiences of Female Members in the Canadian Military

by

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Abstract

Studies on the mental health of female military service members have mostly examined risk factors for negative outcomes rather than exploring what promotes psychological well-being. The theory of 'salutogenesis', or, 'the origin of health', strives to understand why many individuals are able to remain well amidst stressful conditions (Antonovsky, 1996). The present research explored how female soldiers engage in mental health maintenance. In Study 1, associations between negative psychological outcomes and social support, coping strategies, and spirituality/religious attendance were examined in a representative sample of female service members in the Canadian Forces. Differences from men with respect to these relationships were also investigated. Results showed that social support was the only protective correlate for multiple outcomes in women, while both social support and active coping were psychologically beneficial for men. Spirituality, avoidance coping, and self-medication were all associated with an increased likelihood of several outcomes in women, and the pattern of findings was similar overall in men. In Study 2, semi-structured interviews were conducted with active duty female members in the Canadian Forces in order to understand how women who had been on at least one deployment and who had not received mental health services in the past year, a proxy for current mental health, made sense of their military experiences. Transcripts were analyzed for nine participants using narrative analysis. A sense of belonging was found to be of utmost salience to the women, with several participants negotiating and constructing places that felt like *home base* to them, and with different degrees of attachment to the military versus civilian world. The findings of this work are discussed within the context of focusing prevention and intervention efforts on increasing

belongingness, social cohesion, and a sense of home in the military for female service members.

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Dedication

This thesis is dedicated to my family. To my mother, Fatima, my proofreader, financial advisor, personal assistant, teacher, and paragon: I quite simply would not have arrived at this point if it had not been for her. To my father, Carlos, whose quiet modesty taught me an early lesson that there is new knowledge to be gleaned from every person and situation if we welcome and accept it, and that we are always a work in progress. To my little brother, Lenny, who is wise beyond his years and who lives his life in the service of authenticity and happiness, a difficult thing to accomplish in our times. I am thankful for our conversations that have kept me reflective of my own path. And finally, to my grandmother, Elvira, who embodies resilience and whose strength and impact on my life is as difficult to put into words as my gratitude for her continued presence in it.

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1. Mota, N., Medved, M., Whitney, D., Hiebert-Murphy, D., Sareen, J. (2013). Protective Factors for Mental Disorders in Female Service Members: Comparisons with Men in a Representative Survey. *Canadian Journal of Psychiatry, 58(10),* 570-578.

An extended version of the above publication, *Protective Factors for Mental Disorders in Female Service Members: Comparisons with Men in a Representative Survey,* appears in this doctoral thesis (Chapter 2: Study 1, pp. 14-71) with permission from the *Canadian Journal of Psychiatry*.

Chapter 1: Introduction

The proportion of female service members in the Canadian Forces is currently approximately 15%, and women are permitted to occupy all military roles, including combat operations (Canadian Forces National Report to the Committee for Women in NATO Forces, 2009). Despite the substantial numbers of women in the Canadian Forces and in many other militaries worldwide, however, the mental health of female personnel remains a relatively under studied area, particularly in Canada. Meanwhile, it is pivotal that the necessary mental health resources are in place for military women and that they are tailored appropriately to the unique needs of this population.

One area that has continued to receive little investigation in the literature is the means by which female personnel remain psychologically healthy in a non-traditional environment. In the past several years, a few authors have highlighted that "several academic works have captured the gendered experiences of women in the military. However, few have examined how women have successfully negotiated the military environment…in spite of the challenges that are faced by the women and the organization" (Herbert, 1998, in Davis, 2009, p. 445). Given that even 'successful' negotiation of the military culture by no means equates to healthy psychological functioning, one is left with especially limited knowledge of the resources women use and the processes that they undergo in order to maintain their mental health in the face of often encountering military stress and exposure to traumatic events. Such an area of study has important implications for military training and education, mental health prevention efforts, and clinical interventions for psychopathology within this population.

The History of Women in the Military

More thorough accounts of the history of women in the military can be found elsewhere (Department of National Defence, 2010; Davis, 2009; Weinstein & White, 1997), however, I will briefly describe the history of women's involvement in the Canadian Forces and the U.S. Military here. It should also be noted that throughout this work, I will review literature conducted in Canadian military service members while also discussing research conducted in U.S. military samples and, to a lesser degree, in other armed forces. I will additionally draw upon literature in military recruits, service members, and veterans. These decisions do not reflect underlying assumptions that all militaries are alike or that the experiences of military service members and veterans are identical. Rather, because military mental health research on female members in the Canadian Forces remains relatively limited to date, I have drawn from research in other militaries in order to guide the current work, develop its rationale, and assist in contextualizing my findings.

Although the military environment has always been considered to be an extremely masculine culture, Weinstein and White (1997) note that female members have made many important contributions throughout time, and have served in a number of capacities (e.g., as nurses, as mechanics) in both militaries for many years (Department of National Defence, 2010; Holm, 1992, in Weinstein & White, 1997). It was only at the start of the 1960's, however, that women were officially permitted to enter the Canadian Forces, and even then, the total number of women who could join was capped at a very low prevalence (Department of National Defence, 2010).

The year 1970 marked the first time when more military roles began to be opened

to women in the Canadian Forces, while 1973 was when the United States began actively recruiting both males and females for service after the end of the draft, with significant changes in gender integration taking shape towards the end of the decade (Davis, 2009; Weinstein & White, 1997). In 1986, the Canadian Forces Charter Task Force on Equality recommended that women be welcomed to occupy all possible military positions, including combat (Davis, 2009). In the following years, women began to serve in all areas except for submarine service, which was opened to them in the year 2000 (Department of National Defence, 2010). More recently, the Canadian Forces Employment Equity Plan of 2006 has described the aim of eventually having a total of 19.5% female personnel in its forces, which is a proportion based on the availability of women in the Canadian Labour Market (Canadian Forces National Report to the Committee for Women in NATO Forces, 2009). Currently, an estimated 8% of women in the forces have engaged in combat-related deployments (Canadian Forces National Report to the Committee for Women in NATO Forces, 2009). The 15% total prevalence of women in the Canadian Forces is also similar to that in the U.S. military (Department of Defense, 2009), however, women have only been permitted to serve in combat roles in the U.S. since 2013 (e.g., Bumiller & Shanker, 2013; Harris, 2013).

The Military as a Male-Dominated Occupational Environment

It is useful to understand the gendered military culture in order to recognize that women are an important population of study with regard to mental health. Historically, the military has been conceptualized as a masculine environment dominated by the hegemonic masculinity of the soldier/warrior (Barrett, 1996; Duncanson, 2009). This "ideal type against which various ways of 'doing man' can be constructed and

performed" (Connell & Messerschmidt, 2005, p. 255) is characterized by traits like self-control, endurance, logic, determination, heterosexual orientation, and physical strength (Barrett, 1996; Duncanson, 2009; Green, Emslie, O'Neill, Hunt, & Walker, 2010; Hale, 2008; Sasson-Levy & Amram-Katz, 2007; Sion & Ben-Ari, 2009). Although a number of different masculinities exist in the military environment, the hegemonic masculinity lies at the top of the hierarchy (Connell & Messerschmidt, 2005), and the worth of the military officer relies on how closely he resembles this ideal (Barrett, 1996; Sasson-Levy, 2002; Sasson-Levy & Amram-Katz, 2007). Qualitative interviews with military personnel have suggested that for both males and females, military duties that are more masculine, essentially combat and related roles, are the most coveted (Morgan, 2007).

Several aspects of the military culture and organization serve to perpetuate the hegemonic masculinity. First, many accounts have described military basic training and its critical importance for masculine identity construction in the military. This training serves both to assess and entrench such 'warrior' characteristics as endurance, determination, and toughness in its personnel as part of an overall process of becoming a man (Atherton, 2009; Barrett, 1996; Hale, 2008; Sasson-Levy & Amram-Katz, 2007; Zeigler & Gunderson, 2005). In order to construct such a military masculinity, the aim is first to distance men from their civilian personas and deconstruct them with the purpose of starting with a tabula rasa (Barrett, 1996; Green et al., 2010; Hale, 2008; Zeigler & Gunderson, 2005). In a study of male and female members of the British military, for example, one of the male participants discussed how at the end of basic training, "everyone's naked" (Hale, 2008, p. 317). In addition, the military organization ensures that its personnel continuously perform these masculinities (e.g., risk-taking in jet fighter

pilots) through constant assessment and public evaluation (Barrett, 1996). Masculinity is part and parcel of good performance in the military, unlike the majority of other existing professions (Herbert, 1998).

More importantly, a number of works have also discussed how hegemonic military masculinity is promoted by practices of distinguishing men from the 'others', namely, women and homosexual men (Barrett, 1996). During training, for example, men are often taunted with 'feminine' name-calling as a way to push them harder, because "a man's masculinity, his self-identity, is called into question when he is accused of having feminine traits" (Zeigler & Gunderson, 2005, p. 48). Viewing femaleness as different and lesser by conceptualizing the construct with traits such as weakness and giving up easily assists in creating a masculine image of strength and endurance for military men (Barrett, 1996; Zeigler & Gunderson, 2005). Meanwhile, the very element of challenge encompassed within military experiences as well as dependence on one another promotes male bonding because the men have endured and gotten through the challenges together (Barrett, 1996; Green et al., 2010). One participant in a study by Hale (2008), for example, spoke about how male-male military relationships are solidified specifically "through mutual hardship" (p. 321).

Other bonding practices also serve to exclude women. Atherton (2009), for example, conducted a series of in-depth interviews with 25 former male military personnel from the British Army, and noticed that these participants used "a repertoire of ideas, emotions and behaviours deemed to be 'acceptable' for fighting men" (p. 824). These masculinities were performed within group activities such as drinking, playing sports, and watching pornography. Further, the author argues how such activities contribute to military

masculinities specifically by creating shared experiences among only heterosexual men (Atherton, 2009). Similar homosocial acts, or activities between heterosexual males, have been described in other studies (e.g., Flood, 2008). Such male bonding activities are continued performances of the previously discussed 'othering' practices encouraged by the military, as women and homosexual men are not welcomed to partake in them (Atherton, 2009; Flood, 2008).

In fact, Atherton (2009) noted how the majority of the male personnel in his study commented on the homophobia and sexism entrenched in the attitudes of other personnel, despite existent policies around gender equality. In a series of interviews with a number of young adult males, Flood (2008) also noted that such attitudes and behaviors were seen in most participants, however, they were especially salient for those attending a military training university, a "particularly intense site of homosociality" (p. 243). Flood aimed to explore how men use their sexual relations with women in particular in order to assert their masculinity within their male groups. He found several examples of how this performance took place, not only by men sharing stories of their heterosexual encounters, but also by working together in order to attain and even to harass women (Flood, 2008). Relationships with other males also came before those with women, with the likelihood of being teased by comrades if women were put first (Flood, 2008).

Examining the attitudes and beliefs of cadets and personnel towards traditional and military gender identities and roles also sheds light on the extent to which the military environment is masculinized. Kurpius and Lucart (2000), for example, found that male students from military academies had more traditional views about women's roles and rights than males attending a civilian university, and also exhibited higher levels of

antifemininity. Other studies have examined cognitions and attitudes towards women around gender roles and leadership qualities. In a U.S. Air Force cadet sample, Boyce and Herd (2003) found that in male participants, there was a significant relationship between traits that participants linked to males and those that they used to describe a 'successful officer'. This finding was more pronounced in male cadets who had been in the Academy for a longer period, suggesting that the military culture may reinforce such beliefs. No such relationship was found between success as an officer and those traits linked to being a woman. Boldry, Wood, and Kashy (2001) examined the relationship between beliefs around traditional gender stereotypes and performance evaluations of men and women in a cadet sample. Participants were asked to rate both the typical and ideal male and female cadets on a range of traits relevant to military performance, and also had to rate themselves and other students on these traits. Findings showed that the ideal female cadet received lower ratings than the ideal male cadet on traits of motivation and leadership, and similar ratings were found for the typical female cadet. Interestingly, no significant sex differences were found on any of the several *objective* performance measures included in the study (Boldry et al., 2001).

In another military cadet sample, progress was noted over time around attitudes towards military women's roles and overall inclusion compared to a time point soon after U.S. military academies first allowed women. However, a considerable proportion of participants still held conventional views regarding roles for women, especially in a leadership capacity (Morgan, 2007). Finally, a study by Looney, Kurpius, and Lucart (2004) found that while evaluations for promotion did not differ depending on whether

the leaders in question were male or female, traditional masculine traits and roles were still coveted as being related to good leadership evaluation.

For the most part, women in military-type roles tend to think progressively with regard to women's gender roles and attitudes towards women (Boyce & Herd, 2003; Kurpius & Lucart, 2000). However, in the study by Boldry and colleagues (2001), female cadets were rated by other students as being lower on motivation, leadership, and masculinity, with no significant differences with regard to rater sex. Such a finding could potentially be due, in part, to the influence of the hegemonic masculine ideal of military culture, although there is no way to conclude this in a cross-sectional study. On the other hand, in a chapter on gender and military psychology, qualitative findings are discussed in which female participants from the combat arms in the Canadian Forces viewed leadership effectiveness as encompassing feminine traits and included several feminine characteristics in their own approach to leadership (Febbraro, 2003, in Febbraro and Gill, 2010). However, women also nonetheless assimilated into military culture (Febbraro, 2003, in Febbraro and Gill, 2010). Such a masculinized culture begins to illustrate the challenges many female personnel face in trying to integrate themselves into the military environment.

Negative Mental Health Outcomes of Military Women

Associations have consistently been shown between military trauma (e.g., sexual assault, combat exposure) and increased symptoms of psychopathology, a higher likelihood of mental disorders, and poorer psychological well-being in both sexes (e.g., Belik, Stein, Asmundson, & Sareen, 2009; Boyd, Bradshaw, & Robinson, 2013; Hoge et al., 2004; King, King, Vogt, Knight, & Samper, 2006; Murdoch, Pryor, Polusny, &

Gackstetter, 2007; Sareen et al., 2008; Street, Stafford, Mahan, & Hendricks, 2008; Vogt, Samper, King, King, & Martin, 2008). It is possible, however, that women may face additional experiences that place them at even greater risk for mental health problems. Kidder and Parks (2001) have described that when women hold occupations that are considered to be masculine, they may be expected to act in ways that are consistent both with the qualities necessary to perform the job as well as those related to their gender. However, the value of their feminine behaviors may be undermined, resulting in stress among other negative outcomes (Kidder & Parks, 2001).

The literature on gender-related issues in the military has also described and investigated Kanter's theory (Boldry et al., 2001; Dunivin, 1988; Pazy & Oron, 2001), a model comprised of three elements meant to explain how employee behaviors and attitudes are constructed (Kanter, 1977, in Dunivin, 1988). The element of relevance to the present discussion is that of 'relative numbers', or namely, the ratio of males to females in a particular occupation. The military fits into what Kanter referred to as the 'skewed group', representing a sex ratio of 85:15 (Kanter, 1977, in Dunivin, 1988). She hypothesized that in this type of environment, the 'token' or smaller group must acclimatize to the culture of the majority or 'dominant' group and does not have a significant impact on that culture (Kanter, 1977, in Dunivin, 1988). The implications of being in a token group include being under constant inspection due to increased noticeability and being viewed as 'others' by the dominant group in order for its members to maintain the dominant collective culture (Kanter, 1977, in, Hunt & Emslie, 1998). Hunt and Emslie (1998) have discussed the potential impact that being in a token group

might have on psychological functioning and review the evidence on sex differences in overall health in token group occupations.

Although findings have been mixed at times, research in military-related samples has, in fact, shown higher rates of exposure to some traumatic events and mental health problems in women, including sexual harassment/trauma, depression, and PTSD, among others (e.g., Ferrier-Auerbach, Erbes, Polusny, Rath, & Sponheim, 2010; Gahm, Lucenko, Retzlaff, & Fukuda, 2008; Haskell et al., 2010; Herrell et al., 2006; Jones, Rona, Hooper, & Wessely, 2006; Maguen, Luxton, Skopp, & Madden, 2012; Martin, Rosen, Durand, Knudson, & Stretch, 2000; Mota et al., 2012; Polusny et al., 2014; Rona, Fear, Hull, & Wessely, 2007; Sareen et al., 2008; Smith et al., 2007; Suris & Lind, 2008; Vogt et al., 2005). There are also stressors, traumatic events, and mental health challenges, however, that have been found to be of higher prevalence in men (Belik et al., 2009; Bray, Fairbank, & Marsden, 1999; Mota et al., 2012), and whether the sexes differ with respect to overall psychological impact of military service is a difficult research question to answer.

Finally, there are those individuals who do not develop psychopathology or who recover quickly from stressors and return to baseline functioning. In a large and representative sample of active duty Canadian Forces service members, 15.1% of women met criteria for a past year DSM-IV mental disorder (Sareen et al., 2008). This study did not assess all possible psychopathology or sub-syndromal difficulties, nor did it examine overall psychological well-being. However, this finding nonetheless serves to illustrate that a significant proportion of female service members do *not* experience mental health problems. Understanding why and how many military women remain psychologically

well in addition to studying mental health problems could thus contribute to new understandings of how to improve the well-being of all female service members.

Turning the Focus Towards Wellness and Mental Health

The emphasis of biomedicine has traditionally been on understanding disease and risk factors of disease (Antonovsky, 1996a). However, the theoretical model of 'salutogenesis', meaning 'the origin of health' and developed by medical sociologist Aaron Antonovsky, aims to reverse this focus and specifically "answer why people despite stressful situations and hardships stay well" (Lindström & Eriksson, 2005, p. 440). Antonovsky's model views health as lying on a continuum between 'dis-ease' and 'ease' (Antonovsky, 1996a; Harrop, Addis, Elliott, & Williams, 2006; Lindström & Eriksson, 2005).

Two aspects of Antonovsky's framework are of particular importance to this research. First, it has been theorized that progress towards the health 'ease' end of the spectrum occurs when different resources within and surrounding individuals serve to advance how they perceive and think about their world (Antonovsky, 1996a, 1996b; Harrop et al., 2006; Lindström & Eriksson, 2005). These resources have been termed 'general resistance resources' by Antonovsky and can include any number of things, including intelligence, coping skills, religion, and social support (Antonvosky, 1979, 1987, in Lindström & Eriksson, 2005). Second, an individual's "orientation toward the world" influences where he or she stands on the continuum between health and disease (Antonovsky, 1996a, p. 15). Thus, examining 1) general resistance resources, or, factors that may promote psychological wellness and mental health for military women, and 2) how women who are generally maintaining their mental health and well-being make

sense of their military experiences, could advance our understanding of how to foster well-being and mental health in this population.

Further, the salutogenic framework is particularly appropriate as an overarching guide in studying mental health and wellness maintenance among military women because "unlike …'coping' and 'resilience' which are…utilised in academic research in different, sometimes contradictory, ways by different people…there is a relative consensus about what it [salutogenesis] means, what it attempts to explain and how it can potentially be used" (Harrop et al., 2006, p. 46). It is also a more *comprehensive* framework in that it encompasses other overlapping constructs such as hardiness, posttraumatic growth, and self-efficacy (Almedom, 2005) that have all been theorized and empirically shown to have links with better mental health and well-being.

The present work includes two studies that aimed to better understand how many female service members in the Canadian Forces are able to preserve their mental health in a stressful and male-dominated environment. In Study 1, the Canadian Community Health Survey Cycle 1.2 Canadian Forces Supplement (CCHS-CFS), a large and representative survey of Canadian Forces personnel, was utilized in order to explore factors that may be protective for mental disorders and psychological distress in women, as well as how these factors compared to those in men. Specifically, the resources that were investigated included spirituality and religious attendance, social support, and the use of positive coping strategies (as well as the use of maladaptive ones). Although the focus of this research was on women, males were retained as a control group in order to obtain additional understanding of the female service member population by investigating how they compared to the majority sex with regard to the use and availability of

resources. In Study 2, a series of in-depth, semi-structured interviews were conducted with regular duty female service members who had been on at least one deployment and who had not sought mental health services in the past year, a proxy for current mental health. The aim of this study was to explore how women who are lower in psychological distress understand and make sense of their military experiences, as well as the resources that they use in which to do so.

Chapter 2: Study 1

Introduction

In recent years, there have been efforts taken to identify resources that protect against negative mental health outcomes or that contribute to psychological well-being and successful adaptation in military-related samples. Researchers have found several individual (Aldwin, Levenson, &Spiro III, 1994; Bartone & Priest, 2001; Gilbar, Ben-Zur, & Lubin, 2010; Green, Beckham, Youssef, & Elbogen, 2014; King, King, Fairbank, Keane, & Adams, 1998; King et al., 2006; Myers & Bechtel, 2004; Pietrzak & Cook, 2013; Pietrzak et al., 2010; Riolli, Savicki, & Spain, 2010; Rosen, Weber, & Martin, 2000; Sharkansky, King, King, & Wolfe, 2000; Solomon, Mikulincer, & Avitzur, 1988; Vogt, Proctor, King, King, & Vasterling, 2008; Vogt, Rizvi, Shipherd, & Resick, 2008; Vogt, Samper, et al., 2008; Wooten, 2012) and social/environmental factors (Brailey & Vasterling, Proctor, Constans, & Friedman, 2007; Britt, Davison, Bliese, & Castro, 2004; Chang, Skinner, & Boehmer, 2001; Fikretoglu, Brunet, Poundja, Guay, & Pedlar, 2006; Fontana & Rosenheck, 1998; Ghafoori, Hierholzer, Howsepian, & Boardman, 2008; Kelley et al., 2002; King et al., 2006; Martin et al., 2000; Pietrzak & Cook, 2013; Pietrzak et al., 2010; Solomon et al., 1988; Vinokur, Pierce, & Buck, 1999; Vogt, Proctor, et al., 2008; Vogt, Samper, et al., 2008) to be associated with outcomes such as less perceived stress, mental disorder symptomatology, and suicidality in samples of military recruits, active personnel, and veterans. Such factors have included, among others, social support/unit cohesion, positive masculine traits, a perceived sense of control and purpose, religious practice, and hardiness (a personality trait where individuals perceive stressors as being meaningful and under their control). Additionally,

positive relationships between factors like social support/unit cohesion, putting events behind oneself, and problem-focused coping have been found with constructs of mental health and well-being, posttraumatic growth, and indicators of good, long-term adjustment such as lifetime adaptation (Griffth, 2002; Magerøy, Riise, Johnsen, & Moen, 2008; Maguen, Vogt, King, King, & Litz, 2006; Suvak, Vogt, Savarese, King, & King, 2002). This literature has generally consisted either of examining direct relationships between general resistance resources and outcomes of mental health and well-being, testing the buffering effects of such factors on the relationships between specific stressors and negative outcomes, or examining differences in resources between resilient and less resilient groups of individuals. Morgan and Bibb (2011) have also outlined some of the constructs that have been incorporated into psychological resilience programs for military service members in the United States, and these have included humor, unit cohesion and social support, spirituality, and sense of purpose, among others. However, several of these constructs have been under studied in military populations.

Of additional concern, and central to this discussion, is that much of this literature to date has been conducted exclusively in males or, more often, in male and female mixed samples that are majority male. This is despite some research in military-related samples that has found differences between men and women in the use and/or availability of several factors that may serve as general resistance resources. Examples of such factors include, but are not limited to, hardiness, self-care, perceived preparedness for deployment, a sense of self-worth, and organizational affiliation (e.g., Bartone & Priest, 2000; Dunivin, 1988; King et al., 2006; Myers & Bechtel, 2004; Vogt, Proctor, et al., 2008). Further, although few military studies have examined such associations, certain

general resistance resources could have differential relationships with psychological outcomes in women versus men (Bartone & Priest, 2000; King et al., 1998; Vogt, Rizvi, et al., 2008). The studies that have actually tested the relationships between potential general resistance resources and mental health outcomes in military women specifically are more limited (Agazio & Buckley, 2010; Chang et al., 2001; Fontana & Rosenheck, 1998; Kelley et al., 2002; King et al., 1998; Vinokur et al., 1999; Wooten, 2012).

Among the general resistance resources that may be considered, social support, religiosity and spirituality, and coping strategies fit theoretically into the salutogenic model as resources that could be health-promoting for individuals (Antonovsky, 1996a; Lindström & Eriksson, 2005). Each of these factors will now be reviewed in the context of their relationships to psychological outcomes in military-related samples as well as in military women, specifically.

Social Support

Social support has been defined as "a social network's provision of psychological and material resources intended to benefit an individual's ability to cope with stress" (Cohen, 2004, p. 676). Studies have often distinguished between *structural social support*, the quantity of social relationships or size of one's social network, and *functional social support*, the different ways in which social support works to provide resources (Cohen & Wills, 1985). Several types of functional social support have been described in the literature, some of the most common having been outlined by Cohen and Wills (1985) in their seminal work on social support theory. Instrumental support involves assistance in coping with stress in a tangible way, such as being lent money. Informational support includes help in solving a problem or issue. Esteem or emotional

support involves conveying to a person that they are unconditionally valued and accepted, and has also been described more generally in the literature as confiding in others and sharing one's feelings (e.g., Flannery Jr., 1990). Lastly, social companionship involves being in the presence of others, for example, in the engagement of enjoyable activities (Cohen & Wills, 1985).

Social support has been discussed as potentially assisting an individual in either appraising a potential stressor as non-stressful or reappraising it in a psychologically healthy way (see discussion in Cohen & Wills, 1985). Thoits (1986) similarly described social support as the receipt of "coping assistance" from others in the form of help in changing the stressor, its meaning, and/or one's emotional response to the event (p. 417). In an etiological model specific to PTSD, for example, social support was conceptualized as a resource that influences how an individual understands and perceives the event through acts like talking it through with others and gaining others' points of view and interpretations (Guay, Billette, & Marchand, 2006). Depending on these reactions and interpretations, however, the influence of social support can be either positive or negative, and this complex relationship requires continued empirical investigation (Guay et al., 2006). Guay and colleagues (2006) also note the importance of differentiating between structural and functional support, or essentially, 'quantity versus quality', when investigating its relationship to PTSD.

In the theoretical work by Cohen and Wills (1985), the authors additionally posited that social support could influence mental health and well-being via two pathways. The stress buffering model describes functional social support as helping to diminish or prevent stress and psychological symptoms, but only if a stressor is present.

The main effect model, on the other hand, holds that social integration or structural social support is advantageous regardless of stressors, due to assisting with feelings of self-worth, stability, or positive affect (Cohen & Wills, 1985). The potential pathways between social support and psychopathology have been extensively discussed by a number of investigators, as well as reiterated in more recent work by Cohen (e.g., Cohen, 2004; Flannery Jr., 1990; Kessler, Price, & Wortman, 1985; Thoits, 1982).

A growing literature in military and veteran samples has investigated aspects of social support in relation to psychological outcomes, and has studied and identified both direct and buffering effects. Including unit cohesion, social support has been linked to greater posttraumatic growth, well-being, and fewer symptoms of mental disorders (Brailey et al., 2007; Fikretoglu et al., 2006; Griffith, 2002; Maguen et al., 2006; Smith et al., 2013). Further, a group of veterans deemed resilient based on cluster analysis displayed higher levels of post-deployment social support than those veterans with PTSD in a study by Pietrzak and Southwick (2011). In a recent Canadian study using CCHS-CFS data, social support was found to be negatively linked to past year posttraumatic stress disorder, major depressive disorder, and alcohol dependence as assessed by a diagnostic interview, as well as self-reported suicidal ideation (Nelson et al., 2011). Finally, Dirkzwager, Bramsen, and van der Ploeg (2003) looked at cross-sectional and longitudinal relationships of positive and negative social interactions, coping strategies, and number of stressful life situations on the severity of PTSD symptomatology in two samples of Dutch former peacekeepers. The authors found positive social interactions to be associated with lower PTSD severity in one sample of peacekeepers cross-sectionally and in both samples longitudinally. Further, negative social interactions were associated

with increased PTSD severity in both samples cross-sectionally and in one sample longitudinally. Isolation, lower social support, and challenges with social support have additionally been associated with psychiatric hospitalization and worse mental health in other studies (Bell, Roth, & Weed, 1998; Harvey et al., 2011; Hourani, Yuan, & Bray, 2003).

Sex differences in the levels of at least some types of support, social network size, and social support coping have often been identified in civilian samples (e.g., Agrawal, Jacobson, Prescott, & Kendler, 2002; Dalgard et al., 2006; Fuhrer, Stansfeld, Chemali, & Shipley, 1999; Swickert & Hittner, 2009; Tamres, Janicki, & Helgeson, 2002). Meanwhile, while sex was not found to be associated with level of social support in the CCHS-CFS sample (Nelson et al., 2011), differences have been found in other military research. Women reported higher levels of friend support than men in a sample of U.S. Army soldiers (Martin et al., 2000), higher social support from civilians in Marine recruits (Smith et al., 2013), and higher levels of social connectedness and social supports (e.g., family, friend, church, other) in a sample of homeless veterans (Benda, 2006). However, female service members and veterans have also been found to report less perceived deployment-related social support than males (King et al., 2006; Vogt et al., 2005) as well as less military morale/cohesion (Dunivin, 1988).

Additionally, it is possible that social support will be differentially associated with mental health and well-being outcomes in men versus women. Although not consistent in the literature, there are some studies that suggest that social support (or lack thereof), social network, and social support coping may be more psychologically important for women than for men in general population samples (e.g., Dalgard et al., 2006; González-

Morales, Peiró, Rodríguez, & Greenglass, 2006; Kendler, Myers, & Prescott, 2005; Olstad, Sexton, & Søgaard, 2001). Possible differential associations by sex of social support with mental health outcomes have been less studied in military samples. However, in a sample of Marine recruits, perceived stress predicted increased hardiness in women with high social support but not in those with low support, a relationship that was not found in men (Vogt, Rizvi, et al., 2008). Further, in a convenience sample of homeless veteran inpatients with substance abuse and high levels of psychiatric comorbidity, Benda (2006) found that friend and family support were more important for women than for men in influencing length of stay in the community (as opposed to psychiatric readmission), and that social support as well as conflict with family, friends, and partner showed stronger associations with suicidality in females than in males (Benda, 2005). In an investigation among Marine recruits of the role of both civilian and military social support in the relationship between military stress and mental health outcomes (symptoms of depression and posttraumatic stress), a number of sex differences were identified (Smith et al., 2013). First, military social support was found to be linked to symptoms of PTSD only in men, while the relationship between civilian social support and symptoms of PTSD was statistically significant only in women. Second, the relationship between civilian social support and symptoms of depression was stronger in female Marine recruits (Smith et al., 2013). On the other hand, in a recent study of a large sample of Air Force members, variables including satisfaction with one's romantic relationship and with relationships at work, leadership support, cohesion among colleagues, and social support in general were all negatively linked to suicidal ideation in

both males and females (Langhinrichsen-Rohling, Snarr, Slep, Heyman, Foran, & United States Air Force Family Advocacy Program, 2011).

Some research has examined the relationships between social support and mental health outcomes in military women, specifically. In female veterans after military service, a buffering effect of social support has been shown in the association between sexual stressors and PTSD (Fontana & Rosenheck, 1998), as well as a mediating role of low social support in the relationships between war-related and sexual trauma and PTSD (Fontana, Schwartz, and Rosenheck, 1997). King and colleagues (1998) also found hardiness to be positively related to functional social support, which was, in turn, negatively associated with PTSD in female veterans. In a small sample of 137 active duty female service members who had been back 6-12 months after being deployed, both social support and social conflict were related to severity of symptoms of psychopathology, and social support from the father and from friends (although not from family) was additionally associated with less self-reported stress and symptomatology in Navy personnel who were mothers (Kelley et al., 2002). Finally, although not mental health specific, Agazio and Buckley (2010) examined correlates of engaging in health-promoting behaviors (a measure that included subscales such as spiritual growth, stress management, and interpersonal growth) in a sample of female members. Interpersonal influences (social and resource support) emerged as significant correlates in the overall sample. Meanwhile, a lack of social support has been linked with increased psychopathology in female personnel (Hourani et al., 2003).

In qualitative work, the importance of social support (Ravella, 1995) and bonding with others (Scannell-Desch & Doherty, 2010) has also been discussed in studies of

mostly female nurses as ways in which military experiences have been managed. Interestingly, however, a recent qualitative study of 19 Operation Iraqi Freedom/Operation Enduring Freedom female veterans found that "Women…rarely mentioned friends or family members as social support mechanisms", although they did discuss the support of other female veterans as being crucial (Mattocks, Haskell, Krebs, Justice, Yano, & Brandt, 2012, p. 543). This observation supports the possibility that different sources of social support might have different relationships with mental health outcomes in military women.

Religiosity and Spirituality (Including Religious Coping)

Religiosity and spirituality are relatively prevalent among Canadians. In a 2002 survey of the Canadian population (excluding the territories), approximately 58% of women and 42% of men reported that spiritual values had a role in their lives, while 55% of women and 43% of men reported religious service attendance at least once per year (Rasic et al., 2009). Koenig and Larson (2001) proposed three reasons why religious involvement may be beneficial for mental health and well-being after reviewing the empirical literature on the links between religion and psychological outcomes (e.g., well-being, symptoms of anxiety and depression, substance use). First, they posited that it provides individuals with a way to infuse meaning into their experiences in the context of a positive worldview (i.e., a God who is in charge of one's destiny and cares for and helps humans), and this meaning then enhances a sense of purpose in individuals. Second, since the majority of religions teach about being kind to others and additional altruistic values, individuals are not as self-focused (i.e., on their own problems) and also obtain satisfaction from others' well-being. Finally, the authors theorized that social

support is likely improved among religious individuals (Koenig & Larson, 2001). Similar reasons for the relationship between religion and health have been reviewed by other authors, and a few additional, possible mechanisms have also been discussed such as religion encouraging a healthier lifestyle (George, Ellison, & Larson, 2002; Seybold & Hill, 2001).

It has become increasingly accepted, however, that the relationship between religion/spirituality and health is complex, that religion and spirituality have multiple dimensions and facets, and that it is possible for religion to have deleterious effects on health as well as positive ones (Ano & Vasconcelles, 2005; Dein, 2010; Koenig & Larson, 2001; Pargament, 2002; Seybold & Hill, 2001). Pargament (2002), an influential investigator of religion and health, described this complex relationship by stating that, “Religion has both costs and benefits to people. The value of religion depends on the kind of religion, the criteria of well-being, the person, the situation and social context, and the degree to which the various elements of religious life are well-integrated into the person’s life" (p. 169). Nonetheless, a meta-analysis conducted by Hackney and Sanders (2003) identified a weak but positive overall association between mental health and religiousness among available studies at the time. This work also supported Pargament’s statement, however, in that evidence was found for positive, negative, and null relationships as well, and the direction of the association was contingent upon the conceptualization of both religiousness and mental health constructs. Such complexity renders investigating the relationships between religion/spirituality and health a challenging area of study.

Nonetheless, several additional reviews on the relationship between religiousness and mental health have found that it is mostly helpful overall, at least for outcomes such

as depression and substance use, while spirituality and mental health have been seemingly less studied and with less consistent findings (Dein, 2010; Koenig & Larson, 2001; Moreira-Almeida, Neto, & Koenig, 2006; Seybold & Hill, 2001). In the general Canadian population, a higher frequency of religious practice was also found to be associated with a lower likelihood of mental disorders and suicide attempts (but not ideation) (Baetz, Bowen, Jones, & Koru-Sengul, 2006; Rasic et al., 2009). As seen in the reviews, relationships between spirituality and psychological outcomes have also been more mixed among Canadians, depending on the outcome (Baetz et al., 2006; Caron & Liu, 2011; Rasic et al., 2009). In fact, endorsing that spiritual values were important in one's life was associated with an increased likelihood of a number of mental disorders and higher psychological distress (Baetz et al., 2006; Caron & Liu, 2011).

The studies that have examined the relationship between religiosity or spirituality and psychological outcomes in military samples have mostly produced negative findings or findings in the opposite direction than might be expected. Witvliet, Phipps, Feldman, and Beckham (2004), for example, found both positive religious coping (e.g., spiritual support, appraising the problem in a positive religious way) and negative religious coping (characterized by things like questioning God and perceiving the problem or event to be a punishment from God), to be associated with more symptoms of PTSD in a sample of veterans, while negative religious coping was additionally related to more depressive and anxious symptoms (Witvliet et al., 2004). Nelson and colleagues (2011) also found a positive link between religiosity and past year depressive disorder in the entire CCHS-CFS sample, but found no association with suicidal ideation and alcohol dependence. Myers and Betchtel (2004) found no link between spirituality and perceived stress in

military cadets, and attachment to God as well as a belief that one loved and was loved by God was also not associated with symptoms of PTSD in a veteran sample (Ghafoori et al., 2008). Finally, Maddi, Brow, Khoshaba, and Vaitkus (2006) examined the relationship between religiosity and symptoms of depression in a sample of U.S. military officers and civilian leaders. Although the authors found that religiousness was associated with lower symptomatology in bivariate analyses, this relationship was no longer significant when hardiness was entered into the model. It should be noted, on the other hand, that scores on a scale of existential spiritual well-being, defined by concepts such as having meaning in life and believing that things will turn out, was a mediator in the relationship between participation in an intervention for PTSD that involved using a mantram to assist in self-regulating feelings, and fewer symptoms of PTSD in veterans (Bormann, Liu, Thorp, & Lang, 2012). Further, in a sample of veterans with cancer, it was found that negative religious coping was linked to more mental disorder symptomatology and posttraumatic growth, while positive coping was only related to more growth (Trevino, Archambault, Schuster, Richardson, & Moye, 2012).

As with social support, however, most studies have not examined associations between spirituality/religiosity and mental health and wellness outcomes within each sex and thus, any unique relationships in women may be masked by the majority male samples typically used. A study of military cadets found no sex differences with regard to level of spirituality (Myers & Bechtel, 2004), while another study found men to be less likely to be religious overall than women, including being less likely to cope with illness by using religion and believing that faith impacts health positively, in a military outpatient sample (McLaughlin, McLaughlin, & Van Slyke, 2010). Further, in the one

known study conducted in a military sample of women, Chang and colleagues (2001) found religious service attendance to have a buffering influence on the relationship between sexual assault and depressive symptoms in female veterans. Religion was also one of the 'survival skills' voiced by a sample of majority female U.S. Force flight nurses in a qualitative study about their experiences (Ravella, 1995).

It is possible then, that different relationships exist between religiosity, spirituality, and outcomes of mental health and well-being in military women versus men. No known study has examined such sex differences in a military sample. However, some research in general population samples suggests that religious practice may be more important for women than for men in their association with mental health outcomes (e.g., Jarvis, Kirmayer, Weinfeld, & Lasry, 2005; Lewis, Shevlin, Francis, & Quigley, 2011; Strawbridge, Shema, Cohen, & Kaplan, 2001). However, not all studies have found this to be the case (e.g., Maselko & Kubzansky, 2006; Mofidi et al., 2006; Smith, McCullough, & Poll, 2003), and it is ultimately unclear what patterns of findings would emerge between the sexes with respect to these constructs in a military sample.

Other Coping

Coping has been defined as "the person's cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person's resources" (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 572). Although there are many different coping strategies, most have been generally conceptualized as falling under one of two major types: problem-focused coping, which aims at managing the problem at hand, and emotion-focused coping, which focuses on regulating

accompanying negative emotions (Folkman et al., 1986). However, there have also been other ways of classifying coping strategies that have appeared in the literature, for example, approach (dealing with the stressor) versus avoidance (trying not to think about the stressor) categories (Harrop et al., 2006; Moos & Holohan, 2003).

Although coping has been operationalized in a number of ways in the scientific literature, research in civilian samples has long shown that it is related to psychological outcomes, and that these associations can be both positive or negative depending on a number of factors including type of strategy used (e.g., Folkman et al., 1986; González-Morales et al., 2006; Taylor and Stanton, 2007; Wang & Patten, 2002; Penley, Tomaka, & Wiebe, 2002). Problem- and approach-focused coping have often been found to be related to better mental health, while avoidance and emotion-focused coping have been associated with poorer psychological outcomes overall (e.g., see meta-analyses by Penley et al., 2002). In a more recent study in a large and representative sample of the Canadian population, individuals suffering with mental illness were also found to differ in their frequency of use of several coping strategies, including the use of more avoidance-based and less problem-solving strategies (Wang et al., 2009). Self-medicating stress or symptoms of psychopathology with substances has specifically been linked to an increased likelihood of negative mental health outcomes (Bolton, Robinson, & Sareen, 2009; Robinson, Sareen, Cox, & Bolton, 2011).

In military samples, problem- or approach-focused coping has occasionally been associated with fewer symptoms of psychopathology (Dirkzwager et al., 2003; Sharkansky et al., 2000; Solomon et al., 1988). However, despite hypotheses of an inverse relationship between positive coping strategies (mostly problem-focused coping)

and fewer mental health problems in military samples, studies have mostly failed to find these relationships (Day & Livingstone, 2001; Gilbar et al., 2010; Johnsen & Laberg, 1998; Rodrigues & Renshaw, 2010; Solomon et al., 1988; Taylor et al., 2009). Even in the study by Dirkzwager and colleagues (2003) where there was some support shown for problem-solving coping, it was only found to be negatively associated with severity of PTSD symptoms cross-sectionally (and not in the longitudinal analysis), and in only one of the two samples of former peacekeepers investigated. Further, positive reappraisal also showed no associations with PTSD symptoms in this study (Dirkzwager et al. 2003). On the other hand, in an investigation of correlates of panic attacks and panic disorder using the CCHS-CFS sample, frequent problem-solving was found to be related to a lower likelihood of both outcomes, as was looking on the bright side (Kinley, 2009). However, doing something enjoyable and talking to others were not protective for these outcomes, and exercising was related to an increased likelihood of panic attacks.

As in civilian studies, coping strategies considered to be emotion-focused, avoidant, or passive have typically been associated with increased symptomatology in military samples (Bartone et al., 2012; Day & Livingstone; Dirkzwager et al., 2003; Gilbar et al., 2010; Johnsen & Laberg, 1998; Kinley, 2009; Rodrigues & Renshaw, 2010; Solomon et al., 1988; Taylor et al., 2009). However, although conducted in a small sample, Johnsen and Laberg (1998) found no change in psychological symptoms over time in a group of soldiers identified as emotion-focused copers. Further, the level of exposure to combat has played a role in whether associations have been found between coping and symptoms of PTSD, as well as the strength of this relationship (Rodrigues & Renshaw, 2010; Sharkansky et al., 2000).

A few studies in military-related samples have investigated the use of drugs, alcohol, or cigarettes specicially to manage traumatic events, feelings of stress, and mental health problems. In Kinley's (2009) study in the CCHS-CFS sample, all three of these coping strategies were found to be associated with panic attacks and panic disorder. Further, alcohol use for the reason of managing mood and stress mediated the relationship between symptoms of depression and anxiety and more drinking (Williams et al., 2010). Soldiers have also voiced that coping with stress is one reason for smoking (Widome et al., 2011), and certain types of stressors have been found to be associated with substance use, which may be at least partially indicative of coping by self-medicating (Bray et al., 1999).

Less work has been conducted with regard to this negative coping strategy in military women in particular. In a large sample of female recruits, results showed that smokers in the 'other' category were at lower risk of hospitalization for mental disorders relative to daily smokers (although daily smokers did not differ from non-smokers) (Woodruff et al., 2010). Wing and Oertle (1999) also conducted a qualitative study with 16 female veterans with PTSD who had experienced both military sexual trauma as well as sexual abuse in childhood. When the authors found that 10 of the women also had histories of drug or alcohol abuse, they conducted a content analysis of this subsample in part to understand why these women had engaged in substance use. It was found that the majority of the women had used substances to manage their negative memories or the psychological outcomes of the trauma, and that the substance use served as an "escape" (Wing & Oertle, 1999). Finally, among a small sample of female Veterans in primary

care, having positive expectations regarding the use of alcohol interacted with the use of avoidance coping strategies to predict drinking (Creech & Borsari, 2014).

There have also been ideas put forth for why sex differences in coping might exist, and Tamres and colleagues (2002) reviewed two of these hypotheses in their widely cited meta-analysis. The dispositional hypothesis posits that differences exist between men and women either biologically or through socialization that in turn, influence their use of coping strategies. For example, socialization theory would hold that women employ less problem-focused coping and more emotion-focused and passive coping strategies than men by virtue of how male and female genders have been taught to act and operate in society. Role constraint theory, on the other hand, maintains that men and women may only appear to use different coping strategies on account of the different roles they tend to lead socially (Rosario et al., 1998, in Tamres et al., 2002). This is known as the situational hypothesis (see Tamres et al., 2002). The authors found evidence for both hypotheses in their analysis of the literature.

Empirically in civilian samples, different measures, types of coping strategies, and samples investigated have rendered it challenging and complex to synthesize and make sense of the literature. Nonetheless, the meta-analysis by Tamres and colleagues (2002) examined sex differences across a wide range of coping strategies, and concluded that women were more likely than men to use many of them, including several strategies in the areas of problem-focused (e.g., active strategies) and emotion-focused coping (e.g., avoidance, using wishful thinking). The authors warned, however, that findings across studies were often mixed and that the effect sizes identified for these differences were small. Men were not found to use any strategy more than women in this study (Tamres et

al., 2002), however, these authors did not examine self-medication as a coping strategy. Males have generally been found to engage in higher rates of self-medicating with substances (e.g., Bolton et al., 2009; Robinson, Sareen, Cox, & Bolton, 2009) while women have reported using smoking to relax and reduce stress at a higher level than males (Berlin et al., 2003). Similar rates between the sexes have been identified with regards to self-medicating with alcohol only (Robinson et al., 2009). In a representative sample of the Canadian general population, there also appeared to be some sex differences in prevalence with regards to ways of dealing with stress, including talking to others and changes in eating, which were more common in women, and drinking alcohol, which was typically more common in men (Wang et al., 2009).

In military-related samples, work on sex differences in coping strategies has been relatively limited. Women have been found to use more social/emotional support seeking than men (Day & Livingstone, 2001; Malamut & Offermann, 2001). They have also been found to engage in more venting (Day & Livingstone, 2001), and one study showed that women were more likely than men to use confrontation, advocacy-seeking, and social coping strategies to manage sexual harassment, specifically (Malamut & Offermann, 2001). Similar rates between the sexes regarding the use of approach-based (Day & Livingstone, 2001; Sharkansky et al., 2000) and avoidance coping (Malamut & Offermann, 2001) have been identified. However, several sex differences emerged in a more recent study on coping in a large sample of active duty service members who were in a healthcare role (Gibbons, Barnett, Hickling, Herbig-Wall, & Watts, 2012). In both enlisted personnel and officers, men were more likely than women to engage in planning to solve the problem, and were additionally more likely than women to smoke, exercise,

and participate in a hobby among enlisted personnel. Meanwhile, women were more likely to speak to a relative or friend, engage in prayer, and eat, with female officers being additionally more likely than their male counterparts to have a drink. Finally, although statistical tests were not conducted, a study by Bray and colleagues (1999) also reported sex differences in the prevalence of using individual coping strategies. A higher prevalence of female soldiers endorsed talking to friends or relatives and eating when undergoing stress, while men reported a higher prevalence of drinking. Men and women appeared to use smoking, exercising, drug use, problem-solving, and thinking about hurting themselves at similar rates. The study also indicated, however, that substance use can be linked to the experiencing of different stressors for men and women. In men, high family-related stress and stress at work were related to increased drug use, heavy drinking, and smoking whereas in women, drug use and smoking were only found to be linked to experiencing high stress levels around being a woman in the military (Bray et al., 1999).

It remains mostly unknown whether associations exist between different coping strategies and mental health outcomes in female service members specifically, nor how these associations differ from those in men. In a study examining the correlates of suicidal ideation in a large and representative sample of Air Force members, personal coping emerged as a protective correlate for men in an adjusted model of factors at a number of ecological levels, while the same construct was only protective for women in unadjusted analyses (Langhinrichsen-Rohling et al., 2011). However, sex differences need to be statistically tested as well as tested in relation to a wider range of psychological outcomes.

Limitations of Previous Research

The studies that have examined religiosity and spirituality, coping, and/or social support in military women have mostly used non-representative samples, a number of which have been small. Most studies have also been conducted in non-Canadian military samples. Meanwhile, the Canadian Forces might be viewed as having a distinct culture by virtue of its longer history of volunteer forces and emphasis on peace-keeping, rather than combat, operations (English, 2004). Both of these factors could impact upon how women are viewed in the Canadian Forces, and thus, their individual experiences. It is noteworthy that "Canada is a world leader in terms of the proportion of women in its military, and the areas in which they can serve" (Government of Canada, 2014). Further, a proportion of this literature has also been conducted in samples of cadets or veterans that may represent different populations from active-duty service members. The few studies that have examined the relationships between these constructs and mental health and wellness outcomes in female service members have also used self-report instruments as opposed to standardized diagnostic interviews in order to assess mental disorders. Further, little research has investigated the differential relationships in women versus men between such constructs and psychological outcomes. The two known studies that have examined religiosity/spirituality, social support, and/or coping in relation to some mental health outcomes using the CCHS-CFS data did not stratify by sex (Kinley, 2009; Nelson et al., 2011). Meanwhile, the Canadian Institutes of Health Research (CIHR) has mandated that sex- and/or gender-based analysis should be integrated into health research whenever possible (Canadian Institutes of Health Research, 2012), and examining women individually in military samples becomes even more critical because of the

unique, male-dominated nature of the military culture and environment. Such studies can assist in identifying the degree of generalizability to military women of previous research that has been conducted in male only or majority male samples.

Research Questions and Hypotheses

Study one aimed to answer the following research questions:

1) Do religious service attendance and spirituality, levels of perceived social support, and use of coping strategies differ in male versus female service members?

Hypothesis 1: More female service members than males will report that they attend religious services and perceive spirituality to be important in their lives. They will also report higher levels of social support and avoidance coping than males, but will engage in less self-medication and active coping strategies.

2) Are spirituality, religious attendance, social support, and active coping strategies negatively associated with mental disorders, suicidal ideation, and psychological distress in female service members? Are avoidance and self-medication coping linked to an increased likelihood of these outcomes?

Hypothesis 2: Social support, religious service attendance, perceived spirituality, and more frequent use of active coping strategies will be associated with a lower likelihood of mental disorders, suicidal ideation, and less psychological distress in female service members. Negative coping strategies will be positively associated with outcomes.

3) Do the relationships between these constructs and mental health outcomes differ in male versus female service members?

Hypothesis 3: Social support, religious attendance, and spirituality will be more strongly linked with psychological outcomes in women than in men. Examining the

differential relationships in military men versus women between coping and mental health outcomes will be more exploratory.

Method

Participants

Data were from the CCHS-CFS (2002, n = 8,441; n = 5,849 men and n = 2,592 women), a large and representative sample of Canadian Forces personnel ages 16-64 years. A more detailed account of the design and methodology of the survey is located elsewhere (Statistics Canada, 2003a). Statistics Canada and the Department of National Defence collected the survey in 2002 and representation of the Canadian Forces was employed through a multistage sampling design. Utilizing computer-assisted interviewing, trained lay interviewers conducted predominantly in-person interviews with respondents in on-base locations. Overall response rates were 79.5% and 83.5% for regular force and reserve force members. The current research was completed at the Research Data Centre at the University of Manitoba where the data is securely housed and guidelines of confidentiality followed in order to guarantee the anonymity of respondents.

Measures

Mental Disorders. Mental disorders were assessed based on DSM-IV and ICD-10 criteria with the World Mental Health Composite International Diagnostic Interview version 2.1 (WMH-CIDI: Kessler & Ustün, 2004). The reliability and validity of this semi-structured, standardized diagnostic interview has been shown (Kessler & Ustün, 2004). Past year mental disorders in the CCHS-CFS included major depressive disorder, social phobia, posttraumatic stress disorder, generalized anxiety disorder, and panic

attacks. DSM-IV alcohol dependence was also assessed with the CIDI Short Form, with endorsement of three or more of the criterion symptoms being assigned a diagnosis (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998; Sareen, Belik, Stein, & Asmundson, 2010).

Suicidal Ideation. Respondents were given the statement "You seriously thought about committing suicide or taking your own life" in written form. Interviewers then asked respondents whether the experience had happened to them in the past 12 months. Although suicide attempts were also assessed in the survey, they were not examined as an outcome in the current study on account of a low cell size.

Psychological Distress. Past month psychological distress (Appendix A) was assessed with the Kessler Psychological Distress Scale (K10: Kessler et al., 2002). This measure consists of 10 items assessing non-specific distress. Participants endorsed how often they experienced each symptom on a 5-point Likert scale from "all of the time" to "none of the time". Examples of items on the scale include feeling "tired out for no good reason", "so nervous that nothing could calm you down", and "restless or fidgety". Scores range from 0 to 40. The K10 has been found to discriminate between individuals with and without mental disorders (Kessler et al., 2002) and has been shown to be associated in the expected direction with measures such as the General Health Questionnaire (GHQ) and the SF-12 (Andrews & Slade, 2001).

The Cronbach's alpha for the K10 in the CCHS-CFS sample was $\alpha = 0.86$ and the weighted mean was 4.76 (*SE* 0.02). Most respondents reported experiencing no distress or low levels of distress, rendering the distribution of K10 scores to be positively skewed (skew = 1.91). There have been a number of methods documented in the scientific

literature with regard to testing variables for normality (Osborne, 2008). However, a common convention is to examine whether the skewness index of the variable is between ±1 (Osborne, 2008). Tabachnick and Fidell (2007) recommend a square root data transformation for distributions that are moderately positively skewed. When a square root transformation was applied to K10 scores, skew improved to < 1 (skew = 0.77).

Social Support. Social support (Appendix B) was assessed with the Medical Outcome Study (MOS) Social Support Survey, a 19-item self-report measure consisting of four subscales, each assessing the availability of a different kind of social support: tangible, affection, active social interaction, and emotion or information-based (Sherbourne & Stewart, 1991). All scales have shown high internal-consistency and test-retest reliability, as well as good convergent and discriminant validity (Sherbourne & Stewart, 1991). The four subscales were combined to create a measure of overall social support (range 0 to 76). Another study using the CCHS-CFS examined social support as a single measure (Nelson et al., 2011). Internal consistency reliability for the scale was excellent ($\alpha = 0.96$).

The social support variable was found to be negatively skewed (skew = -1.36). A reflect and square-root transformation was performed on the data as per the recommendation of Tabachnick and Fidell (2007). The transformed social support variable displayed a skew of < 1 (skew = 0.47). The variable was mean-centered in order to reduce multicolinearity.

Religion & Spirituality. Religious attendance was assessed with a single question in the CCHS-CFS: “Not counting events such as weddings or funerals, during the past 12 months, how often did you participate in religious activities or attend religious

services or meetings?", which was ranked on a 5-point Likert scale from 'never' to 'at least once per week'. Responses were dichotomized into never versus at least once per year based on a previous study using this question (Rasic et al., 2009). Spirituality was assessed by asking respondents, "Do spiritual values play an important role in your life?" (yes/no).

Coping. A number of items (Appendix C) from three different measures, the Ways of Coping Questionnaire (Vitaliano et al., 1985), the COPE scale (Carver, Scheier, & Weintraub, 1989), and the Coping Strategy Indicator (Amirkhan, 1990), were used to assess ways of coping in the CCHS-CFS (Statistics Canada, 2003a, 2003b). Participants endorsed how often they engaged in 14 different strategies to deal with stress on a 4-point Likert scale with responses ranging from 'often' to 'never'. One item that asked about "smoking more cigarettes than usual" was on a 5-point scale with an option for being a non-smoker. A principal components extraction with oblimin rotation was conducted in order to establish the number of constructs comprised by the items. Table 1 displays the pattern matrix. A three-factor solution was supported with three eigenvalues ≥ 1 (2.23, 1.78, 1.09), accounting for 36.4% of the total variance. Active coping included items such as solving the problem and relaxing by doing something enjoyable. Self-medication included smoking more cigarettes than usual and trying to feel better by using alcohol. Avoidance coping included items such as avoiding being with others and sleeping more than usual. It should be noted that although "praying or seeking spiritual help" was found to load on the avoidance coping factor, a decision was made to exclude this item on

Table 1

Factor Pattern Matrix for Coping Items

Coping Items	Factor 1 (Avoidance Coping)	Factor 2 (Active Coping)	Factor 3 (Self-Medication)
Try to solve the problem	-.072	**.468**	.057
Talk to others	.024	**.586**	-.025
Avoid being with people	**.604**	-.228	.079
Sleep more than usual	**.547**	.029	.076
Try to feel better by eating more, or less, than usual	**.633**	-.028	-.055
Try to feel better by smoking more cigarettes than usual	-.101	.112	**.830**
Try to feel better by drinking alcohol	.235	.041	**.553**
Try to feel better by using drugs or medication	.257	-.018	.294
Jog or do other exercise to deal with stress	.344	.378	-.206
Pray or seek spiritual help to deal with stress	***.425***	.289	-.253
How often do you try to relax by doing something enjoyable	.048	**.647**	.072

Try to look on the bright side of things	-.193	**.665**	.058
Blame yourself	**.604**	-.034	.022
Wish the situation would go away or somehow be finished	**.497**	-.036	.114

Note. Items $\geq$ 0.40 in bold.
The item "pray or seek spiritual help" was not included in the avoidance coping factor due to not fitting conceptually with the other items and because it was assessed by other variables in the current study.

account of it a) not fitting conceptually with the other items in the factor and b) being assessed with other variables in the study. Two items did not display a factor loading of over 0.40: “jog or do other exercise to deal with stress” and “feel better by using drugs or medication”. Since coping with drug use is theoretically and conceptually related to self-medicating with drinking and smoking (Bolton et al., 2009; Robinson et al., 2011), this item was included in the self-medication factor. With regard to jogging/exercise, a recent qualitative study examining coping in female service members discussed the idea that physical activity can serve both as a positive and a negative coping strategy for women (Mattocks et al., 2012). Since the current factor analysis supported no clear loading on either the active or avoidance factor, the jogging/exercise item was excluded. With few exceptions, these factors are similar to those identified in other studies that have assessed coping using these items (Graff et al., 2009; Wang et al., 2009).

Internal consistency for each factor was low, with Cronbach’s alphas of $\alpha = 0.59$ for avoidance coping, $\alpha = 0.45$ for active coping, and $\alpha = 0.23$ for self-medication. Low alpha values have previously been found for the factors derived from these coping items in a civilian sample, and the investigators postulated that the reason may be partly due to the few items comprising each factor (Wang et al., 2009).

Items within each factor were reverse scored and summed into individual variables so that higher scores represented a higher frequency of each kind of coping. Ranges of possible scores were from 4 to 16 for active coping (weighted mean 13.76, *SE* 0.02), 5 to 20 for avoidance coping (weighted mean 10.89, *SE* 0.03), and 3 to 13 for self-medication (weighted mean 4.43, *SE* 0.02) When the distributions for each coping factor were examined, both active coping and avoidance coping showed skew of less than 1

(skew = -0.98 for active coping and skew = 0.19 for avoidance coping). The self-medication factor was found to be positively skewed (skew = 1.22). Following Tabachnick and Fidell's (2007) recommendation for a data distribution with a moderate positive skew, a square-root transformation was performed on the self-medication variable, which improved skew to < 1 (skew = 0.94). Variables were mean-centered to reduce multicolinearity.

Sociodemographic & Military Variables. Sociodemographic and military covariates included: Age as a continuous variable; Household income as a 4-level variable (> $80,000, $50,000-$79,000, $30,000-$49,999, < $29,000); Education as a three-level variable (Bachelor's degree or higher, Postsecondary school below bachelor's, High school or less); Marital status as a three-level variable (married/common-law, divorced/separated/widowed, and never married), Rank (Junior, Senior, Officer); Regular versus Reserve personnel; and Type of service (land, air, and sea/communications, which were collapsed on account of low numbers of respondents in the communications category). The coding of the categorical variables is generally consistent with previous studies using the CCHS-CFS sample (e.g., Mota et al., 2012; Sareen et al., 2008). A dichotomous variable of 'deployment-related traumatic events' (DRTE) was also created. This variable consisted of combining four items from the CCHS-CFS: 1) whether respondents had been on any deployments of three months or more, 2) whether they had ever been exposed to peace-keeping operations, 3) involvement in combat, and 4) exposure to witnessing atrocities. Respondents reporting any of these events were placed in the 'yes' category. The DRTE variable was previously developed and utilized in another study in the CCHS-CFS (Sareen et al., 2013).

Table 2 displays descriptive statistics for independent variables and psychological distress in the current study. Sociodemographic and military profiles of the sample and information on mental disorders have been previously published (Sareen et al., 2008).

Statistical Analysis

Statistics Canada provided appropriate weights in order to ensure that the CCHS-CFS was representative of Canadian Forces members, and these weights were applied to all analyses. Such weights allow for the generalizability of the study's findings to all military personnel in Canada. Further, the bootstrapping method was used as a standard error estimation technique to adjust for the complexity of the sampling design of the data using SUDAAN software (Research Triangle Park, 2004).

All statistical analyses were conducted using both the original and transformed variables for self-medication coping and social support. The results displayed are those based on all original variables (untransformed) for ease of interpretability of findings. This decision was made based on the following reasons: 1) The pattern of statistically significant findings did not change between those analyses using the transformed variables and those using the original variables and, 2) t-tests and regression analyses are robust against minor violations of normality (Vittinghoff, Glidden, Shiboski, & McCulloch, 2012), and no variable in the current study displayed severe skew. Tables of all results using transformed variables can be found in Appendix D.

Hypothesis 1 was tested using chi square analyses and t-tests. Cross-tabulations calculated the prevalence of perceived spirituality and religious service attendance in both men and women. Chi square analyses were computed in order to examine sex

Table 2

Descriptive Statistics of Continuous Variables (Uncentered)

	Mean (*SE*)	Cronbach's Alpha	Skewness of Original Variable (*SE*)	Skewness (*SE*) After Transformation
K10 Psychological Distress	4.76 (0.06)	0.86	1.91 (0.01)	0.77 (0.01)
Social Support	63.78 (0.17)	0.96	-1.36 (0.01)	0.47 (0.01)
Coping Styles				
Avoidance Coping	10.89 (0.03)	0.59	0.19 (0.01)	---
Self-Medication	4.43 (0.02)	0.23	1.22 (0.01)	0.94 (0.01)
Active Coping	13.76 (0.02)	0.45	-0.98 (0.01)	---

Note. Information is weighted.
**$p < 0.01$; ***$p < 0.001$.

differences across religious service attendance and perceived spirituality. T-tests investigated mean differences in male and female service members in social support levels and use of each coping style.

Hypothesis 2 was tested using multiple logistic and linear regression analyses. Logistic regression analyses computed associations between predictor variables, each mental disorder, and suicidal ideation in female service members. Linear regression analyses investigated relationships between predictors and psychological distress. Since the use of individual coping strategies and support are not mutually exclusive and have been shown to correlate with one another (e.g., Day & Livingstone, 2001; Dirkzwager et al., 2003; Gilbar et al., 2010; Torkelson & Muhonen, 2004), all independent variables were entered simultaneously into the same statistical model along with sociodemographic and military covariates. This approach allowed for an understanding of the independent relationships between each correlate and outcomes above and beyond the influence of the other predictors. Previous work on coping has often entered different coping styles together in the same statistical model (Day and Livingstone, 2001; Dirkzwager et al., 2003; Gilbar et al., 2010; Solomon et al., 1988; Torkelson & Muhonen, 2004).

Hypothesis 3 was tested in two steps. First, all analyses were also conducted in male service members such that sex differences in the patterns of relationships between correlates and psychological outcomes could be observed. For any association that was found to be statistically significant in one sex and not the other, formal sex-by-correlate interaction analyses were conducted. This approach has been previously utilized when stratification of analyses by group of interest provides important and novel information but when testing of differential relationships between groups is also an aim (Robinson,

Bolton, Rasic, & Sareen, 2012). A more conservative alpha level of $p < 0.01$ was utilized for all analyses. Table 3 summarizes all hypotheses and the statistical analyses that were used to test them.

As a supplemental component, all above statistical analyses were also conducted in the subsample of respondents who endorsed DRTE exposure. This was done in order to examine whether the pattern of findings appeared similar in this smaller group of respondents involved in military duties that are traditionally more masculine and male-dominated and thus, where women's experiences might be unique from those in other more gender-balanced military roles (e.g., Sasson-Levy, 2002). The DRTE variable was removed as a covariate in these analyses.

Results

Table 4 displays the results of chi square analyses and t-tests displaying sex differences across independent variables. More women than men reported that spiritual values played an important role in their lives and they also displayed more frequent use of avoidance coping strategies. Meanwhile, women showed a lower frequency of self–medicating with substances. These results lend partial support to Hypothesis 1, as the sex differences for these constructs were found to be in the expected direction. However, the predicted differences that women would report more social support and religious service attendance than men were not supported. It was also hypothesized that women would report less frequent use of active coping strategies relative to men, when in fact, they demonstrated a higher frequency of use.

Table 5 displays the results of the multivariate regression models investigating relationships between each correlate and psychological outcome in men and women.

Table 3

Hypotheses and Accompanying Statistical Analyses

Hypotheses	Statistical Analyses
1) More female service members than males will report that they attend religious services and perceive spirituality to be important in their lives. They will also report higher levels of social support and avoidance coping than males, but will engage in less self-medication and active coping strategies.	• T-tests to investigate possible sex differences in levels of social support and frequency of each coping style. • Chi-square tests to examine possible sex differences in religious service attendance and perceived spirituality.
2) Social support, religious attendance, perceived spirituality, and more frequent use of active coping strategies will be associated with a lower likelihood of mental disorders, suicidal ideation, and less psychological distress in female service members. Avoidance coping and self-medication (negative coping) will be associated with a greater likelihood of mental disorders, suicidal ideation, and distress.	• Multiple logistic regression analyses will examine associations between predictor variables (social support, religious attendance, spirituality, and each coping style) and most outcome variables (mental disorders and suicidal ideation). • Linear regression analyses will examine associations between predictor variables (social support, religious attendance, spirituality, and each coping style) and psychological distress. • Models will adjust for sociodemographic factors, military variables, deployment-related traumatic events, and each other predictor variable examined in order to understand independent relationships between each predictor variable and outcomes.
3) Social support, religious attendance, and spirituality will be more strongly negatively linked with mental health outcomes in women than in men. Examining the differential relationships in military men versus women between coping and mental health outcomes will be more exploratory.	• All analyses will be stratified in males and females in order to examine differential patterns of results within each sex. • Formal sex by correlate interaction analyses will test for a moderator relationship of sex in those associations that are statistically significant in one sex and not the other.

Table 4

Independent Variables in Male and Female Service Members

	Males %	Females %	χ^2	df
Spirituality			**97.26*** **	1
No	54.9	43.3		
Yes	45.1	56.7		
Religious Attendance			3.93	1
Not at All	48.3	45.8		
Once a year or more	51.8	54.2		
	Mean (SE)	Mean (SE)	T-Test	
Social Support	63.74 (0.19)	64.00 (0.26)	0.86	500
Coping Styles				
Avoidance Coping	10.66 (0.04)	12.18 (0.06)	**21.89*** **	500
Self-Medication	4.46 (0.03)	4.30 (0.04)	**3.67*** **	500
Active Coping	13.69 (0.02)	14.17 (0.03)	**11.73*** **	500

Note. n's are unweighted, percentages are weighted. For continuous variables, SUDAAN software utilizes the number of bootstrap weights as the df, as opposed to being based on sample size.
***p* < 0.01; ****p* < 001. Results in red supported Hypothesis 1.

Table 5

Multivariate Analysis of Associations between Correlates, Mental Disorders, and Distress in Men and Women

	Spirituality (Ref: No)		Religious Attendance At Least Once/Year (Ref: Never)		Social Support (Continuous)		Avoidance Coping (Continuous)		Self-Medication (Continuous)		Active Coping (Continuous)	
	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)
Mental Disorders												
Major Depression	1.15 (0.77-1.71)	**1.59 (1.05-2.41)****	1.08 (0.73-1.61)	0.89 (0.58-1.36)	**0.98 (0.97-1.00)*****	**0.98 (0.96-0.99)*****	**1.41 (1.32-1.51)*****	**1.45 (1.34-1.56)*****	**1.16 (1.06-1.27)*****	**1.19 (1.07-1.31)*****	**0.83 (0.75-0.92)*****	1.03 (0.91-1.17)
Panic Attacks	1.21 (0.87-1.68)	**1.52 (1.04-2.22)****	1.06 (0.77-1.47)	0.94 (0.65-1.35)	1.00 (0.99-1.01)	0.99 (0.97-1.00)	**1.21 (1.14-1.28)*****	**1.27 (1.19-1.36)*****	**1.22 (1.13-1.32)*****	**1.12 (1.02-1.24)****	0.96 (0.88-1.05)	0.99 (0.88-1.12)
Social Phobia	1.13 (0.66 (1.95)	1.18 (0.66-2.09)	1.27 (0.72-2.23)	0.77 (0.45-1.32)	0.99 (0.97-1.00)	0.99 (0.97-1.01)	**1.31 (1.20-1.42)*****	**1.39 (1.23-1.56)*****	**1.16 (1.01-1.32)****	1.11 (0.96-1.27)	**0.80 (0.69-0.93)*****	0.87 (0.74-1.03)
Generalized Anxiety Disorder	1.37 (0.61-3.04)	1.04 (0.44-2.43)	1.22 (0.59-2.51)	1.10 (0.43-2.83)	0.99 (0.97-1.02)	0.98 (0.96-1.01)	**1.36 (1.19-1.56)*****	**1.40 (1.21-1.62)*****	**1.24 (1.05-1.47)*****	1.14 (0.92-1.41)	**0.78 (0.65-0.94)*****	0.87 (0.68-1.12)
PTSD	1.50 (0.79-2.85)	0.89 (0.46-1.71)	0.73 (0.39-1.39)	1.75 (0.87-3.54)	0.99 (0.96-1.01)	0.98 (0.96-1.00)	**1.35 (1.20-1.51)*****	**1.39 (1.24-1.55)*****	**1.20 (1.04-1.39)*****	1.09 (0.93-1.27)	0.87 (0.73-1.05)	0.90 (0.76-1.07)
Depression or Anxiety Disorder	1.21 (0.93-1.57)	**1.47 (1.09-1.98)*****	1.09 (0.84-1.42)	0.85 (0.63-1.15)	**0.99 (0.98-1.00)*****	**0.98 (0.97-0.99)*****	**1.31 (1.24-1.37)*****	**1.39 (1.32-1.47)*****	**1.19 (1.11-1.27)*****	**1.10 (1.01-1.19)****	**0.90 (0.84-0.97)*****	0.99 (0.90-1.09)
Alcohol dependence	0.86 (0.56-1.32)	0.45 (0.0.16-1.26)	1.31 (0.84-2.05)	1.76 (0.68-4.56)	0.99 (0.97-1.00)	0.99 (0.96-1.02)	1.06 (0.98-1.15)	1.10 (0.95-1.28)	**1.48 (1.35-1.62)*****	**1.55 (1.31-1.83)*****	0.92 (0.82-1.03)	0.85 (0.67-1.09)

Suicidal Ideation	1.32 (0.81-2.13)	0.98 (0.53-1.80)	0.85 (0.53-1.00)	0.57 (0.31-1.04)	**0.98 (0.97-1.00)****	**0.97 (0.95-0.99)*****	**1.33 (1.22-1.45)*****	**1.35 (1.23-1.48)*****	**1.13 (1.01-1.26)****	1.11 (0.97-1.27)	**0.79 (0.70-0.89)*****	0.90 (0.76-1.07)
	Beta (SE)	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**	**Beta (SE)**
K10 Distress	0.35 (0.14)	0.42 (0.21)	-0.05 (0.13)	-0.33 (0.20)	**-0.05 (0.01)*****	**-0.08 (0.01)*****	**0.70 (0.03)*****	**0.73 (0.04)*****	**0.36 (0.04)*****	**0.50 (0.06)*****	**-0.25 (0.04)*****	**-0.25 (0.07)*****

Note. AOR- Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, deployment-related traumatic events variable, and each other correlate. $^{**}p \leq 0.01$; $^{***}p \leq 0.001$.
Results in red supported Hypothesis 2.

Hypothesis 2 was only partially supported. As predicted, social support was associated with a lower likelihood of several outcomes, including major depression, any depression or anxiety disorder, and suicidal ideation (AOR range 0.97-0.98), as well as with psychological distress (Beta -0.08, *SE* 0.01). Self-medication and avoidance coping were positively associated with most mental health outcomes (AOR range 1.09-1.55) and with distress (Beta range 0.50-0.73). On the other hand, in women, active coping was only protective for psychological distress (Beta -0.25, *SE* 0.07), and religious service attendance was not found to be associated with any outcomes. Meanwhile, perceived importance of spirituality was positively associated with major depression, panic attacks, and any depression or anxiety disorder, the opposite direction to that hypothesized (AOR range 1.47-1.59).

The sex-stratified analyses in Table 5 demonstrate that males mostly displayed the same pattern of relationships seen in female service members. However, there were a number of associations that were statistically significant in one sex but not the other, and Table 6 displays the results of the formal sex-by-correlate interaction analyses that were performed for each of these associations. Hypothesis 3 predicted that spirituality, religious service attendance, and social support would be more protective for women than for men and this was not supported. With regard to coping styles where analyses were more exploratory, the same pattern of associations in relation to avoidance coping was noted in men and women. Meanwhile, positive associations between self-medication coping and social phobia, GAD, PTSD, and suicidal ideation were identified in men but not in women, however, formal sex by self-medication interaction analyses were not statistically significant. In addition, active coping was found to be associated with a lower

Table 6

Sex by Correlate Interactions for Select Associations

	Men AOR (99% CI)	Women AOR (99% CI)	Sex X Correlate Interaction AOR (99% CI)
Spirituality			
Major Depression	1.15 (0.77-1.71)	**1.59 (1.05-2.41)****	1.47 (0.87-2.46)
Panic Attacks	1.21 (0.87-1.68)	**1.52 (1.04-2.22)****	1.19 (0.74-1.92)
Depression or Anxiety	1.21 (0.93-1.57)	**1.47 (1.09-1.98)*****	1.15 (0.79-1.67)
Self-Medication Coping			
Social Phobia	**1.16 (1.01-1.32)****	1.11 (0.96-1.27)	0.93 (0.77-1.13)
Generalized Anxiety Disorder	**1.24 (1.05-1.47)*****	1.14 (0.92-1.41)	0.89 (0.70-1.12)
PTSD	**1.20 (1.04-1.39)*****	1.09 (0.93-1.27)	0.93 (0.76-1.13)
Suicidal Ideation	**1.13 (1.01-1.26)****	1.11 (0.97-1.27)	0.97 (0.82-1.15)
Active Coping			
Major Depression	**0.83 (0.75-0.92)*****	1.03 (0.91-1.17)	**1.23 (1.05-1.43)*****
Social Phobia	**0.80 (0.69-0.93)*****	0.87 (0.74-1.03)	1.10 (0.90-1.35)
Generalized Anxiety Disorder	**0.78 (0.65-0.94)*****	0.87 (0.68-1.12)	1.12 (0.86-1.44)

Depression or Anxiety	**0.90 (0.84-0.97)*** **	0.99 (0.90-1.09)	1.08 (0.97-1.20)
Suicidal Ideation	**0.79 (0.70-0.89)*** **	0.90 (0.76-1.07)	1.10 (0.90-1.34)

Note. AOR - Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, deployment-related traumatic events variable, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping). **$p \leq 0.01$; ***$p \leq 0.001$.
Hypothesis 3 was not supported.

likelihood of five out of the ten study outcomes in men but not in women. When formal sex by active coping interactions were computed in relation to these outcomes, sex was found to be a statistically significant moderator depression only (AOR 1.23, 99% CI 1.05-1.43), indicating that adaptive coping was negatively related to depression in males but not in females.

Tables 7 to 9 depict the results of the same set of analyses conducted in the subsample of participants who had been exposed to DRTEs (weighted percentages: 56.8% of men and 29.4% of women in the CCHS-CFS). Due to the smaller overall size of this sample, one level of a particular covariate had zero individuals in some of the regression models (the particular variable cannot be released on account of confidentiality). This issue can be remedied either by collapsing categories within the variable or by removing the variable altogether from the model. When I re-ran these analyses with and without the variable in question, the pattern of results was very similar. Thus, I present the model with all of the same covariates that were included in analyses with the entire CCHS-CFS sample such that general descriptive comparisons could be made with regard to the patterns of findings.

Table 7 displays sex differences among correlates in the subsample of participants who reported having experienced DRTEs. Results showed a mostly identical pattern to those in the entire CCHS-CFS sample. Women were more likely than men to report that spirituality was important in their lives, and also used both avoidance coping and active coping strategies more frequently than men. Unlike in the whole sample where males were found to more frequently engage in self-medication coping, however, no sex differences were noted in the DRTE subsample with respect to this variable.

Table 7

Independent Variables in Male and Female Service Members in the DRTE Subsample

	Males %	Females %	χ^2	df
Spirituality			**28.55*** **	1
No	55.4	44.7		
Yes	44.6	55.3		
Religious Attendance			1.18	1
Never	50.6	48.3		
Once a year or more	49.5	51.7		
	Mean (SE)	Mean (SE)	T-Test	
Social Support	63.96 (0.24)	62.64 (0.49)	2.43	500
Coping Styles				
Avoidance Coping	10.64 (0.05)	12.16 (0.12)	**-11.78*** **	500
Self-Medication	4.47 (0.03)	4.33 (0.06)	1.97	500
Active Coping	13.6 (0.03)	14.09 (0.06)	**-6.46*** **	500

Note. n's are unweighted, percentages are weighted.
**p<0.01; ***p<0.001.

Table 8

Summary of Multivariate Analysis of Associations between Correlates, Mental Disorders, and Distress in Men and Women within the DRTE Subsample

	Spirituality (Ref: No)		Religious Attendance at Least Once/Year (Ref: Never)		Social Support (Continuous)		Avoidance Coping (Continuous)		Self-Medication (Continuous)		Active Coping (Continuous)	
	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)
Mental Disorders												
Major Depression	1.26 (0.78-2.06)	2.00 (0.89-4.47)	0.95 (0.59-1.53)	0.97 (0.46-2.03)	0.99 (0.97-1.00)	**0.97 (0.94-0.99)*****	**1.41 (1.28-1.55)*****	**1.45 (1.25-1.67)*****	**1.12 (1.00-1.25)****	**1.25 (1.02-1.52)****	**0.83 (0.73-0.95)*****	1.03 (0.83-1.28)
Panic Attacks	1.24 (0.80-1.90)	1.50 (0.75-3.02)	1.18 (0.78-1.79)	0.61 (0.31-1.18)	1.00 (0.98-1.01)	1.00 (0.97-1.02)	**1.22 (1.13-1.32)*****	**1.42 (1.22-1.65)*****	**1.27 (1.15-1.40)*****	1.18 (0.97-1.42)	0.97 (0.87-1.09)	0.93 (0.74-1.17)
Social Phobia	1.28 (0.64-2.60)	1.03 (0.32-3.30)	1.02 (0.51-2.05)	0.83 (0.26-2.60)	0.98 (0.96-1.00)	0.97 (0.94-1.00)	**1.30 (1.17-1.45)*****	**1.46 (1.12-1.89)*****	**1.21 (1.02-1.44)****	1.11 (0.85-1.45)	**0.81 (0.67-1.00)****	1.26 (0.86-1.84)
Generalized Anxiety Disorder	1.45 (0.50-4.18)	0.89 (0.20-3.88)	0.80 (0.29-2.25)	1.22 (0.23-6.44)	1.00 (0.95-1.04)	0.99 (0.95-1.04)	**1.39 (1.11-1.74)*****	1.26 (0.98-1.62)	1.27 (0.98-1.65)	1.17 (0.78-1.78)	**0.73 (0.55-0.96)****	0.81 (0.51-1.28)
PTSD	1.86 (0.88-3.94)	1.07 (0.36-3.19)	0.73 (0.35-1.51)	1.19 (0.37-3.81)	0.98 (0.95-1.01)	0.98 (0.94-1.01)	**1.34 (1.17-1.53)*****	**1.44 (1.16-1.80)*****	**1.21 (1.02-1.43)****	1.09 (0.86-1.37)	0.90 (0.74-1.10)	0.90 (0.65-1.25)
Depression or Anxiety Disorder	1.25 (0.89-1.77)	1.63 (0.88-1.00)	1.14 (0.82-1.58)	0.64 (0.35-1.18)	0.99 (0.98-1.00)	0.99 (0.97-1.01)	**1.32 (1.23-1.41)*****	**1.49 (1.31-1.69)*****	**1.21 (1.11-1.31)*****	1.16 (0.98-1.37)	0.93 (0.85-1.02)	0.99 (0.81-1.23)
Suicidal Ideation	1.45 (0.77-2.76)	2.95 (0.70-12.42)	0.91 (0.48-1.71)	0.44 (0.11-1.75)	**0.98 (0.96-1.00)****	**0.94 (0.90-0.99)*****	**1.30 (1.16-1.44)*****	**1.39 (1.03-1.87)****	1.09 (0.94-1.27)	0.95 (0.68-1.33)	**0.81 (0.69-0.95)*****	0.91 (0.65-1.26)

	Spirituality Beta (SE)		Religious Attendance Beta (SE)		Social Support Beta (SE)		Avoidance Coping Beta (SE)		Self-Medication Beta (SE)		Positive Coping Beta (SE)	
K10 Distress	0.40 (0.19)	0.39 (0.41)	-.08 (0.18)	-0.70 (0.42)	**-0.05 (0.01)*** **	**-0.10 (0.02)*** **	**0.77 (0.04)*** **	**0.84 (0.07)*** **	**0.37 (0.06)*** **	**0.71 (0.13)*** **	**-0.27 (0.06)*** **	-0.23 (0.14)

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, deployment-related traumatic events variable, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping). **p<0.01; ***p<0.001.

Table 9

Sex by Correlate Interactions for Select Associations in DRTE Subsample

	Men AOR (99% CI)	Women (AOR 99% CI)	Sex X Correlate Interaction AOR (99% CI)
Social Support			
Major Depression	0.99 (0.97-1.00)	**0.97 (0.94-0.99)*** **	0.99 (0.97-1.02)
Self-Medication			
Panic Attacks	**1.27 (1.15-1.40)*** **	1.18 (0.97-1.42)	0.93 (0.77-1.12)
Social Phobia	**1.21 (1.02-1.44)** **	1.11 (0.85-1.45)	0.90 (0.67-1.21)
Posttraumatic Stress Disorder	**1.21 (1.02-1.43)** **	1.09 (0.86-1.37)	0.91 (0.70-1.20)
Depression or Anxiety Disorder	**1.21 (1.11-1.31)*** **	1.16 (0.98-1.37)	0.98 (0.83-1.16)
Active Coping			
Major Depression	**0.83 (0.73-0.95)*** **	1.03 (0.83-1.28)	1.17 (0.94-1.46)
Social Phobia	**0.81 (0.67-1.00)** **	1.26 (0.86-1.84)	1.43 (0.98-2.08)
Generalized Anxiety Disorder	**0.73 (0.55-0.96)** **	0.81 (0.51-1.28)	1.14 (0.73-1.79)
Suicidal Ideation	**0.81 (0.69-0.95)*** **	0.91 (0.65-1.26)	1.03 (0.77-1.39)

	Beta (SE)	Beta (SE)	Beta (SE Beta)
K10 Distress	**-0.27 (0.06)*** **	-0.23 (0.14)	-0.14 (0.14)

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, deployment-related traumatic events variable, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping).
**p<0.01; ***p<0.001.

Table 8 displays relationships between correlates and outcomes in men and women separately. Among these individuals, no relationships were found in either men or women with respect to religious attendance and spirituality and mental health outcomes. A higher level of social support was associated with a lower likelihood of a few outcomes in men and women (AOR range 0.94-0.98), including psychological distress (Beta range -0.05 - -0.10), while more frequent active coping continued to show several protective relationships for males but not females. As found in the entire CCHS-CFS sample, more frequent self-medication was associated with a higher likelihood of most outcomes in males, with fewer significant relationships in women (AOR range 1.12-1.27; Beta range 0.37-0.71). Finally, more frequent avoidance coping continued to show associations with all outcomes in males and with all but GAD in females (AOR range 1.22-1.49; Beta range 0.77-0.84). Overall, men and women showed a similar pattern of findings. However, for several outcomes, the frequency of avoidance and active coping displayed relationships in males that were not found in females.

Those relationships that were found to be statistically significant in one sex and not the other within the DRTE subsample are reiterated in Table 9, along with the formal sex by correlate interactions that were conducted. None of these interaction analyses were found to be statistically significant.

Discussion

This is the first known study to examine potential protective factors for negative mental health outcomes in military women versus men using a representative sample of service members. Other strengths of the study include the large sample size, the active duty nature of the sample, and the assessment of mental disorders with a standardized

diagnostic instrument. There are also a number of limitations in Study 1. First, the cross-sectional nature of the CCHS-CFS does not allow for the examination of causal relationships between potentially protective resources and mental disorders. Second, because the CCHS-CFS was collected a number of years ago, it may not be generalizable to military service members participating in the present war in Afghanistan. Third, lay-interviews and not mental health professionals assessed mental disorders. Fourth, the use of epidemiologic surveys, although with many benefits, limits control over the measurement tools used to assess each construct. For example, the coping items in the CCHS-CFS were taken from three different scales, and after factor analysing the items, the internal consistency of each factor remained low. Although this set of items has been used in a number of studies (Afifi, Cox, Martens, Sareen, & Enns, 2010; Graff et al., 2009; Wang et al., 2009), future research should also investigate coping in male and female service members using full coping measures that have stronger psychometric properties. With regard to the measurement of social support, it should be noted that the MOS Social Support Survey assesses types, rather than sources, of support, and also does not assess size of social networks. Since different sources of support may show differential relationships with mental health outcomes in military women (e.g., Kelley et al., 2002; Smith et al., 2013), future research should continue to examine the different facets of social support. Finally, defining mental health and wellness as the absence of mental disorder and having lower psychological distress is not ideal. Several women may experience symptoms of mental illness but not meet diagnostic criteria for a full disorder. Further, mental health and wellness may not necessarily be synonymous with a lack of psychological symptoms. Future studies will need to complement the present research by

examining resources in relation to measures of psychological well-being, quality of life, and sub-syndromal psychopathology.

Notwithstanding the limitations, the present study extends previous research with regard to understanding potentially protective correlates, or general resistance resources, for mental disorders and distress in military women relative to men. First, some of the hypothesized sex differences in *levels* of social support, religious attendance, perceived spirituality, and coping strategies, were supported. That is, female service members were more likely to report that spirituality was important in their lives, and more frequently used avoidance coping strategies. Women also reported less frequent self-medication with substances than males. That men report lower prominence of spirituality in their lives than women has been shown in civilian samples (Maselko & Kubzansky, 2006; Rasic et al., 2009; Shahabi, Powell, & Musick, 2002). Support for the other findings has also generally been noted in civilians (e.g., Bolton et al., 2009; Tamres et al., 2002), but comparable research in military samples is more limited and inconsistent (Bray et al., 1999; Gibbons et al., 2012; Malamut & Offermann, 2001). No sex differences in social support levels were observed in the current study, consistent with the study in the CCHS-CFS sample by Nelson and colleagues (2011). Research in military samples has typically found women to have either higher or lower levels of support than males, however, the lack of sex difference in the current study is likely because *types* of social support were examined rather than *sources* of support, where differences have been found (e.g., Benda, 2006; King et al., 2006; Martin et al., 2000; Vogt et al., 2005). It was also hypothesized that women would report less frequent use of active coping strategies than men, which was partly based on a study in a military sample that found that males reported higher

levels of more problem-focused or 'rational' coping than females (Gibbons et al., 2012). The current study, however, found that it was women who reported a higher frequency of active coping, a finding in line with literature showing that civilian women engage in problem-oriented strategies more often than men (Tamres et al., 2002), but discrepant from a few other military studies displaying no correlation (Day & Livingstone, 2001; Sharkansky et al., 2000). Additional study on sex differences in the use of coping strategies in military samples is required.

Social support has consistently been shown to play an important role in maintaining psychological well-being and in buffering psychopathology. The present research extended past literature by examining sex-specific associations between social support and mental disorders as assessed with a standardized interview in a representative sample of active duty soldiers. As hypothesized, social support was found to be negatively associated with a number of psychological outcomes in female service members, including major depression, any depression or anxiety disorder, suicidal ideation, and psychological distress. These findings are consistent with previous research in military and veteran samples (e.g., Brailey et al., 2007; Fontana & Rosenheck, 1998; King et al., 1998; Nelson et al., 2011). In the current study, the same pattern of associations with social support was also found in men, and thus, the hypothesis that social support would be more beneficial for women was not supported. It is likely that social support assists in attenuating stress, or the negative psychological impact of stressful or traumatic experiences, for both male and female service members (e.g., Brailey et al., 2007; Rona et al., 2009). On the other hand, because of the cross-sectional nature of the survey, it is also probable that personnel with better mental health have

stronger social support systems.

It is important to note that, contrary to what was hypothesized, none of the anxiety disorders assessed in the CCHS-CFS were significantly associated with social support for men or women. It is possible that social support is most protective against symptoms more unique to depression and suicidality, such as feelings of hopelessness and worthlessness. Another possible reason for the lack of relationships with anxiety may be that social conflict can increase with greater levels of social support by virtue of increased social interaction. In fact, the recent study by Nayback-Beebe and Yoder (2011) in female service members found that *social conflict* played a bigger role in influencing symptoms of anxiety and PTSD than simply having less social support. Such conflict, in turn, may work against potentially protective relationships between social support and anxiety in military women. Finally, previous research has also suggested that social support can be stressful as well as beneficial for military service members in particular, for example, worrying about loved ones while on deployment (Dolan & Ender, 2008).

More frequent use of active coping strategies showed only one of the predicted negative associations with mental health outcomes in women, in relation to psychological distress. In men, a number of additional protective associations related to the use of active coping strategies were found, including major depression, social phobia, GAD, any depression or anxiety disorder, and suicidal ideation. In interaction analyses, one statistically significant sex by active coping interaction was identified in relation to depression, showing that more frequent use of active coping strategies was related a lower likelihood of depression in men but not in women. Although formal interaction

analyses did not detect statistically significant sex differences with regard to the other relationships, active coping may represent a construct that has a differential degree of benefit for men and women and should be investigated further. For example, the relationship between some coping strategies and psychological outcomes can be influenced by factors such as the situation or stressor for which the coping strategy is used (e.g., Baker & Berenbaum, 2007; Penley et al., 2002; Taylor & Stanton, 2007; Wang & Patten, 2002). Thus, it is possible that active coping strategies may not be as effective for some of the more unique experiences faced by women in the military, such as continuously being singled out due to being part of a minority. However, the differences seen in stratified analyses between men and women could also be due to the higher level of statistical power for analyses conducted in males on account of their greater number in the sample.

It should be noted that several studies in mixed-sex and all-male military samples have, in fact, been in line with the current findings in women with regard to the null findings between active/problem-focused coping styles and psychopathology (Day & Livingstone, 2001; Gilbar et al., 2010; Rodrigues & Renshaw, 2010; Taylor et al., 2009). On the other hand, the hypothesized protective nature of active coping, and the one identified among males in this work, is in line with the relationship between personal coping and suicidal ideation found in a large and population-based sample of Air Force males (Langhinrichsen-Rohling et al., 2011). The representative sample used in the current study might be accounting for any discrepancies with previous literature, as well as the statistical adjustment of a number of covariates, including other coping strategies and resources that might be used concurrently with active coping.

As hypothesized, self-medication was positively linked to most mental disorders in female service members in a representative sample, and to all outcomes in males. This finding is in line with previous work supporting the self-medication hypothesis (e.g., Bolton et al., 2009; Price, Risk, Haden, Lewis, & Spitznagel, 2004; Robinson et al., 2011). The outcomes that were found to be significantly associated with self-medication in men but not in women included social phobia, GAD, PTSD, and suicidal ideation. Again, formal moderation analyses did not identify statistically significant differences in men and women with regard to these associations, and the differences may be due to the higher level of statistical power for analyses conducted in males. However, previous literature in military samples has found that a higher proportion of men than women engage in some types of alcohol use (e.g., binge drinking) and are more likely to have an alcohol use disorder (Bray et al., 1999; Jacobson et al., 2008; Mota et al., 2012; Sareen et al., 2008). Self-medication might have been associated with these outcomes in males because males typically ingest larger amounts of substances, possibly leading to particularly detrimental effects on mental health.

Avoidance coping demonstrated associations in the predicted direction with all psychological outcomes in women, and the same pattern of findings was also identified in men. It is probable that both avoidance and self-medication coping styles work to diminish the positive impact of using active coping strategies. In line with many studies that have adjusted for several coping strategies in the same statistical model when investigating relationships between coping and psychological outcomes (e.g., Day and Livingstone, 2001; Dirkzwager et al., 2003; Gilbar et al., 2010; Solomon et al., 1988; Torkelson & Muhonen, 2004), this method was also used in the current study in order to

identify those resources most strongly and independently related to mental disorders and distress. In future studies examining psychologically protective factors in military samples, such an analytic approach may continue to be useful in order to gain a more holistic understanding of the relationship between such resources and mental health.

No associations were found in the hypothesized direction between religious service attendance and mental health outcomes in women, and an identical pattern was displayed in men. Further, opposite to what was predicted, perceived spirituality showed positive associations with depression, panic attacks, and any depression or anxiety disorder in female service members. These associations were not found in men. Previous research in mixed-sex military samples has mostly found either positive relationships between religious/spiritual constructs and psychopathology or no relationships (Ghafoori et al., 2008; Maddi et al., 2006; Nelson et al., 2011; Trevino et al., 2012; Witvliet et al., 2004). An exception is the one known study in female veterans specifically where attending religious services attenuated the relationship between having been sexually assaulted and symptoms of depression (Chang et al., 2006). In a review of the link between religious coping and psychological outcomes, Ano and Vasconcelles (2005) acknowledge the mixed findings in the civilian literature and the idea that religion/religious coping represent constructs with multiple facets, some helping and some hindering, that might account for the inconsistent conclusions. A limitation of the current study is that both spirituality and religious attendance were only assessed with one question, and thus, we were unable to capture the complexity and multidimensionality of these constructs. Future research in this area should use more refined assessment tools as well as seek to better understand how, particularly in female

service members, spiritual practices are used. Regarding the different pattern of findings between the sexes, it is possible that women more often use spirituality as a coping tool in managing certain mental disorders, since more women than men were found to endorse spirituality in this sample. Spirituality and religiosity may play an important role, for example, in assisting female service members with mental health problems by offering comfort and making sense of their distress (James & Wells, 2003; Koenig & Larson, 2001). Sex-by-spirituality interaction analyses, however, were not found to be significant.

Overall, there were a number of instances where associations were found to be statistically significant in one sex and not the other in sex-stratified analyses. However, observational differences between the sexes largely appeared small, and formal interaction analyses mostly did not identify statistically significant differences in men and women with regards to the relationships between correlates and outcomes. On the other hand, it has been noted that statistically significant interactions are difficult to observe in non-experimental designs due to lower power (see discussion by McClelland & Judd, 1993). Thus, although the present results suggest that it is appropriate to contextualize the current findings for women within the previous literature using mostly male samples, readers should also consider those associations that were found to be statistically significant in one sex and not the other in sex-stratified analyses as representing *possible* sex differences requiring further investigation and scientific replication.

As an additional exploratory investigation, all statistical analyses were also conducted in a subsample of respondents endorsing DRTEs in order to examine whether the overall pattern of findings was similar or different in those women likely to be involved in more traditional military roles. For the most part, the relationships identified

were similar to those demonstrated in the whole CCHS-CFS sample. A few associations found in the whole sample failed to reach significance in the DRTE subsample, but this could likely be explained by the reduced statistical power on account of a smaller sample size. These findings suggest that the relationships between different resources and mental health outcomes are similar in women who have been specifically exposed to DRTEs and who perhaps engage in more traditionally masculine roles than they are in all military women. Further, the pattern of relationships in women was similar to the one in men, as was also observed in the entire CCHS-CFS sample. Future research should compare female service members employed in more male-dominated military roles to those in more traditional roles with regards to the use of coping strategies and protective resources.

One potentially interesting difference in the pattern of findings between the entire CCHS-CFS sample of women and the subsample who had experienced DRTEs was with respect to self-medication coping. In the whole sample, men were found to use self-medication coping at a higher frequency than women, while in the subsample, men and women did not differ with respect to the frequency self-medication use. It is possible that when women participate in more male-dominated military roles, they are socialized to engage in more traditionally 'masculine' behaviors that, although may be unhelpful such as drinking, are normalized in the military culture (e.g., Ames, Cunradi, Moore, & Stern, 2007; Flood, 2008; Fear et al., 2007). This concept is in line with some work suggesting that military women participating in more male-dominated roles may also act more masculine and engage in more masculine behaviors (Herbert, 1998; Sasson-Levy, 2002, 2003; Taber, 2005; Tarrasch, Lurie, Yanovich, & Moran, 2011).

For female service members in the current study, social support was the only correlate that displayed negative associations with multiple mental health outcomes. Clinical interventions with service women who are undergoing treatment for mental health issues should seek to review the client's quality of social support both within the military and external to their occupational environment. Working with female clients on how to create or enhance connections with other individuals should be a common component of therapeutic interventions (Nayback-Beebe & Yoder, 2011). A continuous goal for military policy in general, however, should be the facilitation of increased cohesion between female personnel as well as between the sexes (Mota et al., 2012). For men, military training, particularly pre-deployment, should additionally include the teaching of active coping strategies like problem-solving, self-care, and confiding in trusted individuals. Providing education and skills-training on how to decrease avoidance coping strategies and self-medicating with substances would also be beneficial for both male and female service members.

In considering future directions for research in the area of military women's mental health, it is important to note that even social support was only associated with select outcomes in the current study. Thus, an important message emerging from this work is that there is a need to learn more about other resources and strategies that may protect women from mental health problems during service. This is particularly true given the possibility that the active coping strategies assessed in the current study may not be as helpful for women as they are for men. Future research should also focus on examining these associations using longitudinal designs, and in women participating in the war in Afghanistan, where the exposure to a range of military-related stressors and

trauma has been more frequent and severe. Finally, there are important research questions left to investigate with regard to social support among female service members. Research is beginning to understand the answers to questions such as what types and sources of social support might be helpful for military women (Benda, 2005; Kelley et al., 2002; King et al., 1998), as well as what factors affect social support both positively or negatively (Cotten, Skinner, & Sullivan, 2000). However, future directions should include studying whether female service members seek different types or sources of social support depending on the stressor as well as how social support and social networks change for women from pre-, during, and post-deployment.

The current study investigated relationships between social support, religious attendance/perceived spirituality, coping strategies, and mental health outcomes in active duty female service members. Potential differences in relationships with male service members were also investigated. High levels of social support were associated with a lower likelihood of several outcomes, while social support and increased frequency of using active coping strategies were protective for a number of mental disorders in men. Religious attendance and spirituality showed mostly null relationships in both males and females, with spirituality even displaying a few positive associations with outcomes in women. Overall, the pattern of these relationships was found to be similar in men and women. Military research and policy should strive to capitalize social support in their female service members and to investigate additional protective resources for mental health problems.

Chapter 3: Study 2

Introduction

In recent years, women have encompassed greater proportions of service members in several militaries and have begun to participate in larger numbers in traditionally male-dominated roles. Several researchers across a number of disciplines have recognized that the experiences of military women are unique and complex, and there have been growing efforts to accurately capture these experiences in the empirical literature using qualitative methodologies (e.g., Gouliquer & Poulin, 2005; Poulin, Gouliquer, & Moore, 2009; Sasson-Levy, 2002; Silva, 2008). However, previous literature has not specifically explored how many women are able to remain relatively well psychologically despite the military challenges they face, and thus our understanding of this topic to date remains incomplete.

The Experiences of Women in the Military

Studies to date have found that many women articulate their military experience as being positive and enriching, often despite also recognizing the negative aspects of the environment. A number of female service members and veterans, for example, have described their service as contributing to self-confidence and feelings of empowerment for themselves, as well as providing positive opportunities like a good salary and higher social status (Huynh-Hohnbaum, Damron-Rodriguez, Washington, Villa, & Harada, 2003; Sasson-Levy, 2002; Taber, 2005). Further, in a study of males and females from the U.S. Reserve Officers' Training Corps, Silva found that her female participants viewed and valued the academy as a gender neutral place where they could be "soldiers, neither male nor female – and be judged on the basis of ability rather than gender" (2008,

p. 944). Although not in a male-dominated occupation within the military, Scannell-Desch and Doherty (2010) interviewed a majority female sample of nurses deployed to Iraq and Afghanistan in order to understand their experiences. Despite describing several stressors and trauma exposure, a number of participants talked about how their service had enhanced their professional skills and voiced encouragement to other nurses to serve in the war. Similar sentiments were echoed by a majority female sample of nurses who had served in the Vietnam War (Ravella, 1995). Of course, not all accounts have reflected a positive military experience for women (e.g., Gouliquer & Poulin, 2005; Poulin et al., 2009). However, in these cases, it is difficult to discern whether positive aspects of military life were simply not a part of the women's experiences or whether the focus of these studies (e.g., understanding reasons for leaving the military, exploring the consequences of being discharged on account of being a lesbian) did not offer a context in which to focus on them.

A number of studies have also explored, either directly or indirectly, how women manage working within a masculine culture, and attempts at fitting in and being accepted by male service members have often surfaced as important themes within this work. Davis (2009) has discussed, for example, how success in the military as a female leader involves "years of experimentation and adjustment to ensure equal acceptance as a military professional alongside… male peers" (p. 435). In a sample of former female members who had engaged in masculine roles in the Israeli military, an adoption of a more masculine identity was described, including emulating male behaviors (Sasson-Levy, 2002, 2003). For example, several women noted using cuss words more often, speaking in a lower tone, and acting physically and mentally tough during military

service (Sasson-Levy, 2002, 2003). The Israel Defense Forces differ substantially from the Canadian Forces because their members are mandatorily conscripted (Sasson-Levy, 2002, 2003). Nonetheless, Taber's (2005) personal narrative about life as a female Sea King helicopter navigator in the Canadian military also described having to "think and act like a male in order to be accepted and valued as an organizational member" (p. 292). Such a process involved not being bothered, or not showing that one was bothered, by anti-feminine comments (Taber, 2005). In fact, the female soldiers in more masculine military roles interviewed by Sasson-Levy also tended to distance themselves from conventional femininity by putting down women in general (2002, 2003). Interestingly, however, acting out femininities has also been documented as a way for women to perceive that they belong in the military. Hauser (2011) demonstrated that some women in the Israeli Armed Forces have navigated their environment by using traditional femininity to play pseudo caregiver roles for the male service members, including making the military a more comfortable and home-like environment for them.

To date, Melissa Herbert (1998) has provided one of the most comprehensive examinations of women's approaches to managing the military environment. In her book, she aimed to answer, "…how is it, if at all, that women employ strategies that allow them to function in the male-dominated world of the military?" (p. 23), and described the findings of her quantitative and qualitative analysis of the survey responses of 285 women who were serving, or had served, in the U.S. military. Herbert (1998) additionally conducted unstructured, in-depth interviews with a subsample of women, and her main finding was that many women had to find a balance between femininity and masculinity, as there was pressure to do both. At the same time, acting either way also had

consequences, such as being marked a ‘slut’ for being too feminine or a lesbian for acting overly masculine. Many women were found to employ specific strategies in order to appear more feminine, such as wearing make-up and nail polish. A smaller proportion of women also consciously attempted to appear more masculine (e.g., playing masculine sports, wearing shorter hair), or employed both feminine and masculine behaviors. This study, albeit thorough, minimally discussed the mental health and well-being of the participants who engaged in these strategies, as its focus was more on the performance of gender and sexuality by women in a masculine environment. Herbert (1998) alludes, however, to how certain strategies could be damaging to well-being, such as the conscious dating of males within one’s unit in order to appear feminine. The author also inquired about several coping strategies, sources of support, religion, and stress as part of her extensive survey, however, these results were not discussed in her book.

A few qualitative studies have additionally explored the management of specific, gendered stressors in military women. In relation to sexual harassment, for example, Sasson-Levy (2002) found that many female participants downplayed their experiences, and the author interpreted this action as not allowing the harassment to follow through with its intent to exclude and diminish women. In a sample of lesbian women who had been discharged from the Canadian Forces due to being gay, a number of coping strategies were used to deal with the discrimination, investigations, and other related stressors. The women cognitively perceived the military as being an essentially ‘good’ place at the beginning of their service, acted as if they were heterosexual, and used ‘numbing the self’ as a strategy (Poulin et al., 2009). Gouliquer and Poulin (2005) also conducted an ethnography with gay female personnel and their partners, with the focus

being on how these women maintained their long-term romantic relationships in the midst of military service. When mention has been made in these studies to the perceived mental health or psychological outcomes in military women, the focus has mostly been on the negative symptomatology that women experience (Poulin et al., 2009; Ravella, 1995; Scannell-Desch & Doherty, 2010). What has been more absent in the literature is how the negotiations and strategies utilized by women in order to belong might be linked to their perceived mental health and well-being.

With regard to additional resources and specific coping strategies that women have used to manage their military or post-military stressors, Gilliland and colleagues (2010) conducted a study of seven Christian women who had been nurses in the Vietnam War, Korean War, or WWII, and whose patients had included war casualties while on active duty. The authors examined how religion and spirituality may have played a role in the women's coping with the stresses related to service, and found that supporting one another as well as their patients was deemed to be very important. Several participants additionally discussed ties to a higher Being, although the authors noted that participants, "did not report that formal religious ritual played a significant part in their military lives at that time" (Gilliland et al., 2010, p. 234). A more recent study of deployed military nurses who were also mothers highlighted the challenges many women face by being away from their children, but also described the active decision-making and strategic planning around caregiving that they undergo (Scannell-Desch & Doherty, 2013). Similarly, Taber (2013) conducted a life history analysis of three military mothers in which she highlighted the women's processes of balancing family and military service. Through building a composite narrative, she found that the women actively shifted their

focus throughout time on the home/family versus military service, and that this decision was based a lot on stage of life (e.g., going back to the military when the children were older).

Finally, Mattocks and colleagues (2012) conducted interviews with 19 Operation Iraqi Freedom and Operation Enduring Freedom veterans who had used VA Healthcare. The specific aim of the study was to understand their military-related experiences as well as the coping strategies they used to manage their stressors. The authors found that these women experienced a wide range of stressors, including sexual harassment, combat-related stressors, and, upon return home, interrupted familial and social relationships. Coping strategies among women varied, and negative behaviors included binging and purging and prescription drug misuse while cognitive avoidance techniques included isolation from others. On the other hand, positive coping strategies used by some women to manage their reintegration were also highlighted, including yoga and exercise, using the VA 'vet center' for counseling, and connecting themselves with other female veterans for support. Reaching out to friends and family was largely absent from the interviews, however, because the women believed that they would lack understanding.

The study by Mattocks and colleagues (2012) has provided an understanding, not just of the struggles that women participating in the most recent war have endured, but also how they have tried to overcome the considerable impact of those experiences both with positive and negative strategies. The authors emphasize, however, that since the women in this study comprised a sample that had all sought VA healthcare services, the coping strategies they used might not be typical of all military women. Further, a number of women in the study were also experiencing current mental health difficulties, and it is

possible that there are additional existing resources or strategies that could be more psychologically adaptive. One group of women who require additional investigation are those who are currently experiencing lower levels of psychological distress and/or who are in the stage of having 'bounced back' from the impact of military challenges. Understanding the meaning-making processes of women currently on the middle to upper end of the mental health spectrum could inform psychological prevention and intervention efforts for all women in the military.

Meaning-making and Psychological Functioning

The idea of there being an intricate relationship between the mental health and well-being of individuals and how they make sense of their life experiences is certainly not new. This link forms an integral part of a number of theoretical frameworks that have attempted to explain how people experience stress and suffer from mental health problems, as well as how many individuals are able maintain psychological wellness. In Antonovsky's salutogenic framework, for example, he theorizes that progress towards health and wellness occurs when individuals have a strong sense of coherence (Antonovsky, 1996a, 1996b; Harrop et al., 2006; Lindström & Eriksson, 2005), or, "a generalized orientation toward the world which perceives it, on a continuum, as comprehensible, manageable and meaningful" (Antonovsky, 1996a, p. 15). Comprehensibility refers to an understanding by the individual that the problem or situation is clear, manageability occurs when the person perceives that he/she will be able to cope with the situation, and meaningfulness encompasses a motivation to cope and a perception that it "makes sense" to do so (Antonovsky, 1996b, p. 172). Similarly, in the seminal coping theory developed by Lazarus and Folkman, stress is understood as being

"a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and as endangering well-being" (Folkman et al., 1986, p. 572). The theory posits that how an individual appraises a stressful situation (in addition to how they cope with it) plays an important role in influencing both short- and long-term functioning (Folkman et al., 1986). Finally, in Beck's cognitive theory that guided one of the world's leading evidence-based psychotherapies, cognitive behavioral therapy, a link is once again made between how individuals understand their life experiences, the emotions they feel, and their subsequent behavior (e.g., Sanders & Wills, 2005). Difficulties with mental health are expected to arise when such appraisals become exaggerated and, in turn, create exaggerated and prolonged negative emotions and behaviors, resulting in a problematic cycle (Sanders & Wills, 2005).

More recently, Larner and Blow (2011) developed a conceptual model to demonstrate how meaning-making is thought to be tied to whether combat veterans are resilient after trauma, whether they undergo the negative effects of trauma but subsequently experience posttraumatic growth, or whether they develop psychopathology. The authors' model postulates that when a military-related traumatic event occurs, the veteran either gives it meaning that is in line with how he or she generally sees the world, or attributes meaning to it that is at odds with his or her worldview. If the meaning is congruent with the person's global understanding, then resilience occurs because distress levels are low. If the meaning is at odds with their worldview, however, then the individual either faces the distressing experience and learns from his or her struggles, or avoids the experience and develops psychopathology. The result of this latter trajectory is an overall maladaptive final meaning, while the previous

two processes result in constructive understandings. Further, like Antonovsky's framework, Larner and Blow (2011) also consider the role of positive resources such as social support in the process of making sense of one's experiences.

Finally, Schaubroeck, Riolli, Peng, and Spain (2011) conducted a study in over 600 combat soldiers who had been deployed to Iraq in order to investigate associations between positive psychological capital, a construct considered to contribute to resilience, and symptoms of psychopathology. A particularly pertinent finding to the present work was that these relationships were mediated by how participants had *appraised* their military experiences. Together, this literature serves to enforce why understanding the meaning-making processes of female service members with lower psychological distress could contribute a great deal about how this population maintains mental health and wellness.

Narrative as a Form of Thought

One way of investigating how individuals make sense of their life experiences is by studying narrative accounts. Narratives can be considered "stories that include a temporal ordering of events and an effort to make something out of those events…in a personally and culturally coherent, plausible manner" (Sandelowski, 1991, p. 161). In a narrative, the central protagonist is the self (Brockmeier, 2000), and thus, narratives serve as a means by which individuals shape and construct their identities (Riessman, 1993; Smith & Sparkes, 2008). Such identity construction is molded by interactions between individuals and their social and cultural environments (Smith & Sparkes, 2008). Further, far from being only a description of a past event, narratives are a reconstruction of the event and in this way, link the individual's past with the present in which she is telling

the story in an identity-coherent and credible manner (Brockmeier, 2000). Stories also serve an important evaluative role, as the teller uses existing moral conventions in the present to evaluate himself in that past situation (Brockmeier, 2000). In this way, narratives are "a continuing interpretation and reinterpretation of our experience" (Bruner, 2004, p. 692) and are consequently a rich source of data for exploring how individuals understand the events of their lives.

Limitations of Previous Research & Research Question

There has been a solid effort to understand the unique military experiences of women. However, while there have been accounts of women's positive perceptions of military service as well as some exploration of how they have managed or coped with the stressors they face, there has not been a specific attempt to understand how female service members make sense of their military experiences in a way that might help them with their mental health. In addition, the focus of most of this work has also been on military sociology related to gender rather than on psychological processes occurring for women, and a number of these studies have been conducted in veteran and former member samples as opposed to active duty service members. Finally, few studies have explored the experiences of active duty female service members involved in operations supporting the war in Afghanistan. Together, these limitations illustrate an understudied area of research in military women's mental health, and are in line with recommendations for more qualitative research in military samples in order to better understand the relationship between meaning-making and positive constructs like resilience and posttraumatic growth (Larner & Blow, 2011).

In light of these limitations, the present study aimed to answer the following research question:

How do women with lower levels of current psychological distress make sense of their military experiences?

In qualitative research, hypotheses are intended to emerge from participant interviews as opposed to occurring prior to the study (Pope & Mays, 1995). A hypothesis was therefore not appropriate.

Method

Participants

Ethics approval was obtained from the Psychology/Sociology Research Ethics Board at the University of Manitoba as well as from the Director General Military Personnel Research and Analysis (DGMPRA) Social Science Research Review Board. Participants were a purposive sample of ten active duty female service members in the Canadian Forces who had been deployed on at least one tour in support of the combat mission in Afghanistan and who had not sought individual mental health services in the previous 12 months. The decision to limit the sample to women who had been deployed was an effort to capture the experiences of female service members who had participated in or supported the more traditional and male-dominated military roles. The criterion around an absence of past year mental health services was stipulated as a rough proxy of mental health such that the women interviewed could facilitate the understanding of mental health and wellness maintenance.

As part of the process, I was assigned a sponsor internal to the Canadian Forces who assisted me with participant recruitment. This individual distributed the recruitment

advertisement to contacts at a number of bases in Canada and it was posted in several locations (e.g., health clinic, electronic messaging board, community newspaper) with the request for interested participants meeting the two criteria to contact me. A few participants who contacted me also informed me that others had forwarded them the recruitment advertisement. All interested participants who contacted me and met the two criteria and the study population were interviewed.

The ten women interviewed ranged in age from 25 to 55 years and had served in the military between 5 and 35 years. All women reported having been on at least one deployment, and a number were currently unmarried with no children. Participants also represented a range of ranks and worked in numerous roles within the Canadian Forces that varied with respect to the male to female ratio typically represented. One participant reported that she had not had the opportunity to deploy in support of the war in Afghanistan but was interviewed nonetheless because she reported having had other operational experience. Another participant also reported having participated in mental health services in the past year but not for individual reasons and thus, a decision was made to also retain her in the study.

Measures

Semi-structured Interview. A semi-structured interview was administered to participants, and the duration of each interview ranged between approximately 45 and 75 minutes. The guideline of interview questions (Appendix E) comprised approximately 9 primary, open-ended questions covering topic areas such as military life as a woman, challenges met, sources of strength, and the processes by which women have understood their military experiences. Participants were sometimes asked more close-ended

questions about the role of specific coping strategies (e.g., religiosity, social support) if they did not mention them in less structured interviewing. Questions were also amended, added, or excluded as the interviews progressed in order to follow the women's narratives into those experiences that appeared most poignant to them.

Psychological Distress. Once participants had completed the interview, they were administered the K10 distress scale as a measure of their psychological distress (Appendix A: Kessler et al., 2002). The K10 is a 10-item self-report measure that assesses non-specific distress in the past month and that has been shown to have good validity and reliability (Kessler et al., 2002). Scores range from 0 to 40 based on frequency of occurrence, and the scale includes items such as feeling "sad or depressed" and "that everything was an effort".

Procedure and Analysis

Women who saw the recruitment advertisement (Appendix F) contacted me by email. At this time, I arranged for a scheduled telephone call in order to ensure that the individual met the eligibility criteria and to provide her with more details about the study (Appendix G). I then scheduled interview dates with interested participants and also emailed them a copy of the consent form to review (Appendix H). Alternatively, if the individual communicated that she met the two criteria in her initial contact email, I sent her a copy of the consent form to look over and proceeded to either address any questions or concerns regarding the document or to schedule an interview.

After providing informed written consent, interviews took place with myself as the interviewer in confidential rooms on base or, for less proximate bases, by telephone or Skype. All participants were provided with a list of local and military-related mental

health resources and a written summary of study details as a debriefing procedure (Appendix I). Interviews were audio-recorded pending additional consent from the participants and were transcribed verbatim. One participant consented to participate in the study but did not consent to be audio-recorded. Thus, detailed notes were taken during her interview in lieu of recording and, although this interview could not be formally analyzed, the participant's narratives provided additional contextual information and corroboration regarding the experiences of a female service member.

Since the aim of the present study was to understand the experiences of women who were experiencing lower psychological distress such that knowledge of mental health maintenance could be furthered, the K10 was administered as a measure of psychological distress after the qualitative interview. It was administered at the end of the interview, as opposed to as a screening measure, in order not to impact answers to the more open-ended questions of the qualitative interview. Most participants also consented to being contacted in the future should clarification of the material be required or for future research purposes.

Interview data were analyzed using narrative analysis. With narrative analysis, we are able to examine how individuals structure their experiences in order to understand and interpret them (Riessman, 2008). Unlike a number of other qualitative methodologies that involve analysis of data fragments, narrative analysis preserves the global structure and context of the respondent's story (Riessman, 2008). Because of its holistic nature, this method can help to shed light on the meaning-making of individuals with regard to their experiences while also paying attention to the roles played by factors like context (e.g., other people, place) (Ollerenshaw & Creswell, 2002; Riessman, 2008). Narrative

analysis can additionally assist in discerning what are the typical and atypical narratives of individuals who have undergone similar experiences as well as why certain narratives are told over others (Sandelowski, 1991). Finally, and of particular importance to this proposed research, is that this methodology can help to "illuminate critical moments in which changes in health and wellbeing are likely to occur" (Sandelowski, 1991, p. 164). Such a methodology, then, was particularly appropriate with the aim of Study 2 to investigate the *processes* by which female service members understand their military experiences.

Riessman (2008) has described three approaches to narrative analysis that were used to analyze the qualitative interviews of this research: **1) Thematic analysis**. This approach involves an analysis of the *content* of the interviews for frequent patterns, themes, and ideas. Narrative thematic analysis differs from thematic analysis in other qualitative methodologies such as grounded theory by being theory driven and by examining each interview in a more holistic, rather than fragmented, way. **2) Structural analysis.** This approach examines the participants' 'telling' of their stories, or the 'form' that their narratives take. Interviews were examined for the progression of how women make sense of their military experiences. **3) Performative or dialogic analysis.** The interviews were analyzed with regard to the purpose each woman had in telling a particular narrative at a particular time point to the interviewer (Riessman, 2008). These three approaches are intertwined and were not necessarily analyzed separately. K10 scores were also reviewed in order to understand any potential links between the meaning-making processes observed in the interviews and participant scores.

Finally, trustworthiness in qualitative research can be defined as "the ways we work

to meet the criteria of validity, credibility, and believability of our research – as assessed by the academy, our communities, and our participants" (Harrison, MacGibbon, & Morton, 2001, p. 324). In narrative inquiry, criteria for trustworthiness continue to be addressed and developed and require additional consideration (Loh, 2013). In his discussion of trustworthiness in the field of narrative inquiry, Loh (2013) acknowledges the work of Lincoln and Guba (1985) as "being accepted and constantly being cited" (p. 4) in the qualitative field, and reviewed the accompanying strategies for each criterion proposed by the authors that can be used a guide when conducting research. Aspects of Lincoln and Guba's criteria have been critiqued, including their terminology ('trustworthiness' versus validity and reliability) and the field's tendency to evaluate these criteria at the end of a study rather than continuously throughout (e.g., Morse, Barrett, Mayan, Olson, & Spiers, 2002). Nonetheless, they continue to provide a respectable starting point for considerations of rigor at this time, particularly when similar guidelines for narrative analysis in particular remain less developed.

The following four criteria of trustworthiness outlined by Guba (1981) and Lincoln and Guba (1985) were thus considered *throughout* the current study to the extent that they were applicable: **1) Credibility** can be defined as the degree to which one's analysis and interpretation of the data capture the 'true' experience in question. Credibility was incorporated in the present research by documenting any relevant observations after interviews, debriefing with my research advisor, a qualitative expert, and by presenting excerpts of interviews to members of our qualitative research group multiple times and receiving feedback and additional considerations with regard to analysis. **2) Transferability** is the applicability of findings from one context to another. This

component was considered by using purposive sampling in participant recruitment in order to "maximize the range of information uncovered" (Guba, 1981, p. 86). **3) Dependability** is the "stability of the data" (Guba, 1981, p. 86), and was ensured in the present work through the use of complementary (quantitative and qualitative) methods. I also kept a record of the process of the procedures, analysis, and interpretation of the data by keeping notes related to my observations, thought processes, as well as analysis drafts. **4) Confirmability** of the data was ensured through consultation with the research group and with my advisor (i.e., frequently discussing emerging findings with my advisor, presenting to the research group). I also engaged in reflexivity practices whereby I reflected upon the personal characteristics and assumptions that I had that could influence the research, analysis, and interpretation processes of the research.

Additionally, I incorporated several of the "verification strategies" outlined by Morse and colleagues (2002), including the coherence of my research question with my chosen methodology (narrative analysis) and with the interview data that contained many stories, as well as a suitable sample (military women who were likely in a current state of mental health) for answering my research question. As recommended, I also engaged in analysis at the same time that I continued to interview in order aid in idea development (Morse et al., 2002).

Reflexivity

I am a Caucasian, middle-class, 29-year-old female. I have no personal ties to the military and for this thesis, merged my interests in women's mental health with a new, but developing, interest in military mental health. The narratives I was told by my participants were likely those that would be told to an 'outsider' from a military

perspective, but to an 'insider' from the perspective of biological sex. Until I began a clinical practicum at the Operational Stress Injury Clinic (OSIC) in Winnipeg in 2011, an outpatient clinic that serves active duty service members and veterans, I had very little insight into military culture other than being a civilian consumer of what has been portrayed in the popular media. At the OSIC, I had some exposure to several of the common values, assumptions, and worldviews of military members, although the clients I saw during that time were mostly male. I also read many academic articles on sex and gender in the military prior to interviewing the participants, including previous qualitative work of other samples of military women. Being well versed in the field's scientific literature is an inevitable part of the linear journey to completing a doctoral thesis in an academic institution. Still, this knowledge certainly created assumptions for me with regard to the narratives the women would tell. These assumptions included the idea that military service was fulfilling work, but that it brought with it many military challenges that were unique to women, including, but not limited to, discrimination, harassment and sexual trauma, balancing work and family, and being 'othered' (singled out). My field of study in Clinical Psychology naturally rendered me to be interested and more focused on the individual processes that these women underwent to understand their military experiences, and perhaps somewhat less so on the greater sociological forces imbedded within the interviews.

Finally, the aim of this study was to try to understand the maintenance of wellness and mental health in military women in the midst of challenges, and the women that I interviewed were relatively aware of this aim. The research itself was thus grounded in the assumptions that a) the women had faced challenges and b) that as active duty service

members who go to work everyday, they were maintaining a certain level of psychological functioning. I continue to believe that this was an empowering approach and study aim for female service members, and that there is definite value for women's mental health in understanding the perceptions of these women around what it means to be psychologically strong. I was also encouraged by my supervisor to take a conscious step back from the idea of 'resilience' when analyzing the interviews in order to be open-minded to what emerged from the narratives. Nonetheless, such a research question naturally influenced both the questions that I asked (i.e., about overcoming obstacles and challenges) as well as what the women 'performed' for me in our co-constructed narratives.

Results

I display the results below by using pseudonyms in the place of participant names in order to ensure their anonymity. Further, because disclosure of certain combinations of details about a participant could compromise anonymity despite the use of a pseudonym, I present some of the findings without attributing them to a particular participant's narrative.

Of critical importance to women in the current study was ensuring that they had a place in which they felt connected, emotionally attached, and like they belonged. I will first demonstrate that some narratives depicted the military as this primary space. This was illustrated by the choice of metaphors in describing the environment and its service members, and by the boundaries that some women set between the military and the civilian world. I will additionally demonstrate how these women asserted their place in the military to me as well as to themselves, and contextualize these strategies within the

existing literature on women's experiences in the military and the efforts that women make to manage their military environments and develop military identities.

A counter-narrative was also present among the interviews, however, as some women described places of belonging *outside* of the military, or where the military was viewed as only a part of a larger space extending to the civilian sphere. Within individual narratives were also inconsistencies as to where these women felt most connected, and different intensities of immersion in the military versus the broader world were observed. The discrepancies within narratives highlighted a process of negotiation for the women between the military and the home/civilian sphere, and often involved demonstrating their belonging to each. The way participants described these spheres, and their level of attachment and connection to each of them, appeared to mirror a process of trying to construct spaces for themselves that were like 'home'.

In her review, Mallett (2004) summarizes the work of researchers and theorists from a number of disciplines who have written about the concept of 'home', with the goal of understanding its meanings and definitions. She aimed to answer the question, "Is home (a) place(s), (a) space(s), feeling(s), practices, and/or an active state of being in the world?" and concluded that home has, in fact, been written about in all of these capacities and can be any of these things (2004, p. 65). Throughout the discussion of my findings then, I will refer to the negotiations of place that the women undergo as a process of constructing and defining *home bases*. The term was appropriate in this particular context because of the home-like qualities that participants often allotted to the places they described (i.e., the military as well as the home/civilian sphere) and the belonging strategies that they employed in order for the military to be their place. However, the

term also captures the *process* that the women undergo in negotiating their attachments to home versus the military ('base'). Lastly, I will situate the findings within the K10 distress scores of the sample and will also draw connections to notions of mental health and well-being. Ultimately, the women engaged in continuously modifying 'home base(s)' for themselves according to what they perceived to be most psychologically beneficial.

The Military as a Home Base

The military as family and as a primary space of connection. Several women described the military as an environment that was home-like, that is, in a way that indicated that it was where they were most comfortable and connected. The idea of the military family, for example, was salient for several of the women in this study, and in line with one meaning of home as being family (e.g., Mallett, 2004; Molony, 2010). Below, Tania paints a picture of a traditional family, with mothers and sisters included, which is different from the 'brotherhood' or homosociality that has been described in the literature on military masculinities (e.g., Atherton, 2009; Flood, 2008; Sion & Ben-Ari, 2009).

Tania: Military, it's a fantastic family. There's moms, there's dads, there's brothers, there's sisters. You won't be treated any differently to be a military member than you would be if you joined another organization.

In Hauser's study (2011), many women actively contributed to creating a sense of family in the male-dominated environment by being nurturing and providing for the needs of the male soldiers, or, in other words, by practicing traditional feminine roles. Here, Tania does not describe any 'feminine' behaviors, but still clearly describes female figures as a natural part of the military family. In Taber's (2010) work, her interviews with three

mothers who were serving or had served in the military also defined the military as being a family, and she discusses that this ultimately renders it difficult for mothers to decide where their greatest emotional connection or duty lies.

Throughout Amber's narrative, she described having strong ties outside of the military. However, an excerpt below from her interview also depicts her colleagues at the forefront.

Amber: I've made connections and I've got friends from way back that we're still in contact. It's just different, right, because your family changes. You know, your original family is still your family but I mean, because you're moving and me being so far from my family, my family's more almost people I relate with at work than my family is because we don't see each other very often, every year or two. So it's a different, you know, we've got two families kind of thing. Yeah, it's a very good experience. I don't regret it at all. No.

Amber conceptualizes her colleagues as family as well, and further, as the family with whom she can "relate" and who is most often present.

For Lily, she uses the metaphor of "world" to clearly define her primary space of operation, which is congruent with home as often being a space with boundaries (Mallett, 2004; Molony, 2010). She also describes that focused service *to* the military in particular is linked to greater satisfaction and happiness.

Lily: "Your work is to find your world and then with all your heart give yourself to it", and it's a definition of happiness from Buddha, and I truly feel like that's kind of what I've done. This is the world that I found and I'm just gonna give myself to it, and as long as I have, I've been really happy with it.

By giving her "heart", her core, to the military world, Lily remarks that she has found happiness. Below, she describes how she had further weakened her ties to her civilian life in order to strengthen her connection to the military, and also found this to be a welcomed shift.

Lily: I know my environment will always change. So I like the training I get and the people that I work with.
Int.: Okay. So you kinda like the dynamic aspect of it?
Lily: I do. I like the changing. My kids are grown now so I don't have that burden or worry, so I like the fact that I can go about and do everything. I actually was just saying the other day, I don't even have a house plant right now, and that's different. I usually would have something, so I am totally, but it's actually very relaxing not to have any kind of responsibilities because no matter what the military throws at me, I'm just, it's fine.

With a distancing of ties to the civilian sphere, Lily can be further immersed in her military world. In a recent composite life history analysis of military mothers, Taber's (2013) participant 'Tanya' describes a similar transition of immersion back and forth between the military and home in her time trajectory, with this movement also being linked to her children's level of need. Here, I suggest that also involved in this process is a recalibration of where Lily's home base is, where she is most rooted. Further, she once again ties her current decision of home base as military to her well-being, in that not having responsibilities in her civilian home is "very relaxing".

Lily also implies the location of her current home base in the context of being asked how she has managed the challenges she has faced.

Lily: Well family is, I've got a very supportive family. Family is very important to me. I'd say it's probably the most important thing, so next to working, my family is right there for me. I think that actually does help quite a bit.

When "next to working" is added after naming her family as support during challenging times, this participant is juxtaposing the two most important things in her life, and expressing the current prominence of her military sphere. Further, Lily additionally views her mental health as a sign that this is the right choice.

Participant: I just really lucked out on that, really, it just goes with my whole philosophy in life that this is where I was meant to be and sort of my, I'm on the right path. To me, if I was stressed and unhappy and had to go to mental health, I would not, I would think there was something that I

> needed to change in my life. I would probably get out and look for that change.

For Cecile, she described being a part of an enriching deployment experience full of contribution and helping others. The challenge for her came after arriving home, because she was left with the task of re-creating meaning, purpose, and a place for herself against the backdrop of a deployment in which she had given herself so fully.

> Cecile: So, so you're working at that up tempo and there's things going on constantly and you know, everything is happening. You go from that and you come back to shopping at Walmart. So it's really difficult to make that, I never thought I would have an issue with that when I came back… it took me a few months to really realize that maybe I'm not adjusting as well as I thought I would, maybe. And it's not a matter of being, it's just as simple, I put it as being out of sorts. You're not quite, you're not having any major issues. You just feel kind of you're out of sorts because you were in a world where you were making big contributions. You were at a very high up tempo and you were focus, focus, focus all the time, and you come down to watching the grass grow and going to Walmart. It's very difficult to make that transition…You just feel kind of out of place. I think that's it. You feel a little bit out of place, like because when you're there for a while, beyond 3 or 4 months, that world becomes your reality and this world is the other world. And then it's kind of, you know, that, you come back and you're, it's like leaving some place and going home but realizing when you get there that that really was home.

Two additional meanings of home that have been described in the literature include home as a place where one makes contributions and has mastery (Molony, 2010) and "being at home" as a feeling (Mallett, 2004). Cecile defines her home base in terms of the military service that she completes and, when she returns from deployment, feels "out of place" in her old (new?) environment, her military service being what felt like "home". Further, the loss of that sense of home, and of that feeling of being an important part of something and making a difference, is what is linked to the adjustment challenges for Cecile, and being "out of sorts".

The military as a place of belonging. A sense of belonging has been fundamental to several conceptualizations of home (Mallett, 2004; Molony, 2010). Naturally, then, if the military was viewed as a home base for some women, a part of their narratives might involve illustrating their place within it. Below, one participant highlights the impact of a sense of belonging on her military experience by contrasting two different points in her career.

> Part.: Well, when I was posted to [squadron]…that was really hard because I didn't really, how do I put this? I was like a [age] year old girl. The guys couldn't really relate to me. It was really tough. I remember going home to my mom, like phoning my mother and crying, saying like, "I really hate it. This was a huge mistake. I shouldn't have done this." …but when I got into [squadron],…the one I ultimately went overseas with, it was amazing, because they almost acted like they were all my older brothers. Of course there were some, you know, people I didn't get along with, but most of the time they were really respectful and they watched out for me.

For this participant, a more positive time in the military came when she felt as though she was among family.

The women in the current study described several exclusionary, discriminatory, and/or other negative gendered experiences that they had faced throughout their service. However, they used several of the ways discussed in previous work (Herbert, 1998; Sasson-Levy, 2003, 2003; Taber, 2005), as well as a number of narrative strategies throughout our interviews, to outweigh, account for, and make sense of the parts in their narratives when they did not always fit in. In other words, most women were invested in showing me that the military was a place where they belonged. As in previous work, these strategies included asserting that their high level of skill and their personalities (e.g., "tomboy", "Type A") were conducive to the military, as well as minimizing sexual harassment because, as one participant noted, "the team is more important than that".

Below, I demonstrate some of the less studied resources that women drew upon in order to assert their belonging status and place within the military.

First, the resources and strategies that some women described using to deal with military-related challenges often served the purpose of continuing to belong even if this was not their primary intention. For example, when asked about whether religion and/or spirituality played a role in their lives, three women expressed that it helped them to affirm their chosen life paths. Thus, the belief systems and worldviews of the women were involved in asserting their connection to the military. One participant, for example, stated:

> Um, yeah I sort of, if I find that my, I can't quiet my mind, I just do the Lord's Prayer and that's sort of trained my mind to calm right down and get out of that loop that your mind can always get into, something like that, and just the thing like, I totally believe that I'm doing what God wanted me to do so why should I get worried.

A belief in God has a calming effect for this participant, and a part of this is achieved by her faith that she is living out God's plan in the right place. Similarly, although another participant did not link religiosity or spirituality with helping her emotional wellness, she trusts that a higher power keeps her from making wrong life decisions.

Interviewer: Okay, great. Spirituality or religion, did that play a role at all for you?

Participant: No. From a religious perspective, you know, the Padre here, we don't deal with religion when we're talking one on one with me and the Padre, and I've never allowed them to bring religion into it. I have my own beliefs that, you know, I've got a Guardian Angel that's looking out for me and whenever I'm headed down the wrong path, something, something or someone puts me on the right path and, you know, saves me from destruction…

Thus, for the women for whom these resources were salient, one of their uses was to help confirm a place of belonging for themselves in the military.

With regard to the link between belonging and other coping strategies, throughout several of the women's interviews, a decision-making process of whether to respond to military-related challenges using active or passive coping strategies was evident. While several women spoke about successfully facing challenges head on, acting on a stressor often increased the noticeability of women within the military, thus threatening their sense of belonging and sometimes carrying risks that outweighed the benefits of facing the problem. Meanwhile, ignoring the problem or doing nothing was frequently an action in and of itself, because it was often associated with the women's sense of belonging being left intact.

One of these types of challenges, sexual harassment and assault, has been addressed in Sasson-Levy's work (2002, 2003), and similar management strategies were also noted in the current study. Gaby, for example, disclosed a sexual trauma that had happened to her, and explains why she had actively decided not to report it.

Gaby: …my reason behind it is that, you know, "is it gonna hold me back? Is it gonna, is it gonna cause me to be that girl that everybody, everybody like, hates and you know…"

Then, when another woman she knew underwent a similar experience and was more open about it, Gaby was able to witness the way her situation may have been received:

Gaby: …it stirred up a whole bunch of stuff and she did report it, but the problem is…it was kind of, anyway it didn't go as well as you would think it would go…

For Gaby, this experience was a confirmation for her that she had made the appropriate decision by not reporting the event, because a similar situation was not dealt with the way that she had hoped. Amy summarizes this decision-making process of acting versus not acting below.

Int.: And so, what tips would you have for other females in the military, for them to stay well?

Amy: Tips. I would say if something really doesn't feel right, it's probably not and to definitely try to find out where you stand before, I don't want to say before you make a big deal about it, but sometimes that is the case. I know there's a lot of females that have a rep from threatening people with harassment and stuff like that, but, but definitely choose your battles you know. If it's really not worth it, then don't be one of these people because it's not gonna help you along. You're not gonna be very well liked and that's gonna make your life harder, so yeah.

Despite acknowledging that a situation might not "feel right", Amy argues that it is still in women's best interests to let certain situations go. Otherwise, these women will not "be very well liked", or, in other words, they will be outsiders to the military family.

With regard to relationships with others as a resource, a number of women made references to the fact that civilians did not understand some of the typical challenges and stressors of military life. This could be viewed as a distancing from civilians, in line with home as often having boundaries (Mallett, 2004; Molony, 2010). Below, one participant describes an example of an immediate family member being unable to relate to her experiences.

Participant: …and my [family member], I remember she said, she called me one morning and she said, "I'm working for the 10th straight day in a row"…She works for [a civilian job]. And I went, and I'm like, "just remember I spent…months in Afghanistan working 7 days a week". So now when she calls me, "well I know I never worked that long straight, so I'm not gonna complain to you" *(laughing)* but she's like, "but I am on my 7th straight day".

Below, Helen describes going to other military members for support, and this functions both to increase the sense of belonging among group members with like experiences while linking the military to wellness through the resource of social support.

Helen: Well again, the military is great cause you sort of, you have like a built-in support system of people who all have shared experiences. They've all at least done basic training, so the same stuff that you've gone, and they all kind

> of get your mentality and they get the organization that you work for, so that part is always handy to have. I mean it's no surprise that most of my close friends are either in the military themselves or they're military spouses. They know sort of how things work. Having that support system is really great cause you know you can call somebody at 10 or 11:30 and say, I'm having an emergency. I need to stay at your place, whatever, and it's not an issue.

The fact that women in the military mostly rely on other service members for support is in line with another study in veterans (Mattocks, 2012). For several women in the current study, individuals in the military serve as a dependable family who are unconditionally available for support.

While several women expressed that their military-related experiences were out of the range of the understanding of civilians, they also often concurrently minimized their military-related stresses. Although seemingly opposing narrative strategies, I suggest that the latter, just like the former, also served to increase both a sense of belonging in the military as well as perceived mental health and wellness for the women. Below, Ann begins by describing the difficulties of balancing children and military service, but ends the passage with stating that it is not a major stressor.

Ann: They [her children] don't remember any of that now and I had, you know, it's easy for a working mom to get, to feel very, very guilty and to just feel like, "oh my goodness I'm going away again". I was just gone last week and I'm missing everything and you know, you can easily kind of let yourself worry and go to extremes, having lived through it, it's not really that bad.

Similarly, when Helen discussed the period of readjustment she underwent after deployment, she ended off the telling of her experience with the excerpt below:

Helen: But I think I adjusted pretty well overall. I mean it wasn't, it wasn't a huge thing. I just happened to be away for 6 months.

Not all women engaged in minimizing their military-related challenges. However, for those who did, by viewing their stressful experiences as being more severe than those of

civilians while simultaneously minimizing many of their challenges, the women were able to elevate both themselves as strong and the military as an environment where challenges are present but manageable. They belong in the military because they can handle it, while they are loyal to the military by depicting it as a good place to be at the same time.

Several women also expressed that their current experiences were not much different than those of a man when they were asked how being a woman may have influenced their military experiences. Meanwhile, some women used the past to distance themselves from situations in which they had been excluded, in that they often discussed those events as being in the past and the current environment as being greatly improved. It appeared easier for Ann, for example, to speak about gendered challenges that had occurred longer ago.

Ann: *Early* on, though, *early* [decade], we weren't the first women to go through, like there was women before us, but, you know, *when I look back*, I don't think the conditions were great. Like everyone was always watching if we were gaining weight and people would comment and there was always, you know, stuff but I guess you sort of, you either harden yourself to it and get used to it and just either ignore it or, you know, flick it off or whatever, I don't know if there's a word for that. Or some people, you know, it can get to you, and even when you learn to sort of ignore it and don't let it bother you, it'll still bother you sometimes. Now I say that, like that was a *long time ago*, and that was a specific, you know, culture like it was the military college, and even then women did very well in the military college and you know, there are a lot of us who, you know, who did great. We all left there with good memories. Not everyone does, but I mean even the guys. It was difficult and it was challenging, and it had a specific culture. It's changed now so I can't even compare it to the [military college] that exists today because rules have changed, people have changed, dynamics have changed, so it's certainly not something I could say or comment on, on present time, but when I went through, *if I look back*… [Emphasis by italics added]

It should be noted that participants were specifically asked whether their military experiences had changed over time, and that military policy has certainly become more

inclusive of women during the past several years (Department of National Defence, 2010). Nonetheless, with multiple references to time in a short interview segment and a depiction of military college as a "specific culture" - a different space - Ann's use of the question to create a gap between herself and more negative gendered situations is illustrated. Further mentioning that, "We all left there with good memories" and adding that military college was also a challenging experience for men ensures that women were not distinguished from men by the type of experience they had.

In this section of Military as Home Base, I have attempted to demonstrate how some women have made sense of the military by making it a home-like environment. Since having a place feel like home involves a feeling of belonging there, I have also expanded upon previous literature by pointing out some of the belonging strategies used by women in the current study. Finally, I have attempted to highlight links between the military as home base and the mental health and well-being for female service members. Another narrative thread outlining home bases outside of the military was also identified, however, which I will now discuss.

The Expanded Home Base

Across women's interviews, different degrees of attachment towards the military and the civilian sphere were observed, and some women described their actual homes or parts of their civilian spheres in ways that encompassed the conceptualizations of home previously described in relation to the military. Further, within interviews, there were also discrepancies about where home base really was for the participant, where they felt most connected. Cumulatively, I argue that this represents a narrative thread indicative of a process of negotiating one's home base(s), and will now discuss the presence of non-

military home bases within the narratives as well as this negotiation process. In their metasynthesis of qualitative studies examining meanings of home for older adults, Molony (2010) has supported the idea that "achieving at-homeness throughout life is a process of integration of the self with the environment…" (p. 303). Additionally, I will demonstrate that these other home bases were also tied to aspects of perceived well-being.

When interviewing Mary, she described the difficulty for female service members in having what I have defined as a home base outside of the military:

> Mary: That reminds me that, you know what, yeah the military life is not sort of, I hate to say this word because I don't have a word to use, but it's not normal. I don't think the military is, as much as we try to say it and maybe one day we'll actually get there, but it's not a reflection of society. It's not a reflection of society's attitude. It's not, it's its own little mega province, like nowhere else in society, I don't know, maybe in nursing, you have a lot of women, in the Army we have a lot of men, you know. So maybe in the plumbing world or the nursing world, but all these people go home to a more vibrant family life, and they're more likely to stay in one area, so I mean, most people I know don't have friends from high school. We move a lot. So you know, every three years, we almost like, we set up shop in camp. It's pretty hard to have a nest that sort of mimics normal Canadian life.

Due to constant moving for military service members, there are difficulties involved in building a "nest" outside of the "mega province" that is the military. Mary further describes the military as being foreign to the civilian world outside, and that at least part of this relates to its male to female imbalance. However, the added difficulty that is implied is that the life of a woman in the military is never "normal", even after work hours, because unlike other gender imbalanced occupations, like nursing or law enforcement where employees work their shift and then return home, it is also difficult to find a place where one can feel nested outside of the military. Thus, as it is active work for women to feel at home in the military, so it is also work to feel at home outside of it.

Nonetheless, some narratives depicted a home base that was not as exclusively grounded in the military, with the women's place in that sphere being but one component of the broader world in which they felt they were a part.

Differences of home base between narratives. In this section, I will juxtapose discrepancies noted *between* participants' narratives around home base to show that for some women, home lay outside of the military, or at least extended past it. Earlier, for example, Cecile's homecoming narrative was described in the context of her deployment having felt like home, while coming home post-deployment was related to being "out of sorts". In Helen's description of coming home, she also begins by describing a process of readjustment and unfamiliarity to her surroundings. However, her story then marks a change from that of Cecile's and highlights where she feels more grounded.

> Helen: Yeah. I certainly thought when I was going to come home that everything would be totally normal. When I got back…, I got back in the summer time. Everything was very green. All the colours were very vibrant cause I'd come from a desert environment where everything was very drab, lots of brown, tan, gravel, you know, no trees really beyond the odd palm tree, so I felt like a deer in headlights for a couple of days, just sort of looking around at my environment just readjusting to colour and green, which was nice. And then I had a family holiday for a couple of weeks in [location] so it was very nice and relaxing and I was able to have some time to myself to decompress and do all of that good stuff. So I found I adjusted quite well after that 2 week period.

Although things did not feel as "normal" or familiar as Helen had assumed upon returning home, she refers to the contrast between the drabness of her deployment environment and the greenery of home as being "nice" (versus, for example, the perceived meaningless act of shopping at Wal-Mart in Cecile's narrative). Additionally, being with family contributed to her re-adjusting "quite well". Even more salient, however, is what followed in Helen's description of her experience.

Helen: And now this year, I'm actually in the period of time when I was away…so I'm finding that activities are coming up and I'll think to myself, why do I not have memory of this…. Like, where was I? Then I think, oh yeah, I was deployed. So it almost feels like there's sort of this black hole in my life every time that I was away and the world continued spinning, but I was doing, you know, groundhog day every day, just reliving the same stuff. So that has really shifted my perspective a bit at this time of year now that I'm back and sort of life is going on again, kind of having that lack of a period of time in your life where stuff you would normally do, things you would normally attend, you haven't kind of thing, so. But I think I adjusted pretty well overall.

Here, Helen describes her deployment as a "black hole" in her life, her everyday "world" continuing to spin without her in it. Contrasted with Cecile's description of deployment as a time when everything was "up tempo" and when she was making "huge contributions", Helen illustrates deployment as having felt more mundane to her, akin to being "groundhog day everyday". Further, being back home is where "life is going on again".

In a similar vein, opposing experiences of the military as family were noted. In explaining how she dealt with challenges on deployment, Tania replied:

Tania: Um, so one of the things that they did for us was that we had 4 people to a room, and my closest girlfriend was my best friend and my rock, you know. We trained together, we worked together, we slept together, we ate together, we played together. She was my buddy and she was always there, if I went home at the end of the day, even though we were co-workers, she was still there. She had gone through it all with me and it gave us a buddy system to work with…wherever I looked amongst the Canadians, nobody was alone. Nobody was ever alone in the Canadian Forces.

Tania, who earlier described the military as a "fantastic family", describes her co-worker here as feeling like more than just a co-worker because she goes home with her after the work day. Mary's response when asked to describe herself as a woman in a male environment held a different tone.

Mary: Well they're, I would say varied, from being sort of a part of like a brotherhood/sisterhood type thing, mostly brotherhood really, and being included. But I think even when you're the most included that you can be, you're still very keenly aware that you're not part of the majority, so you always sort of feel a little bit like an outsider and then there's time where you truly are, around the clock, constantly very aware that you're not part of anything. You're very alone.

Mary acknowledges that there had been times when the military felt like family with brothers and sisters. Ultimately, however, her experiences had been very different to those of Tania who felt "never alone".

Non-military constructions of home bases and well-being. Three women spoke about how expanding their involvement outside of the military was beneficial for them, while a fourth participant spoke about balancing between military and home, and how her well-being was situated within the collective well-being of her family. Two of these women also directly named the intense immersion in the military as being unhelpful for them, and expressed that their decision to venture outside of the military was an active one that had been influenced by experience.

Int.: Right. And has social support, either within the military or out of it, played a role in…?
Mary: For me? Not really.
Int.: Yeah.
Mary: Yeah, not really. I think for a lot of people, maybe that's a lesson learned too. I just make sure that, right now, at least the last couple of years, I am trying to, sort of, enlarge my social circle, non-military social circle as well as non-military activities, so that I have a life outside the military, cause I was kind of all consumed and I don't think that's helpful, because then you get a skewed view to how life works frankly, and you kind of get stuck in this bubble of how people behave and what they think. So um, I'm not, again because of my nature, I'm not a huge social butterfly, but I did, for example, just to increase social interaction, I volunteer at different places that have nothing to do with the military… I think for a lot of people, like I just don't have, I was never close with my own personal, like my direct family…So the only people I would have is sort of military people, which I've learned, yeah, yeah, that would definitely be a lesson, like to have an outside life, outside interests, to have balance…

For Mary, she implies that the military is a type of family by contrasting it with her "direct" family, and for her, it is almost her family by default due to the amount of time she spends there and in light of the lack of close relationships with her biological family. However, Mary also feels confined by the military, perceiving life to be something greater than its 'bubble'. At the risk of feeling like she does not belong anywhere, then, she looks outward for connection.

Similarly, Amber describes the relationship between her conceptualization of her military role and health.

Amber: …I used to be very career oriented, work almost came first. But then, as you get older, and you enter relationships and stuff like that, uhh, you're still dedicated to your work, although now you have a personal life and a professional life, so you try to, you know, balance both and all that…so I'm still dedicated to my work but I don't worry as much as I used to growing up…

Amber describes a shift from her military work being the primary presence in her life, to an expansion of that space to include a personal life outside of work over time. Further, a health-related experience is what was responsible for the transition.

Amber: When you first start, you know, you think, you've gotta worry about everything, not to be in trouble, or whatever, or work performance and all that, but now with experience, age, and wisdom, I guess, (*chuckles*), you know, you do your best every day and that's all they can ask of you, right?

Int.: Ok, ok.

Amber: That's how I look at it now and I sleep better since.

Int.: Okay. What changed for you?

Amber: Oh, what changed? Well I got sick and then, I got sick and then it took me a while to get over, to recuperate, have my energy back and stuff, and I was like, what can I do to reinforce my energy, like to speed up my energy retrieval kind of thing, cause I used to be full of energy. Stress eats at you for

> energy and all that, and I realized that, you know what, I've got to stop worrying about things I can't change. I've got to stop worrying about work, cause work will be there tomorrow no matter what. It was just like, bing! The light came on.

Amber discovered that for herself, pulling back from the military, and leaving work at work, was healthier than giving herself fully to it, the latter of which was causing her substantial stress and anxiety. This pulling back also allowed more room for herself.

> Amber: So it was almost like, *(whistles)*, at a crossroad, boom! You know, being sick, this and that. It was like, wait a minute? Okay what can I do for Amber, for Amber to be able to function and it was relax more, take care of Amber, you know, stop worrying about work because your boss is satisfied with what you're doing and you know, it's, it's the nature of women, worrying about everybody. And actually you've got to worry about you, and that's when you get signs. You get tired a lot. You get sick and then it's like, wow! Geez, I didn't do anything different, whatever. Your body give you sign and you've got to listen. Now I'm listening to it.

Amber displays an opposing point-of-view from the one described earlier by Lily regarding happiness as being service to one's chosen world with "all your heart", which for Lily, was the military. Instead, Amber made a choice to create a space of wellness for herself represented by balance and self-care, and where the military represented work and not so much a 'home'. This personal choice allowed her to not "worry as much" and "sleep better". Further, it is at home with her husband where Amber gains perspective that she perceives as being helpful.

> Int.: And how have you yourself coped with the challenges? What helps you?
>
> Amber: What helps me? My husband is my sounding board because I think with my heart, emotionally, being a woman and he thinks with his head, so any time I have something that would upset me, I would get home and talk about it and then he would look at it from another perspective and I'd say, "yeah, right". Cause sometimes you worry, worry, worry about something and then you get there, and it's like, "oh yeah, right". But now I don't worry much about like work or whatever anymore because it's beyond me. Like I'm too old for that, it sucks too much energy out of me. I don't, no. I just go to work, do my job, do the best I can, help whoever, then I go home and I don't think about work

> anymore. I used to. It used to keep me up, but not anymore and you know what? Since I took this perspective, it's like another world.

Again, the above segment shows Amber conceptualizing the military as a job while home is with her husband, similar to the way that some of the male personnel described home in Atherton's study (2009). Meanwhile, her spouse helps her expand her way of thinking to one that she reports as being healthier for her. Interestingly, Amber draws on a traditional gendered stereotype about women being more emotional than men and men being more rational, and thus, in a position to help in re-interpreting her experiences for her. Additionally noteworthy is how Amber describes the effect that this new perspective has had on her. It is as though she is part of "another world", entirely.

Helen, meanwhile, has found a family-like community outside of the military.

> Helen: I go to church every Sunday. I'm in my church's choir, so I have sort of a separate family environment there and they're always very supportive, have been great, even though I'm still pretty new to the congregation…
> Int.: Okay. And can you talk a little bit about how that helps you in your military service or at work?
> Helen: Yeah, it's definitely good, I think, to maybe get away sometimes from all the military stuff. I mean most of my friends are military. I live on the base, you know, so having one aspect of my life, or a separate aspect of my life that has nothing to do with the military is pretty nice. And it also helps because, you know, it keeps me calm at work. I have commitments outside of work that show that I'm doing stuff in the community as well, so it is good for work as well as for me personally.

Helen clearly designates one home base as literally being the military, but also extends the boundaries of her sphere of belonging to include the church, "a separate family environment". Further, she chooses to do this because she perceives having a community outside of the military is a good thing for her.

Discrepancies of home base within narratives. It is important to note that discrepancies within individual narratives were present in almost all interviews

with regard to where women were most immersed. Some women discussed the military in terms that were home-like, for example, while discussing their actual homes in a similar light at other parts in their interviews. Lily, for example, who earlier described the military as being her world and who reported not even currently owning a house plant in her home, listed the following as a career challenge:

Lily: It's always a challenge to be away from home. That's always a huge one right there. You're just, you're just never really happy. You just can't be happy. You deal with it and you just sort of put up with but it's not like you're, "oh I'm spending several months in [location] before I go overseas." You can't be happy about that. You can't. So you just sort of deal with it, so that's definitely a challenge of sort of having to do that day by day. Overseas, just being familiar, wearing that weapon all the time is something different, that you're not familiar with and always having that on you, and even just rocket attacks, having 4 or 5 in a day and you're always getting down on the ground, you know, and you're just like, and you get very angry after a while.

Lily's unhappiness of having to be away from her civilian home, repeated several times in this passage, is contradictory to her earlier description of distancing herself from home in order to be give more to the military. Meanwhile, in this particular excerpt, it is being overseas that feels unfamiliar and tied overall to feelings of anger.

These discrepancies support the idea that the women are agentic in continuously negotiating their home base(s) according to what fits best for their sense of wellness, and that perhaps there is some ambivalence infused in this negotiating as well. The *process* is seen most clearly in the following excerpts from Helen's interview. She describes it as having been difficult to bid farewell to military personnel with whom she had been on tour, but added that, "The military is always like that though, a lot of hellos and goodbyes." When asked how she managed that, she replied:

Helen: Well, it's something you just sort of get used to, I guess, without, you know, you have to almost be a little callous about it because you know when you meet people, when you make a close connection, especially with the military,

> and in Canada, we're a small military, so generally speaking, if you meet somebody, you're gonna see them again. It may be 10 years down the road, but chances are good you will stay in touch, and Facebook is great. People are on there. The internet, our email system, I mean you can definitely stay in touch with people, but you just sort of learn to manage it, I guess, manage your expectations of when you're gonna see people again or how, you know, how involved in your life they're gonna be, but overall it's very positive. I like to think I have family everywhere I go.

She goes through several possible solutions of resolving the challenge of frequently losing connections with other military members - by being callous, by knowing they will be seen again, by keeping in contact electronically, and by managing expectations. However, she ends off with the solution of expanding her home base, and having "family everywhere". Later in the interview, Helen discusses other communities of which she is a part, and I asked her whether maintaining different communities was challenging. Helen used a similar process to negotiate her place in the civilian sphere.

Helen: Um, it is, in a sense. I mean you know usually when you go into a city that you're gonna be leaving in 4 to 5 years, so you sort of question, "Well, how strongly am I going to commit to, you know, being a part of this community? Am I gonna vote on things? Do I really care what's going on with city council?" That sort of thing. But I certainly try to get out and meet people and be a part of the community that I'm living in, not just the military community because that is always your core support system, so you're gonna be involved with that no matter what, but branching out outside of that helps a little bit too because it's good to meet people outside of what you do for work. You never know, right, how it can change your life or what experiences you might have because of it.

Helen names the military as being "core" despite the "goodbyes" that she will have to eventually say while acknowledging at the same time that it is only one sphere, "work". As such, she also chooses to immerse herself in the civilian community because she believes that it is helpful and can lead to life-changing experiences.

Contextualizing the Narratives Within K10 Scores

Regardless of where home base(s) was located for these women, I have attempted to demonstrate throughout these findings the narrated links between the women's home base constructions and well-being. On the K10 Distress Scale that assesses psychological distress in the past month, eight out of the ten participants interviewed scored in what is deemed the "normal" distress range while two participants had scores indicative of higher distress. No obvious or significant differences in the narratives of the women scoring higher or lower on the K10 were observed with respect to belonging or to the family environments that they described. Rather, both of the women with higher scores wished to contextualize their answers to me while completing the measure, reporting that their distress was in relation to specific stressors that they were currently experiencing. One of the participants informed me that her K10 answers would have been different recently prior to the interview, but that she was having current challenges with a supervisor, while the other participant reported present stressors related to home and family. Such understandings of well-being are consistent with the idea that mental health is on a continuum and that it is at least relatively modifiable (Antonovsky, 1996a).

Discussion

The present study aimed to explore the meaning-making processes of female service members in the Canadian military. Specifically, an attempt was made to interview women with lower current levels of psychological distress and with deployment experience in order to understand how many women in the military maintain their mental health and well-being in the face of considerable stressors. An analysis of nine interviews from servicewomen in the Canadian Forces who had been on at least one deployment and

who had not sought individual mental health services in the past year was conducted. The narratives demonstrated the women as being actively engaged in creating places of belonging and attachment for themselves, within the military and/or outside of it, which I have referred to as negotiating *home bases*.

One participant directly stated that being on deployment felt more like home, while other women referred to service members as being like family, engaged in forming boundaries around the military, and employed strategies to demonstrate that they belonged there, dealing with exceptions accordingly in their narratives. Some women, on the other hand, reported consciously pulling back from the more intense immersion in the military, and maintained balance across the military and civilian spheres in accordance with their perceived best interests. These depictions represent several of the definitions of home summarized in Mallett's review (2004), including home as family, as an active practice of construction, as a place of familiarity and comfort, as a cognitive and emotive construction, and as a less bounded, more flexible space expanding beyond a single house or homeland.

The current findings are in line with the importance of belonging in the military, and the efforts made to belong, that have been demonstrated in the existing literature on military women to date. The different strategies used by women in order to manage their environments, including minimizing sexual harassment and acting more masculine, feminine, or gender neutral, have been gleaned from other accounts with females in the Canadian, Israeli, and U.S. militaries (Hauser, 2011; Herbert, 1998; Sasson-Levy 2002, 2003, Taber, 2005, 2013). Sasson-Levy (2002, 2003), for example, documented that some women in the Israeli military work to belong by denigrating other women in order

to distance themselves from femininity. Meanwhile, in Hauser's (2011) study, women asserted their place by embracing femininity and traditional gender roles, and making the military a more "home-like" place for the males through practices like taking on a 'mother' role and baking. The women in the current study described some of these strategies while additionally using techniques within their narratives to emphasize belonging, including focusing on examples of when they did fit in and contextualizing episodes of discrimination within the past. I have additionally suggested that some military women work to negotiate and construct places that are home-like for *themselves*, including in the military, but also in the home and/or other parts of the civilian world.

One can speculate that the mostly unremarkable K10 scores in this sample of women supports the idea that making *home bases* might be involved in the maintenance of mental health and well-being. The women's narratives corroborated this idea, as excerpts included references with regard to how immersing and/or distancing oneself from different communities brought perceived happiness, less stress, and other positive resources. Investigators of home have also acknowledged such a link. Sigmon, Whitcomb, and Snyder (2002) developed the concept of *psychological home* and defined it as "a sense of belonging in which self-identity is tied to a particular place" (p. 33). They postulated that this construct involved cognitive, behavioral, and emotional elements, and have focused their work on how individuals make an actual physical space feel like home to them. The authors have found the construct of psychological home to be positively linked both to measures of mental health and well-being (2002, p. 36), and it is likely that conceptualizing a place as being home-like (e.g., the military) could assist in

managing or mitigating any stressors or unfavorable experiences that might occur in such environments.

Examining the present findings in the context of other samples of individuals with similar experiences may also assist in understanding how this way of making sense of one's surroundings might have implications for the maintenance of mental health and well-being in female service members. The current findings will now be situated among the experiences of other civilian employees, subpopulations of military service members, and immigrant and ethnic minority populations, who also often have two, or even multiple, possible 'homes'.

The military and the family have been deemed to be "greedy institutions" because they require excessive time, energy, and resources from individuals (Segal, 1986), and several researchers have discussed the balancing act involved between these two spheres for women in the military (Taber, 2013; Wahl & Randall, 1996). Further, Taber (2010) describes in her study how the three mothers she interviewed perceive the military to be a family, thus "complicating abstract feelings and concrete duties of responsibility to the two institutions" of the military and one's actual family (p. 328). These findings were supported in the current study, and were extended by demonstrating that the negotiation of where is home, military or otherwise, was also highly relevant for participants who were non-mothers. More importantly, this negotiation was also shown to be potentially central to psychological well-being and distress, both perceived, as evidenced by the women's narratives, and actual, as demonstrated by most of their K10 scores being in the normal range. Further, although the military culture is unique as an environment where masculinity is particularly important (e.g., Atherton, 2009; Flood, 2008; Sion & Ben-Ari,

2009), constructing home-like spaces in the workplace may not be exclusive to female service members. In her book, *The Time Bind: When Work Becomes Home and Home Becomes Work*, Arlie Russell Hochschild (1997) focused on investigating the balancing act undergone between employment and family (home) in workers who were also parents. In a questionnaire completed by 1,446 personnel, she found that a majority of respondents reported that 'home' felt like a work environment at times, and that more women reported feeling this way than did men. A quarter of participants also reported that it was "sometimes true that work feels like home should feel" at least "quite often" (Hochschild, 1997, p. 200). The author highlighted possible reasons for this perception as feeling more valued at work and having more social support in the workplace, both constructs that have been frequently shown to be associated in other studies with positive health outcomes. Although the focus of Hochschild's book was, again, on working parents specifically, the narratives of several women in the current study appeared to echo such sentiments, and described a number of these same characteristics as being present and even intensified in the military environment.

In addition to Hauser's work suggesting that some women in the military work to create home-like spaces for the male soldiers, two other known studies have directly addressed the idea of home in select subpopulations of military service members. Through individual interviews, Atherton (2009) examined the development of masculinities in male members of the British Army with respect to perceptions of home both in the military and in the civilian sphere post-service. He noted that although male bonding was extremely salient within the military, men did not consider their military living spaces to feel like home and instead, linked home to family and friends. Further,

homes back in the civilian sphere became different kinds of spaces to different participants post-service – from holding a positive emotional meaning, to feeling uncomfortable because some of the accepted behaviors from the military no longer applied, to feeling like home was a 'prison' of remembrances of military traumas. Atherton (2009) described the latter two as often being linked to the experiencing of psychological distress and mental health problems, including addictions and PTSD. This work is relevant to the present study because it suggests that *not* feeling at home might be associated with poorer mental health outcomes, at least in this sample of male soldiers. Second, several of the women in the current study ascribed home-like qualities to the military. Thus, although conducted with two relatively different samples and in somewhat different contexts, there might exist qualitatively different attachments to the military between the sexes, which may represent different workplace needs for men and women with respect to fostering well-being. In the second work around military and home, the idea of operating between two worlds, two homes, is discussed in the context of military reservists. Lomsky-Feder, Gazit, and Ben-Ari (2008) argue in their paper that members of the military reserve are similar to transmigrants, in that they have to behave with two codes and values, be two selves, and face challenges of fully belonging within each sphere.

In fact, the women's narratives of constructing and negotiating home-like places, as well as being active in attaining a belonging status, are also themes that have emerged within studies documenting the experiences of ethnic minorities living in a geographical space different from their homeland or land of ancestry. In a study of first and second-generation adolescents of Filipino descent residing in Vancouver, for example, the

authors found that “Filipino youths are negotiating multiple homelands in an effort to belong” (Pratt, 2003/04, p. 44). Discussions of negotiating home, belonging, and identity formation have similarly been noted in other migrant groups (e.g., Liu, 2013; Lucas & Purkayastha, 2007; Poulsen, Karuppaswamy, & Natrajan, 2005; Ralph & Staeheli, 2011; Rosbrook & Schweitzer, 2010).

Meanwhile, understanding the transition to the military as being an acculturation process has been an analogy often used in the literature and in other military studies (Taber, 2013), and a number of accounts have described basic training as a time when civilian identities are stripped and military identities developed (e.g., Barrett, 1996; Hale, 2008). A link might thus be drawn between the home base construction processes observed in the present study and acculturation processes. Assimilation, the immersing of oneself in the new culture while distancing from the original culture, and integration, the maintenance of ties to the original culture while also immersing in the new culture, are two acculturation strategies in the immigrant literature (Yoon et al., 2013). Importantly, many studies have examined the relationship between different methods of acculturation and aspects of mental health. In their meta-analysis of these relationships, the authors found that integration was helpful for mental health while assimilation was hindering (Yoon et al., 2013). An important future direction, then, would be to study the belonging practices of newer female service members as potential acculturation processes to the military, and to investigate whether the same relationships with mental health found in the more established immigrant literature might also apply to this population.

In grounding the present narratives of female service members within studies of other populations with seemingly similar experiences, I have attempted to demonstrate

some potential new avenues for future research into the mental health of military women. One important area is to continue flushing out different conceptualizations of home for female service members, and also examining the associations, both qualitatively and quantitatively, that these conceptualizations might have with mental health outcomes. For some women, making sense of the military as being home-like might be an adaptive way of conceptualizing the service and sacrifice that comes with membership. However, this hypothesis needs to be tested empirically. Second, it is important to identify the different factors that might contribute to women's feeling a sense of place in certain environments over others. Taber (2013), for example, suggests that different life phases might affect the attachments that military women have to home and to the military. In the current study, it appeared less clear whether experiences related to age or number of years in the military might impact conceptualizations of home base for women. Decreased responsibilities at home might render some women to take this opportunity to increase their military connections. On the other hand, more years in the military might result in learning how to balance the two military and civilian spheres more effectively, and thus, more future in this area is required. Third, future studies should also conduct a more in-depth examination of the individual components, both helpful and hindering, that different conceptualizations of home might include for female service members, and their independent contributions to mental health and well-being. Different home-like environments (e.g., military, actual home) might offer different protective resources, and interpersonal connection and a sense of purpose and mastery, for example, emerged clearly from the women's interviews as being inherently linked to both belonging and

perceived wellbeing within the military. Other potential resources should also be investigated.

Mental health professionals working with military women should also be aware of the possible psychological consequences of the reverse of feeling like one has a home-like space (i.e., the risk of being homeless). On a 'study break' from this thesis, I saw the mainstream film *Zero Dark Thirty* about the search and assassination of Osama bin Laden by the United States (Bigelow, Boal, & Ellison, 2012). The movie featured a female member of the Central Intelligence Agency, Maya, who was a leader in the investigation. One scene of the movie depicted her disclosure to a married female colleague that she does not have time for a romantic partner, and another has her admitting to a male superior that she has done "nothing else" in her work in the past 12 years than search for bin Laden. Although bin Laden is captured in the end, the final scene of the movie has Maya grieving rather than celebrating. Alone on a plane after such contribution to her country, she is asked where she would like to go, and realizing that she has nowhere to go, Maya sheds tears of recognition of this reality.

In her study of Filipino youth, Pratt refers to the concept of 'homelessness' in relation to the participants' perceptions that they did not fully belong in Canada (2003/2004), and in military and veteran samples, the idea of reintegration into civilian life as potentially being very challenging has also been frequently discussed (e.g., Beder, Coe, & Sommer, 2011; Coll, Weiss, & Yarvis, 2011). An implication for female service members may be this risk of being 'homeless', and mental health providers can work with them to ensure that they feel a sense of place. Alternatively, a sense of feeling like one is overly immersed in their environment is possible, as was noted in a few narratives.

Braswell and Kushner (2012), for example, have theorized that the high rates of male suicide in the U.S. military are more related to too much social integration and not to isolation, as the maintenance of the culture's masculinity may cause individuals to withhold their emotional distress. The authors suggest that the finding of men having higher rates of suicide than women may be explained by women's relative exclusion in the military, and speculate about the potential negative effects of greater inclusion for women in terms of encompassing more of the traditional male masculinities themselves (Braswell & Kushner, 2012).

Specific strengths of the current study included the diverse sample of women who were interviewed with regard to their age ranges, number of years in the military, and military roles, as well as the participants' active duty nature, since much of the previous qualitative work in military women has been conducted in veteran or ex-personnel samples. There were also some limitations. The first is that a small sample of women were interviewed due to feasibility, and a greater number of women might continue to contribute more understanding to the interplay between home-like places and well-being. It would also allow for the capturing of any subtle differences in narratives between women of different military trades, age, years in the military, marital status, family status, ethnic background, and sexual orientation. Relatedly, the current sample was not ethnically diverse, an important characteristic that could certainly impact ideas of home and mental health. It is recommended that future work actively recruit female participants of varied race and ethnic background in order to deepen understanding of psychological well-being at the intersection of sex and race/ethnicity. Second, since mental health and the coping resources that influence it are both dynamic and changeable, it would be

useful to understand women's experiences systematically at different time points throughout their service. Finally, since the aim of this study was to better understand mental health maintenance among women in the military, the experiences of women with currently lower levels of psychological distress was sought. However, the recruitment criterion of not having engaged in past year mental health services was only a proxy for current mental health. Further, recruitment advertisements stated that this study was examining how women "manage the challenges and stressors of military life in the context of preserving their well-being". Thus, it is possible that some women may have felt compelled to tell overly optimistic stories that depicted them as doing mentally well. Even if this was the case, however, I argue that the women's narrative choices are noteworthy in and of themselves, because they suggest that narratives of belonging are what the women perceived as being stories of mental health and well-being.

Nonetheless, this latter limitation warrants some discussion with regards to the challenges of studying the maintenance of mental health and well-being and thus, of attempting to define and recruit participants who are currently in a state of relative psychological health. Women who self-identify as being mentally well could be actively recruited, for example. However, although such a sample would make for a rich study, of note is that this recruitment method would likely capture a subjective and diverse picture of mental health, including possible mental illness in the sample. Conducting a diagnostic interview as a screening measure for participation in such studies is another option. However, such a method raises a number of additional challenges, such as ethical considerations with potentially diagnosing participants with psychopathology for the first time and then excluding them from the study, taking the erroneous stance that lack of

mental illness is equivalent to being mentally healthy, and influencing women in a very obvious manner to tell a particular kind of narrative. In this study, I chose an exclusion criterion of having received mental health services in the past year in an attempt to exclude women with very high levels of distress who might find the interview difficult, and assumed a certain level of psychological functioning and mental health maintenance among current active duty female members. I also administered the K10 following the interview. This was not an ideal operationalization of mental health and psychological wellness, but it did serve as a non-diagnostic indicator of current psychological distress such that narratives could be analyzed with this additional information and so that this study could be consistent with the important idea of mental health being on a spectrum (e.g., Antonovsky, 1996a). Future research, however, should continue examining other ethical and scientifically rigorous ways around how to define, recruit participants, and study mental health and wellness maintenance.

The present work aimed to understand narratives of female service members in a state of current mental health such that knowledge could be furthered with regard to mental health maintenance and well-being. A sense of belonging was at the crux of most interviews, and narratives often featured the women actively engaged in creating such places that felt home-like, both within and outside the military, in line with what they perceived was healthiest for them. Future research needs to further examine the links between constructions of home and mental health in female service members, and clinicians working with military women should understand their attachment and emotional ties to their work environment.

Chapter 4: Conclusion

Mental Health Maintenance in Female Service Members

Summary of the Research

The present work aimed to understand how female members in the Canadian Forces maintain their mental health and psychological well-being despite the stressors they face in a challenging line of work. Study 1 utilized a representative database of military service members in order to examine relationships between a number of potentially adaptive correlates and negative mental health outcomes in female members. Possible differences between the sexes with regard to these associations were also investigated. There were four important findings of this study. First, avoidance coping and self-medicating with smoking, drug use, and/or alcohol were positively associated with most negative mental health outcomes assessed in both men and women. Second, both religious service attendance and perceived spirituality were not found to be protective for mental disorders or psychological distress in both sexes, and in fact, spirituality was associated with an increased likelihood of a few outcomes. Third, patterns of findings were mostly similar in males and females, suggesting that the literature on risk and protective factors for mental disorders in mostly male military samples likely generalize to women. However, there were several protective associations between active coping and mental health outcomes in males, while active coping was only negatively linked with psychological distress in women. Further, sex was a statistically significant moderator of the relationship between active coping and depression, with the association only being found in males. Finally, out of all of the

potentially protective correlates tested, only social support level emerged as significantly protective for multiple outcomes in female service members.

In Study 2, ten active duty female service members (nine who consented to being audio-recorded) who had been on at least one deployment and who had not received individual mental health services in the past year, a proxy for lower levels of psychological distress, were interviewed in order to gain a more in depth understanding of their meaning-making processes. The women's narratives centered around belonging, and highlighted how several of the women work actively to create home-like spaces for themselves, either in the military and/or outside of it. Their narratives also demonstrated that where home is for these women requires continuous negotiation and often active strategizing, and appears to adhere to what the women perceive to be most beneficial for them.

Accordingly, despite having investigated several potential areas involved in the maintenance of mental health for military women in this work, both studies were unified in demonstrating the particular importance of connections with others for female service members. The beneficial role of social support in protecting against negative mental health outcomes has been demonstrated in military and veteran samples, and in both males and females (e.g., Brailey et al., 2007; Fontana & Rosenheck, 1998; King et al., 1998; Nelson et al., 2011). In Study 1, however, I extended the literature by demonstrating that social support was the *only* protective correlate of those assessed for several mental health outcomes in women after adjusting for a number of other factors, examining these associations within each sex in a representative sample of Canadian Forces service members, and using a survey where mental disorders had been assessed by

a structured diagnostic interview. In Study 2, I showed how interpersonal connection and belonging, including social support, are part of a broader way that at least some women understand their military service and experiences.

Although Studies 1 and 2 were independent, they have complemented one another with regards to advancing the area of mental health maintenance in military women. Quantitative methodologies are most appropriate to use in identifying associations between individual factors and outcomes and differences between groups of people. Further, using population-based data in order to examine such relationships additionally renders findings generalizable to an entire population, in this case, active duty female service members. With qualitative methodologies, and specifically, narrative methods, the intent is not generalizability. Rather, qualitative methods can lead to a more in-depth understanding of experience, and can provide a holistic context to existent quantitative findings in the literature. With narrative methods, specifically, the fluidity, complexity, and holistic nature of individual experience can be captured and preserved. The two studies thus used very different methodologies, but also two relatively different samples of female service members conducted approximately ten years apart. Findings in one sample then, cannot be assumed to generalize to the other, especially in light of the continued changes and improvements to the equal inclusion of women in the Canadian Forces in recent years. Nonetheless, while being mindful of these differences, I will proceed to highlight some comparisons and contrasts that I found noteworthy between the two studies, with the intention of improving both the depth and breadth of our understanding in this area of research.

Both studies, for example, are in line with Antonovsky's framework of

'salutogenesis' that was introduced in Chapter 1 of this work and that has attempted to understand and explain health maintenance in the face of stressors (1996a; 1996b). In this theory, social support would be what Antonovsky referred to as a 'general resistance resource' (protective correlate) for female service members in relation to mental health (Antonovsky, 1979, 1987, in Lindström & Eriksson, 2005). That is, in the salutogenic theory, individuals are hypothesized to grow closer to health when resources like social support assist them in making sense of their lives and worlds (Antonovsky, 1996a, 1996b; Lindström & Eriksson, 2005). We have seen how theories of social support describe how it can play this role, for example, when confiding in others can help an individual solve a stressor, interpret its meaning, or impact the individual's reaction to it (e.g., Thoits, 1986). Interestingly, no other such correlates emerged as being linked to a lower likelihood of negative mental outcomes for women and thus, future research needs to explore the role of other possible general resistance resources that have been shown to likely be psychologically beneficial in mixed sex military samples, including hardiness and sense of purpose (e.g., Bartone et al., 2010; Pietrzak et al., 2010; Vogt, Rizvi, et al., 2008).

When Antonovsky (1996a) considered the role of general resistance resources in health maintenance, he recognized that "they all fostered repeated life experiences which, to put it at its simplest, helped one to see the world as 'making sense', cognitively, instrumentally and emotionally" (p. 15). This was Antonovsky's construct "sense of coherence", which can be assessed by a quantitative self-report measure that he has developed, but that can also be understood through qualitative work (Antonovsky, 1996). Through the use of narrative analysis in Study 2, I was able to understand one of the

overarching ways that the women I interviewed understood their military experiences. Further, this idea of the military as being 'home-like' was shown to encompass social support in several of the narratives, or at least the concept of belonging and being understood by others. That some women make sense of their military experiences by likening their environment to what might be found in a 'home' could be conceived as an example of understanding the world in a way that instills motivation to manage its stressors, similar to the concept of meaningfulness in the salutogenic theory (e.g., Antonovsky 1996a, p. 15; Antonovsky, 1996b; Harrop, 2006). This construct was one of three theorized by Antonovsky to encompass a strong sense of coherence and thus, be related to health and wellness. In the review of conceptualizations of home by Mallett (2004), she describes theoretical research suggesting that home is not always a pleasant 'safe haven' for individuals, for example, when there is violence in the home. Nonetheless, Mallett (2004) also demonstrates that home often represents a place of comfort for individuals and one where family resides, and individuals often show unconditional devotion and loyalty to others in the 'home' despite facing challenges within that environment.

In Stephanie Taylor's (2012) book, *Narratives of Identity and Place*, she explored how place impacts the identities of women and asked, "How can they reconcile a claim of belonging and a sense of home with other identities and circumstances, especially those which conflict with more traditional roles?" (p. 4). Taylor's work focused more on women's connections to living spaces specifically, as well as on the role that continuity over time plays in what she referred to as "born and bred" narratives of original birthplaces. Nonetheless, several of her observations are relevant to the present work.

First, she observed that homes can represent comfort and familiarity but that they can also represent challenges and, in some cases, danger. In Study 2, several women emphasized their connections to the military and to the other individuals within it. Nonetheless, threats to belonging were also mentioned within the military "home", and the women had to make sense of these situations (e.g., by minimizing discrimination and harassment) in order to incorporate them into their lived experiences. Second, among the women she interviewed, Taylor showed how ties to home and an accompanying sense of belonging can be problematic when they do not fit neatly into the stereotyped gender roles for women (e.g., being married with children versus having a focus that is more on work). In Study 2, a number of women demonstrated that the military, as opposed to their actual homes, appeared to often be their primary place. Third, Taylor noted that those women who did not fit the mold of the traditional narrative of connections to home found other ways to establish their belongingness in their narratives. The women in the current study also made narrative efforts to demonstrate that they belonged even though there were times when they did not, for example, discussing discriminatory situations that had occurred in the distant past or outlining the qualities they had that rendered them to be a good fit in the military. Lastly, Taylor (2012) alluded to how the women in her study are agentic regarding their decisions of place. This is in line with the participants in Study 2 who negotiated their home base(s) in a way that they perceived to be most psychologically helpful to them. Thus, associations between decisions and constructions of home and mental health outcomes may represent an area of future direction in women's mental health in general.

Finally, it is also noteworthy to reiterate what did *not* emerge as findings in Studies 1 and 2. Social factors were so strong for women that they appeared to trump other potential protective factors, such as frequency of religious attendance and adaptive coping strategies as was seen in Study 1. They also appeared to overshadow other common military stressors and risk factors such as combat exposure and other horrific experiences, which were largely absent from the narratives of Study 2. Thus, in addition to contributing to the existing literature on the benefits of social support and social networks, this work as a whole suggests that prevention and intervention efforts focusing on the improvement of social support, positive relationships, and increased inclusiveness and belonging should be at the forefront for establishing psychological resilience in female military service members.

Future Directions

In moving forward in the area of military women's mental health, then, what can be gleaned from the present work as a whole? First, it is possible that not all resources that are psychologically helpful for men will be beneficial for women. While it is the case that the patterns of findings between men and women were similar overall in Study 1, active coping strategies were associated with a lower likelihood of several negative mental health outcomes in men while only one protective link was found for women. Further, in the qualitative interviews, a number of women mentioned that it was better to ignore certain situations in the service of belonging than to attempt to resolve them, which may help to explain why active coping strategies were less helpful for women in the first study. On the other hand, the frequency of use of avoidance coping was associated with a higher likelihood of most mental health outcomes in women in Study 1,

highlighting a gap in understanding between the two studies. Thus, a conclusion emerging from the present work is that more research is required with regard to how, when, and in what context different coping strategies and resources are used, and whether they are psychologically helpful or hindering in these capacities. In Study 2, for example, women seemed to engage in reflecting on 'picking one's battles' relatively frequently, which might be construed as a calculated use of both avoidance and active coping. Is such an approach psychologically healthy for female service members?

Similarly, with regard to religiousness and spirituality, Study 1 demonstrated that these constructs were not protective for female service members. However, assessment of both of these constructs was limited in the CCHS-CFS. Further, the women I interviewed who reported being spiritual or religious, albeit few, appeared to utilize these resources in positive ways, including to relax, reflect, as a source of protection and comfort, and/or in ways that supported their sense of belonging. Such rich, qualitative data can continue to identify important contextual information regarding the resources that might be beneficial for female service members, and in what contexts, such that new hypotheses regarding protective resources can be developed and quantitatively tested in this population of women.

The concept of constructing a home-like place also has a number of clinical implications for the prevention and intervention of mental health problems in female service members. The Canadian Forces reports that it "has become one of the only militaries in the world to remove all barriers to full and equal service for all its members" (Department of National Defence, 2010). Several of the women interviewed voiced the belief that they were not treated any differently than males, or that there had been positive

and noticeable changes over time. With belonging being so central to the women's narratives, the continuation of efforts to ensure equality between the sexes and create and environment where cohesion of all military personnel can occur is imperative. Clinicians can also work with female service members to ensure they have a place that feels like home, whether within the military or outside of it. This is more than a social support network – for the women, it involved individuals who they perceived understood them and a place where they belonged and to which they could contribute as equal members. Several women in this study conceptualized their lives as having multiple such spaces. However, it was also observed that women actively branched out if they felt that it was best for themselves to do so.

Finally, the current findings should begin to be incorporated into prevention and intervention efforts in support of the mental health of female service members, with rigorous evaluation of the effectiveness of such additions naturally following. For example, how might the addition of an interpersonal component to an existing evidence-based treatment, such as problem-solving around how to improve one's social support network and quality, influence outcomes in female service members above and beyond the current 'gold standard' treatment guidelines? In some cases, might there be a difference in mental health outcomes if military women participate in group therapy versus individual therapy due to the group cohesion that often forms? Upon reflecting on his studies on sex differences in treatment outcomes after psychotherapy, for example, Ogrodniczuk (2006) acknowledged that the interpersonal component of group therapy might be particularly therapeutic for women. Further, in the qualitative study in female veterans by Mattocks and colleagues (2012), a number of participants discussed the value

of social support from other female veterans specifically with regards to readjustment in civilian life. An educational component on fostering belonging both within and outside the military is likely an important piece to include in military preparedness initiatives for female service members, as this component was part and parcel of the home-like nature that some participants described. Further, this knowledge could subsequently inform and be incorporated into pre- and post-deployment psychological screening assessments, and could be of assistance in designing programs to facilitate female member's reintegration and readjustment into civilian life.

In fact, there has been widespread recognition of the importance of military resilience training in recent years, and a few programs focusing on psychological fitness have been developed and evaluated in soldiers. A few words about them are warranted. In a NATO-sponsored study of a small sample of individuals from different countries undergoing or having completed Basic Training, investigators explored what personnel felt would be important to include in resilience education during Basic Training (Adler et al., 2013). Although the sample was mostly male, among the most highly ranked components was being provided education on how to support a colleague who is undergoing stress and learning skills on how to enhance interpersonal communication, in addition to education about stress and skills training in fostering resilience (Adler et al., 2013). In understanding this study within Antonovsky's salutogenic model, the implementation of such suggestions into programming might foster movement towards health by creating an environment that is richer in general resistance resources (e.g., effective social support, psychoeducation) for its members. The results of the current work in military women are in line with these requests such that strong cohesion and

adaptive social networks within females and between the sexes can continue to be a focus.

In 2009, the University of Pennsylvania's and U.S. Army's Comprehensive Soldier Fitness program became available to soldiers and their families with the goal of increasing resilience and preventing difficulties with mental health and well-being that might arise with the hardships of military service (Lester, Harms, Herian, Krasikova, & Beal, 2011). The program adheres to a 'train-the-trainer' model where some individuals complete the Master Resilience Trainer training with the goal of bringing those skills back to their brigades. The content of the program is intended "to help Soldiers understand how and why they think a particular way and how certain beliefs might influence their reactions to events", and focuses on Emotional, Social, Familial, and Spiritual areas of wellbeing (Lester et al., 2011, p. 6). Again, if conceptualized in terms of the salutogenic theory, this intention might map onto the idea of understanding the world as "making sense'" (Antonovsky, 1996a, p. 15). A longitudinal, randomized controlled trial has found that those brigades who had Master Resilience Trainers showed higher scores in some (but not all) areas, including friendship, optimism, and positive coping, thus speaking to the general effectiveness of the program. Importantly, sex was also considered by examining it as a potential moderating factor, and was not found to have an impact on outcomes (Lester et al., 2011). This finding is noteworthy because the program appears to be just as promising for female service members as for males in enhancing positive outcomes. However, in a subsequent report on the direct and indirect effects of these different aspects of resilience on mental health outcomes, gender was considered only as a control variable (Harms, Herian, Krasikova, Vanhove, & Lester,

2013).

Further, Braswell and Kushner (2012) have raised concerns with regard to the Comprehensive Soldier Fitness Program in relation to combating suicidality, specifically. The authors argue that teaching service members that they can control their distress through positive thinking might be interpreted as being in line with the masculine ideal of internalizing one's psychological pain. In turn, this message might silence members from discussing their distress or from seeking professional help if the principles of positive psychology are not effective in diminishing their psychological suffering (Braswell & Kushner, 2012). The findings of the present work suggest that this message, if in fact interpreted as such, could potentially be particularly deleterious for female service members. Thus, the impact of this and other similar programs should be continually assessed in both men and women separately, and future research in mental health maintenance in the military should continue to consider the role of gender (e.g., masculinities and femininities) with regard to outcomes. It is the author's hope that the present work can inform the continued improvement of initiatives aimed at being psychologically beneficial to female service members.

Of final note is that throughout this work, I have taken the standpoint that mental health and well-being are on a continuum, that they are relatively dynamic and changeable, and that increased access to positive resources at both the individual and social/environmental levels can positively impact health (Antonovsky, 1996a; Harrop et al., 2006; Lindström & Eriksson, 2005). This is, of course, an important distinction from the idea that there are healthy and unhealthy individuals. It is the case that some individuals have shorter periods of relative mental health in their lives than others. One

likely reason for this that has been discussed in Hobfoll's Conservation of Resources theory as well as empirically demonstrated is a loss of access to resources and/or more exposure to stressors and traumatic life events (e.g., Hobfoll, Johnson, Ennis, & Jackson, 2003; Hobfoll, Tracy, & Galea, 2006). However, mental health also waxes and wanes *within* individuals, and it is important to learn from those times when health is at its strongest such that we can apply this knowledge to prevention efforts and to psychological interventions when health is not as strong. Once there is a clearer understanding of what general resistance resources are most beneficial for women, the question will become how to provide increased access to them and increase their presence in women's lives.

Female service members are a growing population in the Canadian Forces. In addition to being the minority sex in their workplace environments, these women also encounter certain challenges and experiences that are unique to them, or that occur at higher rates in women than in men. As the focus in military mental health continues to shift towards a positive psychology and resilience perspective, it is important to investigate those protective resources and ways of understanding experiences that are both similar and different between men and women, such that mental health prevention and treatment efforts can be tailored as necessary. In moving forward in military mental health research, it is important to consider sex and gender such that any important differences between the sexes are not lost and can translate into improved interventions for military women and men.

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Appendix A: K10 Distress Scale (Kessler et al., 2002) as items in the CCHS-CFS (Statistics Canada, 2003b). Public domain.

"The following questions deal with feelings you may have had during the past month. During the past month, about how often did you feel":

…tired out for no reason?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…nervous?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…so nervous that nothing could calm you down?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…hopeless?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…restless or fidgety?

1) All of the time
2) Most of the time

3) Some of the time
4) A little of the time
5) None of the time
DK, R

…so restless that you could not sit still?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

During the past month, about how often did you feel:

…sad or depressed?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…so depressed that nothing could cheer you up?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…that everything was an effort?

1) All of the time
2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

…worthless?

1) All of the time

2) Most of the time
3) Some of the time
4) A little of the time
5) None of the time
DK, R

Appendix B: MOS Social Support Scale (Sherbourne & Stewart, 1991) as items in the CCHS-CFS (Statistics Canada, 2003b). Public domain.

"How often is each of the following kinds of support available to you if you need it":

1) … someone to help you if you were confined to bed?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

2) … someone you can count on to listen to you when you need to talk?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

3) … someone to give you advice about a crisis?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

4) … someone to take you to the doctor if you needed it?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

5) …someone who shows you love and affection?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

6) … someone to have a good time with?

None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

7) … someone to give you information in order to help you understand a situation?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

8) … someone to confide in or talk to about yourself or your problems?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

9) …someone who hugs you?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

10) … someone to get together with for relaxation?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

11)…someone to prepare your meals if you were unable to do it yourself?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

12)… someone whose advice you really want?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

13) … someone to do things with to help you get your mind off things?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

14) … someone to help with daily chores if you were sick?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

15)… someone to share your most private worries and fears with?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

16) … someone to turn to for suggestions about how to deal with a personal problem?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

17)… someone to do something enjoyable with?
None of the time
A little of the time
Some of the time

Most of the time
All of the time
DK, R

18) …someone who understands your problems?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

19)… someone to love you and make you feel wanted?
None of the time
A little of the time
Some of the time
Most of the time
All of the time
DK, R

Appendix C: Coping Strategies Items in the CCHS-CFS

[Developed by Statistics Canada with selected items from the Ways of Coping Questionnaire (Vitaliano et al., 1985), the COPE scale (Carver et al., 1989), and the Coping Strategy Indicator (Amirkhan, 1990) in (Statistics Canada, 2003b)]

"People have different ways of dealing with stress. Thinking about the ways you deal with stress, please tell me how often you do each of the following."

1) How often do you try to solve the problem?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

2) To deal with stress, how often do you talk to others?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

3) When dealing with stress, how often do you avoid being with people?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

4) How often do you sleep more than usual to deal with stress?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

5) When dealing with stress, how often do you try to feel better by eating more, or less, than usual?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

6) When dealing with stress, how often do you try to feel better by smoking more cigarettes than usual?

1 Often
2 Sometimes
3 Rarely
4 Never
5 Do not smoke
DK, R

7) When dealing with stress, how often do you try to feel better by drinking alcohol?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

8) When dealing with stress, how often do you try to feel better by using drugs or medication?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

9) How often do you jog or do other exercise to deal with stress?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

10) How often do you pray or seek spiritual help to deal with stress?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

11) To deal with stress, how often do you try to relax by doing something enjoyable?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

12) To deal with stress, how often do you try to look on the bright side of things?
1 Often
2 Sometimes

3 Rarely
4 Never
DK, R

13) How often do you blame yourself?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

14) To deal with stress, how often do you wish the situation would go away or somehow be finished?
1 Often
2 Sometimes
3 Rarely
4 Never
DK, R

Appendix D: Study 1 Regression Analyses Using Transformed Variables

Table D1

Transformed Independent Variables in Male and Female Service Members in CCHS-CFS Sample

	Males	Females	
	Mean (SE)	Mean (SE)	T-Test
Social Support	3.19 (0.03)	3.15 (0.03)	0.90
Coping Styles			
Self-Medication	2.08 (0.01)	2.04 (0.01)	**4.00*** **

Note. n's are unweighted, percentages are weighted. ** $p<0.01$; *** $p<0.001$.

Table D2

Multivariate Analysis of Associations between Correlates, Mental Disorders, and Distress in Men and Women (Transformed)

	Spirituality (Ref: No perceived spirituality)		Religious Attendance At Least Once/Year (Ref: Not at all)		Social Support (Continuous)		Avoidance Coping (Continuous)		Self-Medication (Continuous)		Active Coping (Continuous)	
	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)
Mental Disorders												
Major Depression	1.15 (0.77-1.70)	**1.59 (1.05-2.40)****	1.07 (0.72-1.59)	0.88 (0.57-1.35)	**1.14 (1.02-1.28)****	**1.21 (1.07-1.36)*****	**1.41 (1.32-1.51)*****	**1.44 (1.34-1.56)*****	**1.96 (1.27-3.03)*****	**2.24 (1.40-3.58)*****	**0.83 (0.74-0.92)*****	1.03 (0.91-1.17)
Panic Attacks	1.21 (0.87-1.68)	**1.52 (1.04-2.22)****	1.07 (0.77-1.47)	0.93 (0.64-1.35)	1.02 (0.93-1.12)	1.08 (0.97-1.20)	**1.21 (1.15-1.28)*****	**1.28 (1.19-1.37)*****	**2.57 (1.78-3.73)*****	**1.68 (1.07-2.63)****	0.96 (0.88-1.05)	0.98 (0.87-1.11)
Social Phobia	1.13 (0.66-1.94)	1.17 (0.66-2.08)	1.26 (0.71-2.21)	0.77 (0.45-1.31)	1.14 (0.97-1.34)	1.06 (0.91-1.23)	**1.30 (1.20-1.42)*****	**1.39 (1.24-1.56)*****	**1.97 (1.04-3.73)****	1.62 (0.85-3.10)	**0.80 (0.69-0.93)*****	0.87 (0.74-1.02)
Generalized Anxiety Disorder	1.35 (0.61-2.99)	1.03 (0.44-2.41)	1.22 (0.60-2.49)	1.09 (0.42-2.80)	1.07 (0.86-1.35)	1.14 (0.91-1.43)	**1.36 (1.18-1.56)*****	**1.40 (1.21-1.62)*****	**2.77 (1.21-6.37)****	1.81 (0.66-4.94)	**0.78 (0.65-0.94)*****	0.87 (0.68-1.12)
Posttraumatic Stress Disorder	1.50 (0.79-2.83)	0.89 (0.46-1.70)	0.73 (0.38-1.38)	1.74 (0.86-3.50)	1.11 (0.90-1.37)	1.18 (0.98-1.43)	**1.35 (1.20-1.51)*****	**1.39 (1.24-1.55)*****	**2.37 (1.18-4.76)*****	1.50 (0.72-3.14)	0.87 (0.73-1.04)	0.90 (0.76-1.07)
Depression or Anxiety Disorder	1.21 (0.93-1.56)	**1.48 (1.09-1.99)*****	1.09 (0.84-1.41)	0.85 (0.62-1.15)	**1.10 (1.02-1.19)*****	**1.15 (1.05-1.26)*****	**1.31 (1.24-1.37)*****	**1.39 (1.32-1.47)*****	**2.23 (1.64-3.03)*****	**1.51 (1.04-2.20)****	**0.90 (0.84-0.97)*****	0.98 (0.89-1.08)
Alcohol Dependence	0.85 (0.56-1.31)	0.45 (0.16-1.26)	1.31 (0.84-2.04)	1.71 (0.67-4.41)	1.12 (0.98-1.28)	1.11 (0.87-1.42)	**1.06 (0.98-1.15)**	**1.10 (0.95-1.28)**	**6.73 (4.26-10.63)*****	**8.22 (3.63-18.62)*****	0.92 (0.82-1.03)	1.10 (0.95-1.09)

Suicidal Ideation	1.31 (0.81-2.12)	0.97 (0.53-1.78)	0.84 (0.52-1.35)	0.56 (0.31-1.02)	1.13 (0.98-1.30)	**1.28 (1.09-1.50)*** **	**1.34 (1.23-1.46)*** **	**1.35 (1.23-1.48)*** **	**1.70 (1.00-2.87)** **	1.63 (0.85-3.12)	**0.79 (0.69-0.89)*** **	0.89 (0.76-1.06)
	Spirituality Beta (SE)		Religious Attendance Beta (SE)		Social Support Beta (SE)		Avoidance Coping Beta (SE)		Self-Medication Beta (SE)		Positive Coping Beta (SE)	
K10 Distress	0.07 (0.03)	0.08 (0.04)	-0.01 (0.02)	-0.02 (0.03)	**0.08 (0.01)*** **	**0.10 (0.01)*** **	**0.14 (0.00)*** **	0.14 (0.01)	**0.30 (0.03)*** **	0.39 (0.05)	**-0.04 (0.01)*** **	**-0.04 (0.01)*** **

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping). **$p \leq 0.01$; ***$p \leq 0.001$.

Table D3

Sex by Correlate Interactions for Select Associations (Transformed)

	Men	Women	Sex X Correlate Interaction
	AOR (99% CI)	(AOR 99% CI)	AOR (99% CI)
Spirituality			
Depression	1.15 (0.77-1.70)	**1.59 (1.05-2.40)****	1.47 (0.88-2.46)
Panic Attacks	1.21 (0.87-1.68)	**1.52 (1.04-2.22)****	1.19 (0.74-1.92)
Depression or Anxiety Disorder	1.21 (0.93-1.56)	**1.48 (1.09-1.99)*****	1.16 (0.80-1.68)
Self-Medication			
Social Phobia	**1.97 (1.04-3.73)****	1.62 (0.85-3.10)	0.73 (0.30-1.76)
Generalized Anxiety Disorder	**2.77 (1.21-6.37)****	1.81 (0.66-4.94)	0.57 (0.18-1.76)
Posttraumatic Stress Disorder	**2.37 (1.18-4.76)*****	1.50 (0.72-3.14)	0.71 (0.27-1.84)
Suicidal Ideation	**1.70 (1.00-2.87)****	1.63 (0.85-3.12)	0.90 (0.40-2.00)
Social Support			
Suicidal Ideation	1.13 (0.98-1.30)	1.28 (1.09-1.50)	1.10 (0.92-1.33)
Active Coping			

Depression	**0.83 (0.74-0.92)*** **	1.03 (0.91-1.17)	**1.23 (1.05-1.43)*** **
Social Phobia	**0.80 (0.69-0.93)*** **	0.87 (0.74-1.02)	1.10 (0.90-1.36)
Generalized Anxiety Disorder	**0.78 (0.65-0.94)*** **	0.87 (0.68-1.12)	1.12 (0.86-1.44)
Depression or Anxiety Disorder	**0.90 (0.84-0.97)*** **	0.98 (0.89-1.08)	1.07 (0.96-1.20)
Suicidal Ideation	**0.79 (0.69-0.89)*** **	0.89 (0.76-1.06)	1.10 (0.90-1.34)

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping).
**$p \leq 0.01$; ***$p \leq 0.001$.

Table D4

Transformed Independent Variables in Male and Female Service Members in DRTE Subsample

	Males	Females	
	Mean (SE)	Mean (SE)	T-Test
Social Support	3.16 (0.03)	3.30 (0.06)	1.93
Coping Styles			
Self-Medication	2.08 (0.01)	2.05 (0.01)	2.18

Note. n's are unweighted, percentages are weighted. $^{**}p<0.01$; $^{***}p<0.001$.

Table D5

Summary of Multivariate Analysis of Associations between Correlates, Mental Disorders, and Distress in Men and Women within the DRTE Subsample (Transformed)

	Spirituality (Ref: No perceived spirituality)		Religious Attendance Least Once/Year (Ref: Not at all)		Social Support (Continuous)		Avoidance Coping (Continuous)		Self-Medication (Continuous)		Active Coping (Continuous)	
	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)	Men AOR (99% CI)	Women AOR (99% CI)
Mental Disorders												
Major Depression	1.26 (0.77-2.05)	2.00 (0.90-4.48)	0.95 (0.59-1.52)	0.94 (0.45-1.97)	1.11 (0.96-1.29)	**1.34 (1.07-1.68)*****	**1.41 (1.28-1.55)*****	**1.44 (1.25-1.67*****	1.65 (0.99-2.76)	**2.81 (1.12-7.08)****	**0.83 (0.73-0.95)*****	1.03 (0.83-1.27)
Panic Attacks	1.23 (0.80-1.89)	1.49 (0.74-2.97)	1.19 (0.79-1.79)	0.61 (0.32-1.18)	1.00 (0.89-1.13)	0.96 (0.78-1.17)	**1.22 (1.13-1.32)*****	**1.43 (1.22-1.66)*****	**3.08 (1.94-4.89)*****	2.09 (0.88-4.97)	0.97 (0.87-1.08)	0.91 (0.73-1.15)
Social Phobia	1.27 (0.63-2.56)	1.00 (0.32-3.17)	1.02 (0.51-2.03)	0.83 (0.27-2.57)	1.17 (0.96-1.42)	1.19 (0.89-1.60)	**1.30 (1.17-1.45)*****	**1.46 (1.13-1.89)*****	**2.41 (1.06-5.46)****	1.73 (0.50-6.02)	**0.81 (0.67-0.99)****	1.21 (0.85-1.74)
Generalized Anxiety Disorder	1.42 (0.49-4.08)	0.88 (0.21-3.82)	0.81 (0.29-2.25)	1.20 (0.22-6.42)	1.04 (0.75-1.45)	1.06 (0.73-1.54)	**1.39 (1.11-1.74)*****	1.26 (0.99-1.61)	2.93 (0.82-10.41)	2.10 (0.30-14.74)	**0.73 (0.56-0.96)****	0.80 (0.51-1.27)
Posttraumatic Stress Disorder	1.84 (0.88-3.87)	1.04 (0.35-3.10)	0.73 (0.35-1.49)	1.19 (0.37-3.82)	1.20 (0.95-1.51)	1.18 (0.87-1.58)	**1.33 (1.17-1.53)*****	**1.44 (1.16-1.80)*****	**2.39 (1.06-5.40)****	1.54 (0.53-4.52)	0.90 (0.74-1.10)	0.89 (0.65-1.23)
Depression or Anxiety Disorder	1.25 (0.88-1.76)	1.63 (0.88-1.00)	1.13 (0.82-1.57)	0.64 (0.35-1.18)	1.08 (0.98-1.19)	1.07 (0.89-1.28)	**1.32 (1.23-1.41)*****	**1.49 (1.31-1.69)*****	**2.34 (1.59-3.46)*****	1.99 (0.94-4.22)	0.93 (0.85-1.01)	0.98 (0.80-1.21)
Suicidal Ideation	1.45 (0.77-2.73)	2.85 (0.69-11.75)	0.90 (0.48-1.69)	0.42 (0.10-1.71)	1.20 (1.00-1.45)	**1.71 (1.09-2.68)****	**1.30 (1.16-1.45)*****	**1.38 (1.03-1.84)****	1.44 (0.73-2.87)	0.85 (0.19-3.85)	**0.80 (0.68-0.94)*****	0.91 (0.65-1.26)

	Spirituality Beta (SE)		Religious Attendance Beta (SE)		Social Support Beta (SE)		Avoidance Coping Beta (SE)		Self-Medication Beta (SE)		Positive Coping Beta (SE)	
K10 Distress	0.07 (0.03)	0.12 (0.07)	-0.01 (0.03)	-0.09 (0.07)	**0.08 (0.01)*** **	**0.11 (0.02)*** **	**0.15 (0.01)*** **	**0.15 (0.01)*** **	**0.31 (0.04)*** **	**0.55 (0.09)*** **	**-0.04 (0.01)*** **	-0.04 (0.02)

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping). **p≤0.01; ***p≤0.001.
Due to the reflect and square root transformation performed on the social support variable, odds ratios over 1 are interpreted as being associated with a lower likelihood of mental health outcomes.

Table D6

Sex by Correlate Interactions for Select Associations in DRTE Subsample (Transformed)

	Men	Women	Sex X Correlate Interaction
	AOR (99% CI)	(AOR 99% CI)	AOR (99% CI)
Social Support			
Major Depression	1.11 (0.96-1.29)	**1.34 (1.07-1.68)*** **	1.10 (0.89-1.37)
Self-Medication			
Panic Attacks	**3.08 (1.94-4.89)*** **	2.09 (0.88-4.97)	0.71 (0.30-1.68)
Social Phobia	**2.41(1.06-5.46)** **	1.73 (0.50-6.02)	0.67 (0.16-2.71)
PTSD	**2.39 (1.06-5.40)** **	1.54 (0.53-4.52)	0.70 (0.20-2.50)
Depression or Anxiety Disorder	**2.34 (1.59-3.46)*** **	1.99 (0.94-4.22)	0.93 (0.44-1.96)
Active Coping			
Major Depression	**0.83 (0.73-0.95)*** **	1.03 (0.83-1.27)	1.17 (0.94-1.46)
Social Phobia	**0.81 (0.67-0.99)** **	1.21 (0.85-1.74)	1.42 (0.97-2.08)
Generalized Anxiety Disorder	**0.73 (0.56-0.96)** **	0.80 (0.51-1.27)	1.14 (0.73-1.79)
Suicidal Ideation	**0.80 (0.68-0.94)*** **	0.91 (0.65-1.26)	1.03 (0.76-1.38)

	Beta (SE)	Beta (SE)	Beta (SE Beta)
K10 Distress	**-0.04 (0.01)*** **	-0.04 (0.02)	-0.02 (0.02)

Note. AOR – Adjusted for age, marital status, household income, education, type of service, type of personnel, rank, and each other correlate (social support, religious attendance, spirituality, avoidance coping, self-medication, and active coping).
**p≤0.01; ***p≤0.001.

Appendix E: Demographic Questions and Interview Guideline

Thank you very much again for agreeing to participate in this study. I am going to begin by asking you a few sociodemographic questions and then I'll be asking you some questions about your experiences in the military, some of the challenges that you have faced, and how you have overcome them. This interview will last between an hour and 75 minutes. After that, I'll give you a brief measure to complete about how you have been feeling in the past month and that will probably take about 5 minutes. Do you have any questions before we begin?

i) First off, how old are you?

ii) How many years have you been with the Canadian Forces?

iii) What rank are you?

iv) How many deployments have you been on?

****Audio-recording begins here****

1) Can you tell me about your role in the Canadian Forces?
    - Do you enjoy the work that you do?

2) How would you describe yourself as a woman in a male environment?
    - Is there anything about your military experience that you think is different from that of a male?
    - Has your experience changed over the years you have been here? If so, how?

3) What is the military environment like for you?
    - What is a typical day like for you when you are training? What was a typical day like during your most recent deployment?
    - How would you describe your relationships with other members? Your superiors?

4) What have been some of the challenges you have faced in your military experience? How did you deal with them?
    - Do you think you deal/dealt with these things differently from how male members would? How so?

5) What, if anything, have you learned from the difficult things you have faced in your military experience? (Ask for specific examples)

6) How do you feel you are doing emotionally? What helps you stay well?
    - What does "functioning well" mean to you?

7) What were some high points during your last deployment?
    - What were the benefits of being deployed for you?

8) What tips for staying well would you have for another female members?
    - What do you need to have and/or do to stay well as a female member of the Canadian Forces?

9) Has spirituality or religion played a role in helping you manage any challenges that you have faced in the military? How so? Can you give me an example?

10) Has social support been important for you throughout your military service? In what way(s)?

11) What other things have you done in order to cope with any stress that you have experienced in the military?

12) Is there anything else you would like to add before we conclude this interview?

Appendix F: Recruitment Advertisement

ARE YOU A FEMALE MEMBER OF THE CANADIAN FORCES?

As part of a doctoral thesis, a researcher at the University of Manitoba is conducting a pilot study to try and understand the experiences of female members in the Canadian Forces and how they manage the challenges and stressors of military life in the context of preserving their well-being.

Who:

- **Active duty female members who**
  1) have been on at least one deployment in support of the war in Afghanistan and
  2) have not engaged in mental health services in the past year.

Why:

- **This pilot research may help future research questions and will hopefully also help create new ways of promoting well-being in female service members pre-deployment.**
- **Study findings will be disseminated in a doctoral thesis and at outlets such as scientific conferences and publications in peer-reviewed scientific journals.**

How:

- **The interview will be conducted via videoconferencing or face-to-face on-base if travel is feasible.**
- **Interviews and the completion of a short self-report measure will last between one hour and 75 minutes.**
- **Your interviews will be kept completely confidential.**
- **You will have the option of receiving a summary of the study findings.**

If you are interested in participating, please contact:
Principal Investigator: Natalie Mota, M.A., Ph.D. Candidate in Clinical Psychology, Department of Psychology, (204) 787-7719, Email: ummotan@cc.umanitoba.ca

Research Supervisor: Dr. Maria Medved, Associate Professor, Department of Psychology, Phone: (204) 480-1465, Email: medved@cc.umanitoba.

The research submission "The Experiences of Female Members in the Canadian Military" has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. Approval # 1084/12-F.

ETES-VOUS UNE FEMME MEMBRE DES FORCES CANADIENNES?

Dans le cadre d'une thèse de doctorat, un chercheur de l'Université du Manitoba mène actuellement une étude pilote pour essayer de comprendre les expériences des femmes membres des Forces Canadiennes et leur manière de gérer les défis et facteurs de stress de la vie militaire dans le contexte de la préservation de leur bien-être.

Qui:

- **Les femmes en service actif qui 1) ont été sur au moins un déploiement à l'appui de la guerre en Afghanistan et 2) n'ont pas engagé dans les services de santé mentale au cours de l'année écoulée.**

Pourquoi:

- **Ce projet pilote de recherche peut aider les questions de recherche du futur, et nous espérons également aider à créer de nouveaux moyens de promouvoir le bien-être des femmes membres de service pré-déploiement.**
- **Les résultats de l'étude seront diffusés dans une thèse de doctorat et de points de vente tels que des conférences et des publications dans des revues scientifiques.**

Comment:

- **L'entrevue sera menée par vidéoconférence ou en face-à-face sur la base si le voyage est possible.**
- **Entretiens et l'achèvement d'un court questionnaire d'auto-évaluation dureront entre une heure et 75 minutes.**
- **Vos entrevues resteront confidentielles.**
- **Vous avez la possibilité de recevoir un résumé des résultats de l'étude.**

If you are interested in participating, please contact/Si vous êtes intéressés à participer, veuillez contacter:

Chercheur Principal: Natalie Mota, M.A., Doctorat Candidat en Psychologie Clinique, Département de Psychologie, (204) 787-7719, Email: ummotan@cc.umanitoba.ca

Superviseur de Recherche: Dr. Maria Medved, Professeur Associé, Département de Psychologie, Phone: (204) 480-1465, Email: medved@cc.umanitoba.

La coordination de le recherche "The Experiences of Female Members in the Canadian Military" est assurée par le Comité d'examen de la recherche en sciences sociales (CERSS) de la DGRAPM conformément au CANFORGEN 198/08. CERSS numéro de approbatrice est 1084/12F.

Appendix G: Telephone Recruitment Script

Hello, thank you for contacting me about potentially participating in this research. My name is Natalie Mota and I am a doctoral student in Clinical Psychology at the University of Manitoba. My supervisor is Dr. Maria Medved who is an Associate Professor in Clinical Psychology at the University of Manitoba. As part of my PhD thesis, I am conducting a pilot study that is aiming to understand the experiences of female members in the Canadian Forces as they relate to the mental health and well-being of military women. The research submission "The Experiences of Female Members in the Canadian Military" has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. Approval # 1084/12-F.

May I ask whether you have been on at least one deployment in support of the war in Afghanistan during your service with the Canadian Forces? and have you engaged in any type of mental health services in the past year (e.g., psychologist, psychiatrist)?

IF YES TO FIRST QUESTION AND NO TO SECOND QUESTION:
Ok, got it. [GO ON WITH REST OF SCRIPT]

IF ANY OTHER COMBINATION OF ANSWERS:
I'm sorry. Unfortunately, for the specific aims of this study, we require participants who met these criteria. I would like to thank you very much for taking the time to contact me and for your interest in the study. I hope that you will consider participating in other studies that I may conduct in the future.

Your participation in this research would consist of an interview lasting between one hour and 75 minutes where I would first ask you some brief sociodemographic questions. The main part of the interview would then consist of a series of open-ended questions. I would ask you to talk about your experiences as a military member, including some of the difficult or challenging times that you have faced during your service in the Canadian Forces and how you have dealt with those experiences. Since questions would all be open-ended, you would be able to choose what experiences you talk about, and at no time would you be obligated to discuss anything with which you did not feel comfortable. Nonetheless, the challenges that you choose to discuss could involve anything, including any traumatic events that may have happened to you. Your participation would end off with a short questionnaire about negative feelings like sadness or nervousness that you may have experienced in the past month.

The interview will be conducted in one of two ways: 1) via videoconferencing from our laboratory at the University of Manitoba to a site on-base, or 2) face-to-face on-base in a private room if it is feasible for us to arrange this or at our lab at the Bannatyne Campus of the University of Manitoba (Health Sciences Centre), at a date and time that is convenient for you.

I will be writing down your answers to the sociodemographic questions that I ask you, as

they will help me better understand the main part of your interview. The main part of your interview will be audio-recorded and transcribed word for word so that I can be sure to capture your experiences in your own words. However, you also have the option of opting-out of being audio recorded if you so choose. Audio files will be housed on a password-protected computer and all of your personal identifiers will be removed from the transcribed version of your interview. Only myself, my supervisor, and the transcriber will have access to your personal information. Further, your sociodemographic information, audio files, consent forms, and any other information containing personal identifiers will be destroyed within one year of data collection (approximately July, 2013). In the transcript that is created, you will be assigned a pseudonym in place of your actual name, and other members of the research group (e.g., thesis committee members in addition to myself and my supervisor, other graduate students) will only have access to this anonymized transcript. The de-identified transcripts will be destroyed 5 years after the date of publication (projected time frame is September, 2013). Any dissemination of findings, for example, in my doctoral thesis and in subsequent publications, will be anonymized and will not be able to be linked back to you. For example, direct quotations from your interview may be used in final products to be disseminated, but they will never be affiliated with your name. Only your military occupation will be included in relation to the quotation.

If you choose to participate, I'd be happy to send you a summary of the results of this pilot project, if you would like them. I would have this summary to you by 12/2012.

Do you have any questions about the study? I would also be happy to send you a copy of the consent form before you make a decision. Would you like to participate in this study?

If Individual Requests Consent Form:
Great! Would it be ok if I got either your email address or your mailing address so that I can send you the consent form?

Address: _____
_____
_____

If Yes:

I will be on your base on LIST DATES. When would you be available to meet?

- Date: _____
- Time: _____
- Location: _____

OR

The following are some time slots when videoconferencing is available. READ TIMES. Which of those time slots works for you?

- Date: _____

- Time: _____
- Location of their videoconferencing station: _____

Would it be ok if I got your email address from you? That way, I could email you a copy of the Consent Form so that you could look over it before our interview and think of any questions or concerns that you might have.

- *If interview is to take place in person*: On the day that we meet, I'll bring another copy of the form so that we can look over it together and so that you can sign it, if you still wish to do so, before proceeding with the interview.

- *If the appointment is to take place via videoconferencing*: Please review the Consent Form and make a checkmark in the correct box at the end of the form to specify whether or not you consent to participate in the study. Then email the form back to me. I will send you a reminder email regarding the Consent Form if I haven't yet heard from you within the next week or so.
- Email address: _____

- I also want you to know that participant confidentiality is important to me, and I will also not distribute your contact information to anyone else.
- Do you have any questions or concerns at this point?
- If you have a pen and paper, I will leave you with my contact information so that you can direct any questions or concerns that you may have my way. My email address is ummotan@cc.umanitoba.ca and my phone number is (204) 787-7108.
- Thank you for your time and for agreeing to participate! I will see you on DATE AND TIME.
-

If No:

- Thank you very much for your time.

Appendix H: Information and Consent Form

Study Name: The Experiences of Female Members in the Canadian Military

Principal Investigator: Natalie Mota, M.A., Ph.D. Candidate in Clinical Psychology, Department of Psychology, (204) 787-7719, Email: ummotan@cc.umanitoba.ca

Research Supervisor: Dr. Maria Medved, Associate Professor, Department of Psychology, Phone: (204) 480-1465, Email: medved@cc.umanitoba.

Sponsor: None

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

Natalie Mota is a PhD candidate in Clinical Psychology at the University of Manitoba and is conducting this pilot study as part of her doctoral thesis. The aim of the research is to gain an understanding of the way in which female members in the Canadian Forces manage the challenges of military life and maintain their mental health and well-being. It is part of a larger study examining the mental health and well-being of military women.

Your participation will consist of a semi-structured interview either in person or via videoconferencing where you will be asked a few short sociodemographic questions and a number of open-ended questions about military life and about how you stay relatively well in the face of military challenges. The interview will take between 60 and 75 minutes to complete. After this, a short self-report measure will be administered that looks at some feelings that you may have been experiencing recently.

Several of the questions that you will be asked today will look at how you have managed and overcome different military challenges/stressors and so, may actually be uplifting to talk about. However, some of the questions asked may also be of a sensitive nature or bring up memories of unpleasant and difficult events. Since questions will all be open-ended, you will be able to choose what experiences you talk about, and at no time will you be obligated to discuss anything with which you did not feel comfortable. Nonetheless, the challenges that you choose to discuss could involve anything, including any traumatic events that may have happened to you. At the beginning of the interview, you will be provided with a list of mental health resources in case you continue to feel saddened or distressed after the interview and need to talk to someone. For the most part, however, participants in this kind of research usually report enjoying having their voices heard and getting a chance to tell their stories.

Your input to this project is important, and so is ensuring that this input remains confidential. I will be writing down your answers to the sociodemographic questions that I ask you, as they will help me better understand the main part of your interview. The rest of your interview will be audio-recorded and transcribed word for word so that I can be sure to capture your experiences in your own words. However, you also have the option of opting-out of being audio recorded if you so choose. Audio files will be housed on a password-protected computer and all of your personal identifiers will be removed from the transcribed version of your interview. Only myself, my supervisor, and the transcriber will have access to your personal information. Further, your sociodemographic information, audio files, consent forms, and any other information containing personal identifiers will be destroyed within one year of data collection (approximately July, 2013). In the transcript that is created, you will be assigned a pseudonym in place of your actual name, and other members of the research group (e.g., thesis committee members in addition to myself and my supervisor, other graduate students) will have access to this transcript. These de-identified transcripts will be destroyed 5 years after the date of publication (projected time frame is September, 2013). Any dissemination of findings, for example, in my doctoral thesis and in subsequent publications, will be anonymized and will not be able to be linked back to you. For example, direct quotations from your interview may be used in final products to be disseminated, but they will never be affiliated with your name. Only your military occupation will be included in relation to the quotation. The only limit to confidentiality is if you disclose that a child or other vulnerable person is being harmed or that you intend to harm yourself or another individual. I would have to report this knowledge to Child and Family Services or local police services, respectively.

Your participation in this research is completely voluntary and you may withdraw from the study at any time without consequences. The findings of this study will be disseminated in a doctoral thesis, and I also plan to present the results at national scientific conferences, seminars, and in the form of reports and peer-reviewed publications. If you are interested, I would also be happy to send you a summary of the results, which you would receive no later than 12/2012. At the bottom of this consent form, there will be some space where you can leave either your mailing or email address so that I can send you this summary. You do not have to provide any of this information if you are not interested in the results of this research.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba Research Ethics Board(s) and a representative(s) of the University of Manitoba Research Quality Management / Assurance office may also require access to your research records for safety and quality assurance purposes.

This research has been approved by the Psychology and Sociology Ethics Review Board at the University of Manitoba. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

The research submission "The Experiences of Female Members in the Canadian Military" has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. Approval # 1084/12-F.

****If interview is conducted via videoconferencing****

- I **consent** to participate in this research ☐
- I **consent** to my interview being audio-recorded ☐
- I **do not consent** to participate in this research ☐

- I **consent** to being contacted in the future should the researchers require clarification of my interview or should further research in the area be conducted by these investigators. ☐
- I **do not consent** to being contacted in the future. ☐

****If interview is conducted face-to-face****

- I **consent** to being contacted in the future should the researchers require clarification of my interview or should further research in the area be conducted by these investigators. ☐
- I **do not consent** to being contacted in the future. ☐

_____

Participant's Signature Date

_____

Researcher and/or Delegate's Signature Date

I would like a copy of the summary of results: **yes / no**
My copy of the summary of results can be sent to:

Email Address:_____

OR

Mailing Address:_____

_____

Appendix I: Debriefing Summary Sheet

The Experiences of Female Members in the Canadian Military

This pilot study is aiming to explore how female members in the Canadian Forces understand their military experiences. Specifically, it is seeking to comprehend how many women are able to maintain their mental health and well-being in a stressful environment. I am trying to accomplish this by conducting interviews with a number of female members in order to get their perceptions on military life and related experiences, and understand how they make use of different resources in order to deal with challenges and negative situations.

I know some of the questions may have been personal and may also have elicited some negative feelings. If you feel the need to talk to someone, we have a list of psychological services with which we have provided you.

Your participation was invaluable to this project. Currently, women represent approximately 15% of the Canadian Forces, and it is important to understand the ways in which they think about and handle the challenges brought about by military life. This pilot research may help future research questions and hopefully identify new ways to promote mental health and well-being in female service members.

If you have any questions or concerns, please do not hesitate to contact Ms. Natalie Mota at 787-7719 or ummotan@cc.umanitoba.ca. Any complaints about this study and the way it was conducted can be directed to Human Ethics Secretariat at 474-7122.

Thank you very much again for your participation!

The research submission "The Experiences of Female Members in the Canadian Military" has been approved by the DGMPRA Social Science Research Review Board, in accordance with CANFORGEN 198/08. Approval # 1084/12-F.